Economic Development in Palanpur Over Five Decades

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Preface and Introduction

Nicholas Stern

1. The Purpose of the Study

A central concern of development economics is the analysis of changing economic and social institutions, the forces which shape them, and the outcomes in terms of the levels and distribution of living standards. The study of change requires observation of individuals and communities at different points in time. The study of living standards involves knowledge of the circumstances of individuals. Notwithstanding their fundamental place in the process of enquiry into economic development, such data are rare. The rarity is understandable since those who would observe have finite and changing lives and those to be observed may not stay still, remain alive, or wish to be followed.[1]

The study of Palanpur, a village in Moradabad District of west Uttar Pradesh in north India, forms the major source for the findings reported in this book. The study covers a series of five surveys starting in 1957–8 and ending in 1993, with the intervening surveys in 1962–3, 1974–5, and 1983–4. There is thus a survey for Palanpur in every decade since Indian independence almost fifty years ago. Whilst this book was not originally designed to mark the fiftieth anniversary, its publication will more or less coincide with that date. We hope that it might be seen as a modest contribution to a stock-taking of the economic and social changes of the last fifty years.

The unusual nature of our data and work explains the combination of a preface and introduction here. The way the work programme was organized depended crucially on, and was closely interwoven with, the purpose of the study. The study placed a strong emphasis

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[1] A number of earlier studies of Indian villages have examined change over time on the basis of a single re-survey; this literature is reviewed in Jayaraman and Lanjouw (1997). Studies based on repeated visits or sustained follow-up over an extended period are far less common. Important examples of such studies include Wiser and Wiser (1971) and Kessinger (1974).

on continuity, close observation, and data quality, and the process unavoidably took a long time. For these reasons it is difficult to disentangle an account of the study's organization from a description of its purpose.

The first book on Palanpur (Bliss and Stern 1982) came from a study carried out by Bliss and Stern in 1974–5. The central issues in that study were the functioning of rural markets and the behaviour of farmers. The primary concern of this book, on the other hand, is with outcomes and the process of change. However, in studying these subjects we examine economic institutions, opportunities, and behaviour. In so doing we emphasize two crucial agricultural factors, labour and land, so that the analysis of the processes and markets for their allocation is a critical feature of the work. A third market which plays a fundamental role, both for the process of consumption and of production, is that for credit. Thus the present study and that for 1974–5, although having different objectives, have important elements in common.

As mentioned earlier, the 1974–5 study was not the first for the village of Palanpur; indeed one of the major reasons for the choice of Palanpur by Bliss and Stern was that it had been studied twice before — in 1957–8 and in 1962–3. The village had been chosen originally as a potential location of cooperatives for credit and marketing, although neither activity has ever functioned very effectively. These two studies were the work of the Agricultural Economics Research Centre (AERC) of the University of Delhi. The earlier studies are of great value, not only in our ability to span a long period, but in particular because they came prior to the widespread expansion of irrigation, to the introduction of new seeds, and to the expansion of employment opportunities outside the village. Further reasons for the choice of Palanpur by Bliss and Stern included: it was accessible from Delhi, but not too close to Delhi for it to be dominated by the Delhi economy (it is about eight hours travel); wheat should be an important crop, since it is for wheat that the technological change was of particular importance; tenancy should be of significance, since Bliss and Stern were interested in ideas concerning land markets; and it should be possible to live within the village but independently of a particular family or group since they wished to avoid being too closely associated with any possible factions. In addition, whilst no village in a country with more than a half-million villages can be regarded as representative, it was more important that the village should not have some major peculiar feature.

Given this list of desiderata Bliss and Stern might be regarded as fortunate to have found, from the half-million, one that met their specifications. It was doubly fortunate that the earlier studies by the AERC, in particular that of 1957–8, were of high quality. The Ansari Report (1964), building on the high quality of the 1957–8 study, is a most valuable document.

The economic and social structures of Palanpur are complex. Many of the details of institutions and activities are crucial to the way they function. It is important to avoid over simplification. However, in analysing the process of change it will often be useful to identify three driving forces. These are population growth, changing technology, and expanding employment opportunities outside the village. Over the 36 year period between the first (1957–8) and latest (1993) study, the population of Palanpur more than doubled. Second, at the beginning of the period only half of the land was irrigated but by the end almost all of it was — and the equipment used was of improving quality, reflecting the investment of Palanpur farmers in wells, bores, and pumping machinery. Most farmers switched to new seeds in the early 1970s, and the application of chemical fertilizers became widespread whereas it would have been unknown in 1957–8. Such changes are often known as the 'Green Revolution'. We are uncomfortable with this term, as agriculture has intensified, year by year, on a number of dimensions, and in ways which vary considerably across households. However, the term is well-established and we do use it from time to time. Third amongst the 'big' factors affecting change in Palanpur is that nearby towns have grown substantially in their employment potential and many villagers now commute to those towns for regular paid work.

Taken together these three factors have led to substantial economic and social change in Palanpur. Over the three and a half decades from the late 1950s to the early 1990s, real incomes per capita have risen by about 50 per cent at the same time as population has doubled. That is not out of line with the experience of India as a whole. Lives have altered and institutions have adapted to the effects of change.

The costs and benefits of change, however, have not been spread equally through the population. And different households and individuals vary greatly in their health, skills, motivation, inclination, and luck. At the same time many aspects of economic and social life have carried on much as they were. Agricultural labourers, for example, remain in a vulnerable position from which it is not easy to

escape. Work as an agricultural labourer is thus a strong sign of poverty. The movement of inequality is of central interest in our study, as is the mobility of individuals.

2. The Programme of Work and the Participants

Given that the 1974–5 study had been the third in a series on Palanpur, the idea of further work was an obvious one. As the Bliss and Stern volume was completed at the end of the 1970s (it was published in 1982), the process of design and funding for the later studies began. The fourth study was one of the core projects at the foundation of the Development Economics Research Centre (DERC) at the University of Warwick in 1980. The project was transformed when Jean Drèze agreed in 1982 to undertake the field investigation. From then on he has taken the leading role in this work. Drèze and myself joined the LSE at the beginning of 1986 and from then on the project was based largely at Suntory Toyota International Centre for Economics and Related Disciplines (STICERD) at the LSE, forming a central element of STICERD's Development Economics Research Programme (DERP).

Naresh Sharma, then at the Indian Statistical Institute in Delhi, has been a key member of the team since 1983 and lived with Drèze in the village in 1983–4. Peter Lanjouw has been a central influence on the project since his involvement began at the LSE in 1988. Both Lanjouw and Sharma have written doctoral theses on Palanpur (Lanjouw 1992; Sharma 1992) where some of the issues discussed in this book have been examined in further depth and detail.

Drèze, Lanjouw, Sharma, and I have collaborated closely in the production of this book. The authorship of the individual chapters varies but there has been constant interchange of ideas amongst different authors. We were fortunate to have with us in writing the chapters Christopher Bliss, Jocelyn Kynch, and Anindita Mukherjee, all of whom have spent some time in Palanpur during the course of the work. We are also grateful to Jean Olson Lanjouw for contributing the appendix to chapter 8.

The data for the 1983–4 and 1993 studies, as for the earlier ones, were collected through questionnaires from households, individuals, cross-checking with other informants, informal discussion, direct observation, statistics from local government offices, and where relevant, national or state-level statistics. For the 1983–4 survey, the

most detailed of all the five surveys, the team was established in the village on 18 September 1983. Three research investigators, Jean Drèze, Naresh Sharma, and S.S. Tyagi Jr. lived in the village for the next fifteen months until December 1984. Christopher Bliss and I came for a first visit in September 1983, and I paid further visits during the year. Jocelyn Kynch and Michael Maguire also visited the village to collect data during the 1983–4 survey year. Bliss and I had visited the village on several occasions between 1974–5 and 1983–4 and members of the team, including Peter Lanjouw, Jean Olson Lanjouw, and Anindita Mukherjee, returned to the village after the 1983–4 survey.

S.S. Tyagi Jr. of the AERC has been vital to the continuity of the study and to the depth of knowledge of the village that has been established over time. It was his brother, S.S. Tyagi Sr., who led the field investigation for the 1957–8 study and S.S. Tyagi Jr. lived in the village throughout the 1974–5 and 1983–4 field work. He is a most experienced investigator and comes from a village in Bulandshahr district of west U.P.

Naresh Sharma also comes from a village in Bulandshahr district. Thus, as well as being a fully trained social scientist and statistician (from the Indian Statistical Institute in Delhi) he was well acquainted with rural life in UP prior to the study.

Jean Drèze, at the time of the field work, had spent several years in India, having completed a Ph.D at the Indian Statistical Institute. He speaks excellent Hindi and had, by 1983–4, studied and participated in many aspects of Indian life and economy. He was already very well travelled within India.

Hence the research team in the field in 1983–4 was not only of outstanding quality but in terms of local knowledge, linguistic ability, and analytical skills was also very well qualified to carry out the field work in a way which produced not only high quality data but also a constant stream of ideas and insights.

The process of collecting data is described in chapter 1. It is important to stress here, however, the importance of continuity and close knowledge in this process, as for that of encoding and analysis. In the collection of the data there is a constant requirement for probing, judgement, and cross-checking. The questioning and the judgement should be shaped by a clear understanding of the purpose to which the data will be put and of the underlying concepts. Similar remarks apply to the process of encoding where judgements are continually required

which should be guided both by the end uses of the data and detailed knowledge of the situation in the field to which the data refer. It was a vital feature of the whole study that the process of collection and encoding was drawn and guided by those who both were in the village and would later work on the analysis.

Jean Drèze kept a detailed diary of events in the village and of his observations. This unique and rich document, packed with observations of and insights into life in Palanpur provides important input into the description of the village in chapters 1 and 2.

The research group lived in the same rooms above the Seed Store, on the edge of the village, which had been occupied by Bliss, Stern, S.S. Tyagi Jr., and V.K. Singh in 1974–5, although these had somewhat deteriorated due to the collapse of part of the staircase. The data were brought to the University of Warwick in early 1985 and during that year Naresh Sharma and S.S. Tyagi Jr. spent some time with Drèze and myself encoding the data.

Jean Drèze and Naresh Sharma returned to Palanpur in 1993, when they carried out the fifth survey of the village.[2] While this survey involved a shorter period of field work (a few weeks) than the 1983–4 survey, it benefited greatly from the investigators' earlier experience, and generated a considerable amount of data as well as invaluable insights into the process of change. In addition to leading the 1983–4 and 1993 surveys, Jean Drèze and Naresh Sharma have visited Palanpur at regular intervals in the intervening period, and also after 1993 (the most recent visit, by Jean Drèze and Peter Lanjouw, was in January 1997).

A considerable amount of desk work was required in establishing a data set containing certain core variables for each of the survey years. The magnitude of input arose because the data for the two earlier survey years had not been encoded. It was also of great importance in doing this encoding to ensure comparability of data across the different surveys. Consistency of approaches to definitions and their application across the surveys was a major task requiring painstaking and very detailed work involving clear understanding of both concepts and purposes on the one hand, and knowledge of the village on the other. It also has a price in that in constructing core data for intertemporal comparison we have to focus on elements that were common to the

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surveys. We have, however, also made extensive use of the more detailed information available for 1983–4.

In carrying out the detailed data work we formed a fairly clear impression of the quality of the data over the years. The 1957–8 survey seemed to have been carried out with considerable care and the data were of high quality judging by plausibility, internal cross-checks, external evidence, and so on. The data for 1962–3 were useable and of reasonable quality, but of a standard below that for 1957–8, and with some puzzles which were not easy to explain. On returning to the 1974–5 data after a gap of several years it was reassuring to find that they appeared to be of a very good standard. The data for 1983–4 we would regard as being of especially high quality, being subject to more extensive and careful cross-checking on the site and being much more extensive. The data for 1993 were collected over a shorter period of time than the other surveys (one month), and were less comprehensive. In particular, detailed agricultural input data were not collected. However, building on their close personal knowledge of the village Drèze and Sharma were able to collect data from all households on a broad range of key economic and demographic variables.

More detailed discussion of specific aspects of the data is provided in the relevant chapters of this book. At the end of chapter 2 a set of summary tables provides a broad overview of the key indicators covering the entire survey period.

There have already been many working papers in the DERP series from STICERD, and elsewhere and a number of published articles based on the Palanpur work.[3] Whilst the broad lines of argument and conclusions in the earlier publications and working papers are consistent with what is to be found here there are inevitably some discrepancies on certain details. The work here incorporates further reflection and analysis and should be interpreted as the statement of our views.[4]

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[3]   Ansari (1964), Bliss and Stern (1982), Drèze (1988, 1990a, 1990b, 1997), Drèze, Lanjouw and Stern (1992), Drèze and Mukherjee (1989), Drèze and Saran (1995), Kynch (1994), Kynch and Maguire (1986, 1989), P. Lanjouw (1992, 1994), J.O. Lanjouw (1997), Lanjouw and Stern (1989, 1991), Mukherjee (1991, 1993), Mukherjee and Ray (1991), Sharma (1992), Sharma and Drèze (1990), and van Bastelaer (1986).

[4]   As Gandhi once remarked, ' . . . when anybody finds inconsistency between any two writings of mine, if he has still faith in my sanity, he would do well to choose the later of the two on the same subject' (*Harijan* 29–4–1933, p. 2).

3. The Approach

Whilst we have approached the study of Palanpur primarily from the perspective of economic analysis, the social structure, mores, and politics of the village often appear in our discussions, speculations, and analyses. Nevertheless, the concepts we have used, the theories we have examined, and the statistical methods we have adopted have been drawn largely from modern economics. We have laid less emphasis here, however, than we did in the 1974–5 study, on the formal testing of particular economic theories. Our concern with development over time has involved a broader social perspective than was to be found in the earlier work.

There should be no technical barriers to the understanding of most of the empirical work. We make extensive use of simple tabulations of the data. Where more formal methods have been applied the statistical techniques adopted have been those which should be standard from a graduate applied econometrics course. Notwithstanding the temptation we have not (with the exception of the appendix to chapter 8 on farming skills) made extensive use of panel data methods. The main reasons for this are the very long and varying gaps between years and the emphasis in our work on changing economic structures. Most panel data analyses work with much shorter time periods when it is more reasonable to assume fixed structures and where it is possible to focus, for example, on the detailed form of intertemporal decision-making in a fairly constant environment.

Despite the extended presence in the village and extended revisits, there is little evidence of our activities having any discernible effect on the village economy and society. Whilst we no doubt provided occasional amusement to the villagers in Palanpur [5] there is no reason to suppose our presence has had any substantial influence on the village or its relations with the outside world. The village is still largely ignored by officialdom and has not been plagued by economic tourists. Our regular presence in the village has, however, been vital in its provision of personal knowledge of individual households.

Above all, it is obvious that our study is that of just one village. We do not pretend it is a 'representative village'. Given the diversity that exists, such a claim would be absurd. We should, however, ask whether

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[5] The advice of our good friend Clive Bell, himself a veteran of village studies, given in the early 1970s before our first visit to Palanpur frequently came to mind. The secret, he said, is to appear mad but harmless.

theories of the functioning of poor economies and of economic and social change are capable of explaining what one finds in one, not especially unusual village in north India. At the same time, we would hope that the unique detailed knowledge of that particular place might generate hypotheses and thoughts which would not arise naturally from a more anonymous data set covering large parts of the country. The insights from Palanpur both suggest caution in the interpretation of results from these big surveys and generate possible interpretations of some aspects of those results.

One illustration of the usefulness of a longitudinal village study as ours concerns trends in land distribution. Land ownership data for rural India are not easy to obtain from secondary sources, and the information that does exist (e.g. from the National Sample Survey) tends to be quite unreliable due to the sensitive nature of the data. Also, available land ownership data from large-scale surveys raise important issues of comparability over time. In the case of Palanpur, we have access to relatively accurate and consistent land ownership data for each survey, and we also have a great deal of information on the process of change in land ownership. This forms the basis of a detailed discussion of land ownership patterns in chapter 2. Further, as explained there, we are able to scrutinize changes in land ownership in the light of demographic change in the village, which turns out to be quite important. For instance, we find that an apparent increase in landlessness between 1974–5 and 1993 is primarily due to the increased incidence of filial separation (involving the formation of separate households by adult sons prior to the inheritance of land).

We shall not attempt here to anticipate the detailed results which will be found in the chapters which follow — in most cases they contain their own summaries. We have already emphasized that the three basic forces we see as determining economic and social change in Palanpur have been population growth, the intensification of agriculture and the introduction of newer methods, and the growth in the outside economy. However, the effects of these forces is influenced strongly by the structure of the economy and society. Further, aspects such as health, inclinations, and luck exert major influences on what happens to the lives of individuals. It is this combination of economic and social structure large general forces of change, and the behaviour and circumstances of individuals which provides the fascination in the understanding of what has happened to living standards and their distribution in Palanpur. In particular,

the analysis must pay careful attention to the operation of economic and social institutions if the influences of general forces and of individual behaviour are to be properly understood.

4. Plan of the Book

The book is organized into two parts. The first part consists of two chapters providing a basic description of the village as a whole and a broad overview of development in Palanpur between 1957–8 and 1993. The first chapter, by Drèze and Sharma describes the village and its institutions while the second by Drèze, Lanjouw, and Sharma examines the village economy over the entire survey period. The last section of this chapter consolidates some of the main lessons from this study, and offers an assessment of Palanpur's development experience since 1957–8.

The second part of the book, on specific aspects of the economics of change, is divided into three. First, there is a discussion in chapter 3 by Bliss, Lanjouw, and Stern of the forces of change in terms of population growth, the expansion of employment, and technological change. In Part II.B, chapters 4 and 5, both by Lanjouw and Stern, are on poverty and inequality, respectively. Kynch provides chapter 6 on nutrition. In Part II.C there are detailed studies of economic institutions in terms of markets which are central to the rural economy. Chapter 7, by Mukherjee, is on labour markets; chapter 8 by Drèze and Sharma, on sharecropping; and chapter 9 by Drèze, Lanjouw, and Sharma, on credit.

Whilst there is inevitably some overlap between Parts I and II, they support each other in basic ways. In the first part, which is intended to be non-technical and to provide a general picture of the results, there is close attention to the detail of social structures and the way of life of the village. This provides crucial background for the more technical analyses of Part II. In turn, the more formal analyses of Part II under-pin some of the generalizations and observations of Part I.

5. Acknowledgement

Research Institutions

This study would not have been possible without the strong institutional support of the following universities and centres. The Development Economics Research Centre (DERC) at the University of

Warwick provided the first base for the project. The major institutional support came from the Suntory-Toyota International Centre for Economics and Related Disciplines (STICERD) at the London School of Economics, which provided its unique collegial atmosphere and very strong technical support. The Centre for Development Economics (CDE) at the Delhi School of Economics, where Drèze has been based since 1994, played an important role at the final stages of the project.

Funding Sources

People

comments. Further acknowledgements are given in each chapter, as relevant.

Special thanks are due to the people of Palanpur for their patience, welcome, warmth, and good humour.

Time has seen the team scattered from Hyderabad to Georgetown and this dispersion has been a challenge in the timely completion of this book. However, we have stayed in touch and have managed to work closely and cheerfully together despite the geographic separation and other commitments.

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List of Contributors

The affiliations of the contributors to this book have changed several times, in most cases, over the long duration of this project (1983–97). All of them are former Research Associates of STICERD (London School of Economics), where the bulk of the work has taken place. Their current affiliations are indicated below.

CHRISTOPHER BLISS is one of the two co-authors of the first book on Palanpur (Bliss and Stern 1982). He is now Nuffield Professor of International Economics at Nuffield College, University of Oxford.

JEAN DRèZE did the field work for the 1983–4 survey in collaboration with Naresh Sharma and S.S. Tyagi, before joining the London School of Economics as a Lecturer in Economics. He also did the 1993 resurvey with Naresh Sharma. He is currently Visiting Professor at the Centre for Development Economics, Delhi School of Economics.

JOCELYN KYNCH initially assisted Christopher Bliss and Nicholas Stern in the analysis of the 1974–5 survey. She did a nutrition survey in Palanpur in 1984, in collaboration with Michael Maguire. She is currently lecturer at the Centre for Development Studies, University of Wales, Swansea.

PETER LANJOUW did his Ph.D. in Economics at the London School of Economics, using the Palanpur data (some of which he collected during a visit to Palanpur in 1990). He will be joining the Free University of Amsterdam in Autumn 1998 as a Lecturer in Development Economics.

ANINDITA MUKHERJEE did her Ph.D. in Economics at the Indian Statistical Institute. Her Ph.D. thesis is concerned with rural labour markets, and makes use of data collected by her in Palanpur in 1986. She is currently Research Associate at the Institute of Economic Growth, Delhi University.

JEAN OLSON LANJOUW was a graduate student at the Delhi School of Economics and the London School of Economics, where she did her Ph.D. in Economics. She is now Assistant Professor of Economics at Yale University. She visited Palanpur in 1990.

NARESH SHARMA was one of the field investigators of the 1983–4 and 1993 surveys. His Ph.D. thesis (Indian Statistical Institute) focuses on tenancy in Palanpur. He is currently Assistant Professor of Economics at the Institute of Public Enterprises, Hyderabad.

NICHOLAS STERN co-authored the first book on Palanpur with Christopher Bliss, and played an active role in the subsequent surveys and analyses. Formerly Professor of Economics at the London School of Economics, he is now Chief Economist at the European Bank for Reconstruction and Development.

Part I The Village

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Chapter 1 Palanpur:

Population, Society, Economy [6]

Jean Drèze and Naresh Sharma

Introduction

During our sojourn in Palanpur in 1983–4, one of us kept a diary. The entry for 22nd February 1984 includes the following paragraph:

> Om Prakash showed me an interesting astrology book, which he is assiduously studying. He claims to have worked out a formula to predict which of two spouses will die first. It consists of writing down their respective names, counting the number of letters in each name, performing some simple arithmetic operations to finally arrive at a number to be divided by three. The residual (0, 1 or 2) indicates whether the sex of the spouse in question is male, female or uncertain. It looked like sheer superstition to me. All the same, I must admit that, trying the formula on a few Palanpur couples one member of which had already died, we got the right answer in every case. From another formula, Om Prakash predicted that another book would be written on Palanpur.

Om Prakash did not reveal how long it would take for his prophecy to come true, and this was wise on his part, since that revelation might have defeated the prophecy itself. As it turned out, it took us (and the other contributors to this book) about ten years to chew up the material collected in Palanpur in 1983–4. By that time, we felt that the book needed to be updated, and so we returned to Palanpur in 1993 for an in-depth resurvey. Enlightened by our earlier experience, it took us only another three years to bring the updated study to completion. We hasten to publish it before the need arises for another survey.

The intention of this part of the book is to present a sketch of Palanpur's economy and society (chapter 1), and an assessment of economic development in Palanpur since 1957 (chapter 2). Much of the material covered in these two chapters is dealt with in greater detail in other parts of the book. Given that other parts of the book can be consulted for quantitative analyses of the data, we have tried to keep this one relatively informal.

The Sources

As explained in the Preface, five household surveys have taken place in Palanpur between 1957 and 1993. The information made available by these detailed surveys is the most important basis of the analyses contained in this book. But in this part of the book, and to a lesser extent in other chapters as well, considerable use is also made of several additional sources of information. Three of them are particularly important.

First, we shall draw on a collection of personal observations made in the course of the last two surveys. Both of us lived in Palanpur for thirteen months in 1983–4, in the role of field investigators for the fourth household survey. [7] We also carried out the fifth survey, in June–August 1993. On both occasions, we wrote extensive field notes, including a diary of a thousand-odd pages which contains a day-to-day account of the life of the village throughout 1983–4. These personal observations have guided much of our subsequent work.

Second, this chapter and the next make use of personal observations and quantitative data collected during a series of short visits to the village between 1983–4 and 1997. During that period, we have visited the village a dozen times (not always together), sometimes for social reasons, sometimes for the purpose of carrying out a short investigation on a particular theme. These enquiries did not include a comprehensive household survey, but they have generated a good deal of additional data on issues such as household partition, occupational change, land transactions, and government programmes.

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[7]   The third field investigator was S.S. Tyagi (Jr), of the Agricultural Economics Research Centre (University of Delhi), who had also played a major role in the 1974–5 survey. We would like to take this opportunity to express our deep appreciation of S.S. Tyagi's invaluable help at every stage of this study. During the 1993 resurvey, we benefited from the collaboration of C.P. Sharma, also from the Agricultural Economics Research Centre (Delhi). We are grateful to him for his outstanding work and delightful company.

The third source consists of a whole series of informal discussions with Palanpur villagers (men, women, and children). Many of these discussions have taken place spontaneously, in the course of our diverse activities; others were organized around a questionnaire prepared in advance. Of course, caution has to be exercised in interpreting personal views and testimonies. Much of this material is 'subjective', but that does not make it less informative, as long as the subjective element is taken into account in the analysis. Combined with the survey data, informal discussions provide many valuable insights into Palanpur's economy and society.

Terminology

The reference years of the five surveys are 1957–8, 1962–3, 1974–5, 1983–4, and 1993, respectively. In this chapter, these particular years will be referred to as 'survey years'. The term 'survey period' refers to the entire 1957–93 interval.

For each of the first three surveys, the reference period is a standard agricultural year, consisting of two major seasons, *kharif* (June–November) followed by *rabi* (November–May). For the 1983–4 survey, however, the reference year begins in November 1983, and consists of the rabi season followed by the kharif season of the next agricultural year. The last survey is essentially a snapshot of the village in mid-1993.

Many of the statements made in this chapter apply throughout the survey period (1957–93). In other cases, we shall specify the reference year or period. In cases where we are interested in the most recent information on particular features of the village (e.g. literacy levels, or the size of the population), the reference year will be 1993, whenever the relevant data are available for that year, and otherwise 1983–4. The 1983–4 survey was the most detailed of the five household surveys, and is the basis of many of the quantitative analyses presented in other parts of the book.

When we use the present tense, we refer (unless otherwise indicated) either to the way things were at the end of the survey period (late 1993), or to features of Palanpur that have been fairly stable over that period. The context should make clear which of the two applies, if this is not explicitly stated. For instance, sentences such as 'relations between Hindus and Muslims are peaceful in Palanpur', or 'sharecropping is the main type of tenancy contract', should be understood to apply to the whole survey period (unless stated otherwise), whereas the

statement 'Palanpur has a population of 1,133' applies to 1993. We hope that ambiguity will not be too frequent.

A few other terminological hints may be helpful. First, following fairly conventional usage, we shall retain the terms 'landlord' for lessor, and 'tenant' for lessee, even though these conventional terms have somewhat misleading connotations (see chapter 8). Second, land areas will be expressed either in acres or in bighas, whichever is most convenient. In Palanpur, there are 6.4 bighas in one acre. Third, single persons of unspecified gender will be referred to alternately as 'he' and 'she' (and correspondingly with 'his', 'her', etc.). We have, however, retained selective use of apparently sexist terms such 'headman', 'ploughman', etc., in cases where it would be quite misleading to pretend that the actors in question are sometimes female. Fourth, all the names mentioned in the text are pseudonyms. Fifth, we shall make occasional use of Hindi terms.[8] The reader is referred to the glossary at the end of this book for translations and explanatory notes.

A Word on Field Work

We shall not inflict a detailed account of the field work on the reader. In brief, we spent thirteen months in the village in 1983–4, starting in October 1983. We lived in the same premises as those used by Christopher Bliss and Nicholas Stern in 1974–5 — a couple of rooms in an unused building situated just outside the village known as the Seed Store. We enjoyed logistic assistance from Om Prakash, the person who had already assisted Bliss and Stern nine years earlier, and who turned out to be both an excellent cook and a most helpful adviser (not to speak of his astrological skills).

During these thirteen months, we divided our work time between data collection, informal discussions, and participant observation. Data collection involved filling half a dozen questionnaires for each household over the year, and supplementary investigations on specific topics such as public services, caste relations, marriage practices, agricultural practices, criminal activities, and the history of the village. We attached great importance to the quality of the data, and took care in particular to cross-check as much information as possible. For instance, land ownership data were cross-checked from several sources (e.g. household questionnaires, official records, direct

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[8]   The transliteration rules used in conveying these Hindi terms are quite informal (e.g. we make little use of diacritical marks).

observation) until we had a complete and reliable account of the ownership status of every plot. Similarly, self-reported debts to credit institutions were compared with official records, and all discrepancies removed through detailed cross-examination. This is not to say, of course, that the information used in this book is entirely accurate. Important margins of error do remain for many variables, some of which (e.g. household income) are even quite important. All we can claim is that we have done our best to ensure that the standards of accuracy of the 1983–4 survey were as high as possible.

In our informal discussions, we tried to interact with as many people as possible. As time went on, we developed a good rapport with persons of all castes and occupations, from the headman to the village sweeper. While we did interact more with some than with others, even the small circle of our closer friends included persons of very diverse backgrounds.[9] One significant qualification, however, concerns discussions with women. At the beginning of the 1983–4 survey, our contacts with Palanpur residents were largely restricted to men. This is partly because social norms permit only limited association between adult men and women in this part of India, and partly because gender issues were not an important focus of our study at that time. We tried to correct this bias later on, as opportunities for open discussion with adult women developed. As it turned out, we enjoyed considerable freedom to talk with most adult women, thanks to the good rapport we had with the village as a whole and to the fact that, as outsiders, we were not considered to be entirely bound by the local code of behaviour.[10] We did not, however, interact to any significant degree with young married women of the Thakur caste, who are bound by fairly strict rules of seclusion. And while our discussions with other women covered a wide range of topics (including family life, women's work, child nutrition, gender inequality, property rights, marriage arrangements, intra-household decision-making, caste relations, reciprocal lending, and village politics), we refrained from probing very deep

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[9] We also had opportunities to engage in extensive discussions with 'outsiders' having important connections with Palanpur, e.g. residents of neighbouring villages, government officials, urban employers, and bank managers.

[10] Jocelyn Kynch's visits to Palanpur (with Mike Maguire) in January–February and September–October 1984, in connection with the nutrition survey discussed in chapter 6, were also instrumental in correcting the initial bias. We would like to take this opportunity to thank her for this invaluable contribution to the field work.

into the more sensitive issues. For this and other reasons, we cannot claim to have achieved anything like a full understanding of how an adult woman in Palanpur perceives her life and the world. This limitation, however, does not detract from the value of their testimonies, which are extensively used in this book.

'Participant observation' is an inadequate term to describe the third component of our field work. Without trying to masquerade as locals, we welcomed direct experience of as many aspects of village life as possible. We spent some time in the fields every day, talking with farmers and labourers or lending them a hand (not that our work was always very productive). We had ample opportunities to observe domestic life in the homes where we knew our presence to be welcome. We visited most of those who work outside the village at their workplaces, and were always glad to accept an invitation to accompany someone to the weekly market, a marriage ceremony, a government office, a local festival, the district hospital, or a pilgrimage to the Ganges. Visits to relatives of Palanpur residents (which took us to dozens of other villages in the district) were a particularly useful opportunity to put our observations in local comparative perspective.

We engaged in most of these activities with zest, and experienced little of the stress described by the French anthropologist Claude Lévi-Strauss in his classic *Tristes Tropiques*:

> Even in normal circumstances, field work is a trying experience: one has to rise before dawn, stay awake until the last aboriginal has fallen asleep and even, sometimes, watch his sleep; apply oneself to being unnoticed but always present; watch everything, remember everything, record everything, behave with humiliating indiscretion, beg information from an insolent kid, be ready at any time to take advantage of a moment of complacency or spontaneity; or know how to restrain one's curiosity for days on end and keep a reserved attitude if the tribe falls in a sulky mood.[11]

What Lévi-Strauss describes here sounds more like spying than field work as we know it. To be fair, Lévi-Strauss's 'aboriginals' were probably less open to outsiders than north Indian villagers. In Palanpur, most people had at least a vague understanding of our work, and regarded it with a mixture of sympathy and amusement. They were, in any case, extremely cooperative. The completion of this book owes a great deal to their goodwill.

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[11]   Lévi-Strauss (1955: 449–50); our translation from French.

1. Situation

1.1. Social Geography

Palanpur's location is of considerable interest from the point of view of the study of Indian development. This may already be clear to readers of the first book on Palanpur, which gives the village's geographical coordinates as 78°46'E, 28°33'N (Bliss and Stern 1982: 2). But perhaps a little more can be said on the significance of this particular location.

Uttar Pradesh, where Palanpur is situated, is among the least developed states of India. It combines a high incidence of poverty in terms of conventional income-based indicators (e.g. the 'head-count ratio') with exceptionally high levels of mortality, fertility, undernutrition, illiteracy, and related indicators of endemic deprivation. To illustrate, in terms of UNDP's recently-devised 'human development index' (essentially a weighted average of per capita income, literacy, and longevity indicators), Uttar Pradesh ranks *last* among all major Indian states according to most estimates.[12] Uttar Pradesh is also a region of extreme social inequalities, including highly oppressive caste and gender relations. Table 1 presents some comparative information on these issues (the corresponding figures for south India are also given for comparison).[13]

In order to appreciate the seriousness of this problem of regional backwardness (which also extends to several other states of north India), it is useful to remember that Uttar Pradesh alone had a population of 139 million in 1991. If it were an independent country, Uttar Pradesh would come *seventh* in the world in terms of population size, just behind Brazil and Russia. It would rank as one of the least developed countries in the world, with, for instance, literacy and mortality rates comparable to those of the poorest countries of sub-Saharan Africa.

There are, of course, important internal diversities within Uttar Pradesh, just as there are sharp contrasts between different states within India as a whole. The state is often divided into five regions:

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[12] See e.g. Prabhu *et al.* (1995), Mahendra Dev (1995), Shiva Kumar (1995), Government of Madhya Pradesh (1995), and the earlier literature cited in these studies.

[13] For further discussion of the evidence, and of some of the political and social roots of endemic deprivation in Uttar Pradesh, see Drèze and Gazdar (1997).

Table 1 : Uttar Pradesh and South India (Selected Indicators)

	Uttar Pradesh	South India	Uttar Pradesh's rank among India's 15 major states[a]
Life expectancy at birth, 1990–2 (years)			
female	54.6	64.0	14
male	56.8	60.9	13
Under-five mortality rate, 1992–3 (probability of dying before age 5, × 1,000)	141	82	15
Estimated maternal mortality rate, 1982–6 (deaths per 100,000 live births)	931	365	14
Total fertility rate, 1991	5.1	2.6	15
Female-male ratio, 1991	879	979	14
Incidence of undernutrition among children aged below five, 1992–3 (%) (weight-for-age criterion)	59	47	14
Literacy rate, age 7+, 1991 (%)			
female	25	49	13
male	56	68	12
Proportion of rural children aged 12–14 who have never been enrolled in a school, 1986–7 (%)			
female	68	28	14
male	27	14	10
Head-count ratio, 1987–8 (percentage of the population below the poverty line)			
rural	48	41	9
urban	42	42	10

[a]   These 15 major states do not include Assam and Jammu & Kashmir. The ranking is based on arranging the states in increasing order of the relevant indicator, except in the case of life expectancy, literacy rate and female-male ratio (decreasing order).

Source: Drèze and Sen (1995) and Drèze and Gazdar (1997), based on the National Sample Survey, Sample Registration System, National Family Health Survey, and related sources.

western U.P., eastern U.P., central U.P., southern U.P., and the Himalayan region.[14] Moradabad district, where Palanpur is located, belongs to the first of these five regions. It is worth noting that, contrary to a common perception, western U.P. does not fare particularly well, in comparison with the other four regions, in terms of health, education, and related indicators of well-being (see Drèze and Gazdar 1997). This is particularly striking in view of the fact that western U.P. has experienced relatively rapid economic growth since the beginning of the 'Green Revolution', and is now one of the more prosperous regions of Uttar Pradesh.[15] We shall return to this contrast between economic prosperity and social achievements.

The significance of this re-study of Palanpur (such as it may be) partly relates to this particular position of the village in India's socioeconomic geography. On the one hand, Palanpur lies inside north India's 'Green Revolution' belt, and this case study may help to understand the economic transformation that has taken place in that region during the last few decades. On the other hand, Palanpur also belongs to one of the lagging north Indian states, and its development experience may offer some important clues about the causes of persistent deprivation in these states. While much of this book concentrates on Palanpur itself, with little attempt to 'generalize' the findings, one of the purposes of this village study is to throw some light on these broader issues.

1.2. Physical Environment [16]

Palanpur is located 31 kms south of the city of Moradabad, the main urban centre in Moradabad district. The railway line connecting Moradabad to Chandausi, a smaller town 13 kms south of Palanpur, runs just outside the village.[17] Trains going in each direction stop four times a day, and provide the main connection between Palanpur

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[14]   This is, for instance, the division adopted by the National Sample Survey; see Jain *et al.* (1988).

[15]   At the beginning of the 1970s, the incidence of rural poverty in western Uttar Pradesh was only marginally lower than in other parts of the state (see Jain *et al.* 1988). By

[16]   A more detailed account of the village characteristics dealt with in this section can be found in Bliss and Stern (1982).

[17]   At the time of the 1991 census, Moradabad and Chandausi had 444,000 and 83,000 inhabitants, respectively (Nanda 1992a, p. 381).

and the outside world. The village is not accessible by road, but is connected by a rough track to a road linking Moradabad and Chandausi. Just before reaching the road, about 2 kms from Palanpur, this track goes through Akroli, a larger village equipped with several schools (including a 'junior high school') and a primary health centre.

Palanpur itself consists of a tight cluster of a little less than two hundred houses made of mud or bricks, and public spaces such as lanes, wells, and temples. Over the survey period, the area used for residential purposes has gradually expanded, partly at the expense of surrounding groves. Within the village, households belonging to the same caste tend to live close to each other.

Immediately surrounding the residential area (which covers about 20 acres) are the village fields, covering a fairly flat area of about 400 acres. Most of this area is cultivable, if we include groves and orchards as a form of cultivation. By the end of the survey period, most of the village land was also irrigated. For practical purposes, groundwater can be considered as the exclusive source of irrigation water, although farmers occasionally draw water from ponds, or from the little stream running along the north-eastern boundary of the village. Groundwater is extracted by means of Persian wheels or diesel-powered pumpsets.[18] Individual fields are small, a one-acre plot being considered as a rather large field.

The economic and social links between Palanpur and the outside world have steadily expanded over the survey period. Initially, there were few links with urban centres other than Chandausi. Throughout the survey period, Chandausi has been extensively used as a shopping centre, and a growing number of adult men have found employment there as wage labourers. Over time, employment opportunities have gradually extended beyond Chandausi to other towns in the district, especially Moradabad, and also Bilari, a smaller town half-way between Chandausi and Moradabad on the railway line. By the end of the survey period, the 'employment circle' had considerably expanded, reaching as far as Delhi (about 200 kms from Palanpur) in some cases. In addition to these connections with the urban economy based on trade and employment, caste and kinship provide the basis of extensive intrarural links with other villages. Aside from their role in social life, these

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[18]   The number of Persian wheels in Palanpur grew from 9 in 1957–8 to 22 in 1983–4, but declined rapidly during the late 1980s and early 1990s due to displacement by energized pumping sets. By the end of the survey period, all Persian wheels had disappeared.

links play an important part in economic processes such as the dissemination of information (e.g. on new agricultural technology), the provision of mutual insurance (e.g. through interest-free credit), and the expansion of some migration opportunities (e.g. through personal contacts with particular employers).

The climate in Palanpur, as in much of north India, is characterized by sharp seasonal variations. During the rainy season, which stretches from late June until early September, the weather is hot and humid, with intermittent spells of rain, sometimes lasting for several days. From September onwards, the temperature falls gradually until early January, when it often remains below 10°C during the day. January and February are cold and windy, but after that the temperature rises sharply. From April to June the weather is dry and very hot — up to 45°C and more.

As stated earlier, agriculture is organized around two major seasons: rabi (November–May), when wheat is the main crop, and kharif (June–November), when a variety of crops are grown including paddy, sorghum, millet, maize, and pulses. Sugarcane, a ten-month crop sown in February–March, is also quite important. In addition, short-duration vegetable and fodder crops are grown at different times of the year.

2. Population

2.1 Village and Households

At the beginning of the last survey (in mid-1993), Palanpur had a population of 1,133 persons, divided into 193 households. Hindus represented 87.5 per cent of the village population, and Muslims the remaining 12.5 per cent. Hindus were divided into six main castes (ranging from 14 to 48 households in size), and three minor castes of three households or less. The shares of Hindus and Muslims in the total population, and the relative sizes of the main castes, have remained fairly stable throughout the survey period.[19] The demographic composition and other basic features of the village in 1993 are summarized in Table 2.

The division of the village into 'household' units does not present any great difficulty. The number of 'grey' cases, where it is difficult to decide whether a group of persons should be considered as one or

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[19]   For details, see Table 1   in chapter 2.

Table 2 : Palanpur, 1993: Village Profile

Location:	13 kilometres north of Chandausi, a small town in Moradabad district
Population:	1,133
Number of households:	193
Proportion of Muslims (%):	12.5
Main Hindu castes:[a]	Thakur, Murao, Dhimar, Gadaria, Passi, Jatab
Literacy rate, age 7+ (%):	
female	9
male	37
Main economic activities:	agriculture, livestock, wage employment outside the village
Total land owned:[b]	2,383 bighas (372 acres)
Proportion of landless households (%):	23
Proportion of land irrigated (%):	96
Main crops:	wheat, rice, sugarcane, bajra, jowar, vegetables, pulses
Main public amenities:	primary school, railway station, temples, wells, pond

[a] On the size and other characteristics of different castes, see Table 5 below.
[b] Not including residential plots.

several households, is quite small. This is because living arrangements in Palanpur follow fairly clear-cut patterns: a group of persons can either live 'together in the same household' (*sajhe*), in which case the norm is that they should share a common hearth and pool their economic resources, or 'separately' (*nyare*), in which case the constituent households are essentially independent. Intermediate arrangements are rare.[20]

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[20] Similar observations are made by Susan Wadley and Bruce Derr in their study of Karimpur, also in western Uttar Pradesh (Wadley and Derr 1989: 86), and by Caldwell *et al.* (1988: 111) in a study of family structure in rural Karnataka. It should be mentioned that the details of work- and income-sharing arrangements in sajhe households are quite complex and diverse, and their analysis would require a more detailed investigation of intra-household relationships than we have been able to undertake.

The only important source of possible ambiguity arises from the situation where several brothers live separately but cultivate jointly. Such arrangements tend to be rare and short-lived, but they sometimes prevail for a little while immediately after the partition of a joint family (e.g. when the household heads wish to reduce the incidence of domestic quarrels while retaining the advantages of joint ownership of indivisible assets). In such cases, we have considered the joint family in question to consist of several, separate households. In short, the basic criterion of household identification is the sharing of a common hearth.

For each survey, we have also had to deal with several cases of persons who are considered as notional members of a Palanpur household, but spend most of their time outside the village. The most frequent example is an adult male who works outside the village and lives near his place of work, but regularly spends time with his wife and children in Palanpur. Such persons have been excluded from the reference population.

2.2 Household and Family

The formation and partition of households in Palanpur follows a basic cycle familiar to the student of north Indian society.[21] The ideal household might be described as the 'complete patrifraternal joint family', where a male household head (let us call him the patriarch) lives with all his sons and their nuclear families as well as with his own wife and unmarried daughters, if any.[22] This model can readily be extended to more than three generations, the basic principle being that 'a Hindu joint family consists of all males lineally descended from a common ancestor and includes their wives and unmarried daughters' (Kane 1974: 590). But the demography of the village is such that joint-family households spanning more than three generations are few and far between. The patrifraternal joint family is a common household type in Palanpur, especially among households owning land and indivisible productive assets.

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[21] See Mandelbaum (1970: chapter 3) for a good introduction; also Karve (1965), Kolenda (1987), Srinivas (1982).

[22] The joint family may also include the patriarch's widowed mother, if she is alive. If one of the patriarch's sons dies, the joint-family 'ideal' requires that his widow and children should remain in the joint family; in practice, however, this rarely happens in Palanpur, except in the form of a leviratic union between a widow and her brother-in-law (see Drèze 1990a).

The patrifraternal joint family rarely survives the death of the patriarch for very long (sometimes, the partition of the household takes place even before that event). If it does survive, we may speak of a 'fraternal joint family', typically consisting of several married brothers, their nuclear families, and their widowed mother if she is still alive. In a fraternal joint family, the eldest son normally becomes the household head, although we know of cases where his mother assumes that role, or where one of his younger brothers has succeeded in asserting his authority on the basis of his superior education or through some other means.[23] After the partition of the joint family, the partitioned units typically consist of nuclear families, with one of them incorporating the widow of the erstwhile patriarch, if she is still alive.[24] In due course these nuclear families then grow again, according to the ideal model, into patrifraternal joint families.

It is important to note that the formation and partition of most joint families closely follow this traditional pattern, and that the joint family is not an arbitrary contingent of more or less closely-related family members reflecting their personal needs or affinities.[25] As with many other fields of social interaction, living arrangements in north India follow fairly well-defined rules, with only limited scope for improvisation. This feature of the joint family has to be borne in mind when assessing its economic and social significance, e.g. the provision of a form of social security. Relatedly, the bonds that unite the members of a joint family should not be confused with spontaneous affection or a spirit of solidarity. It is, in many cases, the authority of the patriarch that holds the joint family together, as the fragility of the fraternal joint family illustrates.

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[23]   In 1983–4, there were two prominent cases of fraternal joint families headed by the widowed mother of the brothers in question. It is interesting that, in both cases, the female household head was born in Palanpur (in contrast with other adult women, most of whom come from other villages). As discussed in section 3.4, Palanpur-born women who stayed in the village after their marriage tend to have considerably more freedom than those who followed the norm of patrilocal post-marital residence.

[24]   Sometimes the widowed mother of the patriarch lives with each of her different sons in turn for a limited period. This facilitates equal sharing of the economic burden of her subsistence between the different sons.

[25]   The patrifraternal joint family is an old institution in north India. It has a prominent place, for instance, in some of the ancient *Dharmasastra* treatises (see Kane 1974).

Another noteworthy aspect of this basic scenario is that the joint family constantly goes through a cycle of formation and partition. The partition stage of the cycle is often more visible to a casual observer than the formation stage, and this 'optical illusion' can easily lead to the mistaken diagnosis of a progressive 'breakdown of the joint family system'. Such a diagnosis can indeed be found in many village studies (for a rejoinder, see Kolenda 1987). While we have witnessed the partition of many joint families in Palanpur over the years, it would be premature to pronounce the demise of the joint family as an institution. This is not to deny that there may have been some decline over time in the propensity of Palanpur households to live in joint families. We shall return to this, and related trends in household composition, in chapter 2.

Some households never reach the stage of a complete patrifraternal joint family. It is, indeed, quite possible for a young man to form a separate household (with his wife and children) soon after his marriage. This pattern is, in fact, the general one among households owning little or no land. Among landed households, it is less common, although the tendency for adult sons to form separate households before the death of their father appears to have increased over the survey period.

If married sons start forming separate households before the death of their father, the parents and unmarried sons (if any) continue to live together. When the youngest son marries, his parents often continue to live with him. They may also join one of the other sons; only in rare cases do they live on their own, separately from all their sons. This pattern continues to apply to the surviving spouse if the patriarch or his wife dies.

The preceding description of living arrangements in Palanpur reflects a strongly patrilineal kinship system. Daughters effectively disappear from the scene after their marriage, when they are incorporated in their husband's family in another village.[26] Married women live with their husband (desertion and divorce are rare, though not unknown). A widow usually lives in the household of

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[26] Adult women rarely, if ever, remain unmarried in Palanpur. Interestingly, there are a number of cases of male bachelors. This is consistent with Das Gupta's (1993) finding of high rates of male celibacy among landowning families in rural Punjab. These high rates of male celibacy can be plausibly related to the phenomenon of low female-male ratios in this region of India (0.88 in both Uttar Pradesh and Punjab at the time of the 1991 census).

one of her married sons, if she has any, and otherwise with her unmarried children; a few widows live alone, or remain in the patrifraternal household to which they belonged before their husband's death.[27]

This broad-brush account of living arrangements covers most households in Palanpur. In brief, the complete patrifraternal joint family and the nuclear family can be seen as the basic units, with other common patterns (e.g. the fraternal joint family, or the nuclear family supplemented by a widowed parent of the household head) largely reflecting the process through which these basic units form and disintegrate. We have encountered few cases of households departing from these simple patterns.

2.3 Household Types

Based on the preceding account of living arrangements in Palanpur, Table 3a presents a simple classification of households in terms of their demographic structure, for 1993. A majority of households are of the 'nuclear' type, with joint families accounting for only 12 per cent of all households. It should be mentioned, however, that 1993 fell in a period of unusual 'nuclearization' of households, reflecting the effects of the land consolidation operation which took place in 1985–6 (see chapter 2). For each of the *other* survey years, the percentage distribution of households by demographic type was very close to the distribution observed in 1983–4, which is shown in brackets in Table 3a. Further details of the 1983–4 distribution are shown in Table 3b.

In 1983–4, joint families accounted for 20 per cent of all households, and 32 per cent of the *population,* which is far from negligible. As Table 3b indicates, joint-family living arrangements are largely confined to landowning households, and are particularly common among the Muraos, Palanpur's main cultivating caste (see section 3 below). In 1983–4, there was only one joint family among landless households.[28] The proportion of joint families among Muraos was twice as high as the village average.

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[27]   For further details on the living arrangements of widows in Palanpur, see Drèze (1990a).

[28]   Even that 'joint family' (consisting of the household head, his wife, son and daughter-in-law, and widowed mother) is really better described as a two-generation stem household. This is a case where the classification scheme adopted in Tables 3a   and 3b is not entirely satisfactory.

Table 3A : Percentage Distribution of Households by Type, 1993

	Simple	Extended	Total[a]	
Single-person	3.1	0	3.1	(3.4)
Nuclear	50.8	3.6	54.4	(44.1)
Stem	29.6	1.0	30.6	(32.9)
Joint	10.9	1.0	11.9	(19.6)
of which:				
patrifraternal	8.3	0	8.3	
other	2.6	1.0	3.6	
Total	94.4	5.6	100.0	(100.0)

[a] In brackets, the corresponding figures for 1983–4 (which, as explained in the text, are somewhat more representative of the usual distribution of households by type than the 1993 figures).

Note: The different household types are based on the following classification, which is geared to Palanpur's strongly patrilineal kinship system:

1. For any household, the 'basic couples' consist of all ever-married members and their spouses (even if the latter are deceased or absent).
2. A *simple* household is one where all household members are either members of the basic couples or unmarried children of the basic couples. All other households are *extended* households.
3. A *single-person* household is a household consisting of a single person. A *nuclear* household is a household with several members, but only one basic couple. A *stem* household has two basic couples, with one husband being the father of the other husband. A *patrifraternal joint* household is a household with two or more basic couples, where one husband is the father or brother of all the other husbands. *Other joint* households consist of all other households with several basic couples.

Table 3B : Percentage Distribution of Households by Type, 1983–4

Household type	Percentage distribution of households by type for different population groups[a]							
	Landless		Landed		Murao		All households	
Single-person	7	(7)	2.5	(2)	7	(0)	3	(3)
Nuclear	63	(70)	40	(50)	26	(48)	44	(54)
Stem	26	(18)	34.5	(34)	26	(36)	33	(31)
Joint	4	(5)	23	(14)	41	(16)	20	(12)

[a] In brackets, the corresponding figures for 1993.

This pattern is consistent with other studies indicating a strong association between joint-family living and land ownership in rural India.[29] This association suggests that joint-family living arrangements cannot be adequately explained in terms of economies of scale in consumption alone (since there is no obvious reason why economies of scale in consumption should be particularly large among landed or cultivating households). Economies of scale in agricultural production offer a more plausible line of explanation. This explanation is also fully consistent with people's perceptions of the advantages of joint-family living: it is generally agreed, in Palanpur, that the partition of a joint family usually leads to a decline in agricultural productivity.[30]

It is worth mentioning that the notion of economies of scale in agricultural production does not contradict the finding, discussed in chapter 3, that yields per acre in Palanpur are more or less independent of landholding size; nor is this notion incompatible with an 'inverse relationship' between farm size and productivity. The inverse size-productivity relationship, which has been extensively discussed in the literature, does not say anything about labour endowments; economies of scale, on the other hand, are concerned with what happens to productivity when land *and* labour endowments increase proportionately. In fact, we can go further, and state that the finding of constant yields per acre in farms of different size in Palanpur lends some *support* to the notion of economies of scale in production. This is because the larger farms manage to achieve the same yields as smaller farms *despite* the fact that the labour endowments do *not* rise proportionately (e.g. the number of adult household members per acre is typically smaller on the larger farms). When land and labour endowments do increase proportionately, there is likely to be a productivity gain, i.e. economies of scale.[31]

If the labour market were 'perfectly competitive', of course, labour endowments would have no influence on productivity since the

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[29] See e.g. Krishnaji (1980, 1984), Mandelbaum (1970), Swartzberg (1979), Caldwell *et al.* (1988), Nagarajan and Krishnamoorthy (1992).

[30] In an interesting note of dissent, one respondent argued that partition boosts productivity, because it leads separated brothers to compete with each other! For a detailed study of economies of scale in joint families, see Maclachlan (1983).

[31] This argument assumes that land and labour are the only inputs; but it also applies when other inputs (e.g. bullocks and equipment) are roughly proportional to land endowments, which is a reasonable assumption.

opportunity cost of family labour would be the same as that of hired labour. But this assumption does not apply in Palanpur, where involuntary unemployment is common, labour contracts involve various transaction costs, and some types of labour inputs are altogether non-tradeable (see chapter 7). In these circumstances, the opportunity cost of family labour is typically lower than that of hired labour, and labour endowments do matter for production decisions.

Direct observation strongly supports this reasoning. For a cultivating family with a single adult male, for instance, even routine tasks such as pushing a bullock-cart into a shed or fixing a diesel engine to a bore can assume Herculean proportions, and hiring labour as and when the need arises is an expensive solution. Joint families, by contrast, are able to take advantage of cooperative labour arrangements as well as of the complementary skills of different members.

Aside from economies of scale, there are other possible reasons for the relatively high incidence of joint-family arrangements among landowning households. Joint-family living can be seen to perform a number of roles that may be of particular interest to landed families. These include (1) mutual insurance (perhaps especially important when cultivation is the main source of income), (2) smooth transmission of knowledge across generations (also important for successful agriculture) (3) physical strength and protection against theft (possibly of special concern to propertied households), (4) achievement of power and prestige in the village society (note, for instance, that throughout the survey period the village headman in Palanpur has always been the head of a landowning joint family).[32] Further, the cohesion of the joint family is probably easier to maintain in a landed household, for at least two reasons. First, in a landed household, the patriarch has a great deal of bargaining power *vis-à-vis* sons who threaten to form separate households, since he owns the family land. This consideration also helps to explain why most joint-family households get partitioned soon after the death of the patriarch. Second, economic solidarity between brothers must be particularly hard to promote when they have separate activities and incomes, as would normally be the case in a landless joint-family household. This observation is consistent with the fact that even among landed joint families, a brother who obtains a secure job

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[32] On these different roles of the joint family in north India, see Bailey (1957), Mandelbaum (1970), Swartzberg (1979), Srinivas (1982), Oldenburg (1992), among others.

outside agriculture often decides to form a separate household, leading to the partition of the initial household.

As the preceding paragraph illustrates, the joint family as an institution performs a number of positive roles, aside from making it possible for its members to reap the benefits of economies of scale (such as they are). On the negative side, the joint family is largely a patriarchal institution, strongly linked with the notions of patrilineal kinship and inheritance. For women, joint-family living arrangements have some serious drawbacks, even though some of the advantages mentioned earlier apply to them as well. While mothers with adult sons generally hope that their sons will continue to live together (being the authoritative female member of a patrifraternal joint family is indeed a source of much prestige and fulfilment), the predicament of a young bride in a joint family is often harsh. Common problems are overbearing behaviour on the part of the mother-in-law, perennial conflicts with sisters-in-law, and harassment from brothers-in-law. A young wife in a joint family is a second-class household member, and it is understandable that many recently-married women aspire to the formation of a separate household.[33]

2.4 Demographic Indicators

Basic demographic indicators for Palanpur are presented in Table 4, which also includes the corresponding figures for rural areas of Moradabad district, Uttar Pradesh, and India. The available figures have some limitations; we are unable, for instance, to calculate useful life-expectancy or fertility estimates for Palanpur. However, the available data suggest that the basic demographic characteristics of Palanpur are quite similar to those of rural Uttar Pradesh as a whole. This applies, for instance, to the age and sex distribution of the population, its social composition, and growth rate; the estimated infant mortality rate in Palanpur is also of a similar order of magnitude as (though higher than) the corresponding estimate for rural Uttar Pradesh. Based on this, it is safe to assume that high fertility is another demographic characteristic which Palanpur shares with Uttar Pradesh as a whole.[34] The available data on maternal histories,

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[33]   For a similar assessment, see Das Gupta (1994b) and Khan *et al.* (1989) ; in a review of studies on living arrangements in rural India, Kolenda (1987) also notes that 'where the bargaining power factors favouring the wife appear, there is a low proportion of residential joint families' (p. 153).

[34]   Uttar Pradesh has the highest total fertility rate among all major Indian states (5.1 in 1991, compared with an all-India average of 3.6). The total fertility rate in Moradabad district is even higher than the U.P. average (e.g. 6.9 in 1981, compared with 5.8 for Uttar Pradesh as a whole).

in fact, suggest that Palanpur is a high-fertility village even by Uttar Pradesh standards.

The central feature of Palanpur's demography is that, like Uttar Pradesh as a whole, the village has made little progress so far in terms of the 'demographic transition' from high to low mortality and fertility rates. The persistence of high mortality rates, particularly among children, is a fairly predictable reflection of the combination of high poverty levels, abysmally low literacy rates, and virtually non-functional public health services.[35] In 1993, almost half of all recently-born children had not received any vaccination.[36]

Turning to fertility rates, it is useful to distinguish between the issues of (1) desired family composition, and (2) relationship between desired family composition and actual number of births. As far as desired family composition is concerned, the near-unanimous view in Palanpur is that the 'ideal' family consists of two boys and one girl (aside from the parents). Few parents, in fact, expressed a different view when we conducted an informal opinion poll on this subject in 1983–4. The stated reasoning is disarmingly simple: one boy is crucial to ensure old-age security, and to perpetuate the family name; another boy is essential, in case the first one dies; and one daughter is also important, because the 'gift of a daughter' (*kanyadaan*) at the time of her marriage is a meritorious act (*punya*). A few respondents also took the view that a daughter is necessary because a boy needs a sister.[37]

Now, achieving this desired pattern (two boys and one girl), even in the absence of any child mortality, requires four and a half actual births on average. High levels of infant and child mortality considerably raise

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[35] For further discussion with reference to Uttar Pradesh as a whole, see Drèze and Gazdar (1997), and the studies cited there.

[36] The corresponding figure for rural Uttar Pradesh as a whole, based on the 1992–3 National Family Health Survey, is 46 per cent (International Institute for Population Sciences, 1994a: 73).

[37] Note that these Palanpur-based findings are strikingly similar, in many respects (including desired family size and composition), to the corresponding results of the 1992–3 National Family Health Survey for Uttar Pradesh. Boy preference is far less intense in south India, where it is common, for instance, for 'one son and one daughter' to be considered as the ideal pattern. For further details, see International Institute for Population Sciences (1994a, 1994b).

Table 4 : Basic Demographic Indicators

	Palanpur	Moradabad district,	Uttar Pradesh,	India,
	(1993)	rural (1991)	rural (1991)	rural (1991)
Population growth rate (annual exponential growth rate over preceding 20 years) (%)	1.9	2.4	1.9	1.8
Female-male ratio (number of females per 100 males)	85	84	88	94
Estimated infant mortality rate[a] (deaths per 1,000 live births)	160	139	139	123
Total fertility rate (children per woman)	n/a	n/a	5.4	3.9
Proportion of married women in the 15–19 age group (%)	34	n/a	37	36
Percentage distribution of the population by age group (%)				
0–4	15	n/a	15	14
5–14	26	n/a	25	24
15–24	21	17	20	20
25–44	22	23	24	25
45–64	12	12	13	13
65+	4	4	4	4
Literacy rate (age 7+)				
female	9	10	19	31
male	37	37	52	58
Proportion of Muslims (%)	12.5	32	14	11
Proportion of scheduled castes (%)	19	19	23	18
Female labour force participation[b] (percentage of 'main workers' in the total female population)	2–3 (approx.)	2.3	9.1	19.1

[a]   For infant mortality rate estimates, the reference year is 1981, and the figures are given mainly for comparative purposes. The figure for Palanpur is a rough estimate, based on maternal histories collected in 1983–4 and 1993, using the 'children ever born, children surviving' method. The other figures are from Government of India (1988a), based on the same method.

[b]   The census defines a 'main worker' as a person engaged in 'economically productive work' for at least 183 days in the year; the instructions to census investigators make it clear that unpaid 'household duties' (sic) are not to be counted as economically productive work.

Sources: Own survey data, for Palanpur. The other figures have been calculated from Government of India (1988a, 1993a); *Census of India, 1991,* Series 1, Papers 1 and 2 of 1992, 'Final Population Totals'; *Census of India, 1991,* Series 1, Paper 1 of 1995, 'Religion'; and *Census of India, 1991,* Series 1, Paper 3 of 1991, 'Provisional Population Totals: Workers and their Distribution'.

the number of required births. To illustrate, if the probability of a new-born child reaching the age of 20 is 0.75 (a plausible value for Palanpur in the 1980s), a mother who wants the risk of ending up without an adult son to be lower than 0.05 has to give birth to three sons; this would require six births on average.[38] Note also that even more conservative calculations may have to be made when parents have limited information on objective survival chances. In an extreme case of this mortality-fertility spiral, one elderly woman in Palanpur reports having had 18 children of whom 16 subsequently died. In short, the high fertility levels observed in Uttar Pradesh are entirely consistent with reported family-composition desires, taking into account the effect of high mortality rates.

The desired family-composition patterns reported in Palanpur

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[38]   For detailed simulations of this type, based on all-India data, see May and Heer (1968).

reveal a major bias in favour of male children. Parents (including mothers) make no secret of the fact that this bias often translates into preferential treatment of sons, and a comparative neglect of daughters. An objective indication of this phenomenon is the low ratio of females to males in the village population (0.85 in 1993), reflecting higher male than female survival rates in the younger age groups.[39] This is one symptom, among others, of the highly unequal nature of gender relations in this region, an issue discussed in greater detail below.

3. Society

3.1 Hindus and Muslims

As stated in section 2.1, Muslims accounted for one-eighth of Palanpur's population in 1993, and Hindus the remainder. In much of this book, the two communities will be considered together. But a few words about their distinctive features, and about their relationship to each other, may be in order in this introductory chapter.

As far as culture and lifestyle are concerned, the apparent similarities between Muslims and Hindus in Palanpur are far more striking than the differences. Essentially, the Muslims have taken on board (or perhaps never abandoned) many of the traditions and customs of the Hindu society. For instance, their marriage practices include patrilocal marriage, patrilineal inheritance, and dowry. The Muslims of Palanpur also divide themselves into hereditary occupation groups that have many of the basic contemporary features of Hindu castes, e.g. endogamy and hierarchy. In fact, Palanpur Muslims do not consider these occupation groups to be very different from the Hindu castes (the term *jati* is used in both cases), and they are more likely to describe themselves as *dhobis* (washermen) or *telis* (oil-pressers) than as 'Muslims'. Even the distinctive religious practices of Palanpur Muslims are inconspicuous (there is no mosque in Palanpur). While there are some obvious differences of dress between Hindus and Muslims, and less obvious differences of language, attitudes, etc., it cannot be said that the Muslim community strives to assert a separate identity.[40]

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[39] For Uttar Pradesh, this female disadvantage in child survival is well documented (see e.g. Government of India, 1993a). Child mortality data for Palanpur also suggest a pronounced female disadvantage.

[40] On a related matter, note that the Palanpur survey data contradict several common clichés about demographic behaviour among Indian Muslims. No Muslim in Palanpur, for instance, has more than one wife, while a few Hindu men have two wives.

The absence of a strong Muslim identity in Palanpur may be a reflection of their marginalization in demographic as well as in economic terms. It may also relate to the fact that a majority of Muslims in this region are converts who have retained much of their earlier Hindu culture. We have, at any rate, no indication that the lack of a strong Muslim identity in Palanpur is the product of intolerance or oppression on the part of the Hindu majority. As far as most Hindus in Palanpur are concerned, the Muslims are much like another 'low' caste.

These observations should not be confused with the absurd claim, made by some Hindu extremist groups, that 'even Muslims are Hindus'. The point is that (1) the Muslim community in Palanpur (as in much of north India) has been heavily influenced by the dominant Hindu culture, and (2) the common life experience of Hindus and Muslims, and their common involvement in the village economy, are of much greater practical importance than their religious differences (which are acknowledged and accepted as a matter of fact).

We might add that, so far as we can judge from 13 months of field work in 1983–4 and from a number of re-visits since then, the relations between Hindus and Muslims in Palanpur are peaceful. We cannot remember any important incident or quarrel of a 'communal' character. Besides, there are many signs of mutual understanding and reciprocal goodwill between the two communities. For instance, Palanpur's unmatched expert on the *Ramayana,* Rahim Bux, is a Muslim. One of the most popular singers taking part in the weekly *bhajans* (devotional songs) outside the local temple is also a Muslim.

Caste divisions *within* the Hindu community probably have the effect of diluting the Hindu-Muslim dichotomy.[41] A Thakur sees himself first and foremost as a Thakur rather than as a Hindu, and the intense rivalry between Thakurs and Muraos (on which more in section 3.2) exercises his mind far more intensely than the comparatively abstract opposition between Hindus and Muslims. Similarly, the exploitative relations between Nisar, a Muslim moneylender, and his scheduled-caste clients, do not cause the slightest concern to the Hindu community as a whole — partly because there is a long history of scheduled castes being exploited by other *Hindu* castes.

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[41] The same remark applies, to some extent, to the division of the Muslim community into hereditary occupation groups.

The possibility remains that the absence of a strong Muslim identity in Palanpur, and the 'peaceful' nature of Hindu-Muslim relations, are ultimately based on a tacit subjugation of the Muslim minority to the dominant Hindu community. Should communal violence break out, the Muslims would stand no chance, and from that point of view they have an interest in keeping a low profile. It is difficult to refute this hypothesis; all we can say is that we have found no evidence of any collective animosity between the two communities.[42]

The consistently peaceful character of Hindu-Muslim relations in Palanpur may seem to contrast with the supposedly growing incidence of 'communal' conflicts in many parts of India, including Uttar Pradesh. These conflicts, however, have usually erupted in urban areas, and many of them have been linked with political manipulation, property speculation, police corruption, and gang rivalries. The fact that rural areas have, once again, remained relatively peaceful is significant. Palanpur's own experience is consistent with the common observation that Hindus and Muslims in rural India have a strong tradition of peaceful coexistence. This is not to deny that they do have a communal identity of some kind, and that communal sentiments can be quite easily kindled, manipulated, and even steered towards violent confrontation.[43]

Before moving on, we should mention that the preceding assessment of Hindu-Muslim relations in Palanpur does not imply that both communities have equal economic opportunities. The Muslims of Palanpur, in fact, are one of the most disadvantaged and deprived groups in the village. At the risk of some simplification, it can be said that they are treated much like a low Hindu caste by other Palanpur villagers as well as by non-Muslim urban employers and government officials. As a result, their access to education, credit, employment, and related opportunities is comparatively restricted. Due to these social handicaps as well as to poor endowments of land and other

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[42]   To the best of our knowledge, the same applies to the nearby village of Pipli, where Muslims represent half the village population.

[43]   Such has, in fact, been the case in parts of rural India in recent years, particularly since the destruction of the Babri Masjid in Ayodhya on 6 December 1992. This event received universal condemnation in Palanpur (as someone put it, 'what is the point of destroying one temple to replace it with another one?'). Nevertheless, we noticed during re-visits in 1993 and 1994 that Hindu chauvinist propaganda had not been completely devoid of influence on Palanpur Hindus, and had even led to some tension between the Muslim community and some members of the 'higher' castes.

Table 5 : Caste Composition of the Village Population, 1993

Caste	Number of individuals[a]	Traditional caste occupation	Main current occupations[b]	Annual growth rate of population, 1957–93[c]	Literacy rate, age 7+ (percentage)		Land owned per capita[d] (bighas)	Percentage of households with at least one regular job	Per capita income, 1983–4 (Rs/year)	
					Male	Female				
Thakur	283 (48)	warriors	CT, RJ	2.8 (2.7)	56	19	2.4 (1.9)	21	1,119	
Murao	294 (44)	cultivators	CT	2.6 (2.7)	39	2	3.5 (3.5)	14	1,265	
Dhimar	82 (14)	water-carriers	CT, RJ	1.1 (1.8)	35	8	0.5 (1.3)	36	1,026	
Gadaria	89 (14)	shepherds	CT, RJ	2.1 (2.5)	26	11	1.9 (2.2)	7	1,112	
Dhobi[e]	31 (5)	washermen	CT, RJ, CL	4.6 (n/a)	15	0	1.6 (2.0)	0	922	
Teli[e]	109 (20)	oil-pressers	CT, RJ, CL	2.3 (2.2)	21	3	1.1 (1.9)	15	784	
Passi[f]	62 (15)	mat-makers	CT, RJ	0.3 (1.2)	46	7	1.3 (0.6)	13	1,202	
Jatab[f]	133 (24)	leather workers	CT, CL	1.7 (2.0)	12	0	1.3 (1.4)	0	436	
Other	50 (9)	miscellaneous	RJ, SE	1.5 (−1.3)	57	29	0.5 (0.8)	44	1,023	
All Castes	1,133 (193)	miscellaneous	CT, RJ, CL	2.1 (2.3)	33	8	2.1 (2.1)	17	1,025	

[a] Number of households in brackets.
[b] CT = cultivation; CL = casual labour; SE = self-employment; RJ = regular job.
[c] In brackets, migration-adjusted population growth rates (see chapter 3 for details).
[d] In brackets, land cultivated per capita (bighas).
[e] Muslims.
[f] Scheduled caste.

Note: The arrangement of castes in this table follows Bliss and Stern (1982). The term 'regular job' refers to wage employment with monthly salary and some security of employment.

productive assets, the standard of living of Palanpur Muslims is very low. In that respect, their circumstances are quite similar to those of the Jatabs, Palanpur's main scheduled caste.

3.2 Caste

Caste is an important feature of the village society, not only from a sociological but also from an economic viewpoint. As will be seen on several occasions in this book, caste often exercises a strong influence on economic behaviour and outcomes, *independently* of other standard household variables such as occupation, ownership, education, and demographic composition. This section discusses the caste composition of the Palanpur population, with particular attention to features that are relevant to our subsequent work.

Outline of the Caste Structure:

The 'top' position in Palanpur's caste hierarchy is occupied by the Thakurs, a martial caste with a strong presence in the area.[44] Thakurs retain an obvious nostalgia for their supposed martial vocation, and quite a few of them have been able to find employment in the army and the police, or as night watchmen and security guards. The majority, however, are now engaged in a combination of cultivation (they have good land endowments) and wage employment in urban areas. Attachment to traditional caste values, a deep sense of superiority, and marked aversion to hard work are some of their characteristic traits.

Of the other eight castes that make up Palanpur's Hindu population, the most important one from many points of view is that of the Muraos. In numerical terms, the Thakurs and the Muraos are the largest castes in Palanpur, with a little below 300 members each in 1993. The traditional occupation of Muraos is cultivation (particularly vegetable cultivation), and this remains the basis of their subsistence and culture. They have the best land endowments in the village, and rarely sell land or lease it out. They are dedicated farmers, always

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[44]   In terms of the classical *varna* division of Hindu society into four groups (Brahmin, Kshatriya, Vaishya, Sudra), the Thakurs belong to the Kshatriya varna, and all other castes in Palanpur belong either to the Sudra varna or to 'untouchable' castes. The fact that the Thakurs are the only representatives of 'twice-born' castes in Palanpur helps to explain why there is a wide gulf between them and all other castes in terms of ritual status. Beyond this, we have not found the abstract varna distinctions to be particularly important in understanding Palanpur society; the finer caste distinctions (jati) are far more significant.

seeking an opportunity to increase the yield of their crops or the value of their productive assets. Their attitudes and values are also, to a great extent, those that are commonly found in farming communities — hard work, frugality, self-reliance, and conformism, among others.

A third caste requiring special mention is that of the Jatabs (earlier known as the Chamars), with 133 members in 1993. The Jatabs, traditionally leather-workers (although they abandoned this occupation well before the beginning of the survey period), are the 'lowest' caste in Palanpur, if one excludes three Bhangi households (also called Harijans) engaged in sweeping and related menial activities. In official parlance, the Jatabs are a 'scheduled caste', like the Bhangis.[45] Their landholdings are very small, most of them are illiterate, and their general condition is one of extreme poverty. Casual wage labour (both within and outside the village) is their main occupation, aside from the cultivation of their small plots.

Thakurs, Muraos, and Jatabs can be seen, in many respects, as the main players in Palanpur's economy and society. The other castes (Dhimar, Gadaria, Passi, Nai, Kayasth, Bhangi) are numerically smaller, and also tend to be less cohesive, so that their collective influence on the village economy and society is much more restricted. Detailed profiles of these different castes would be tedious and will not be presented here; instead, Table 5 provides some relevant information in summary form.[46]

Aside from being the main players in Palanpur's economy and society, Thakurs, Muraos, and Jatabs can also be regarded as the local representatives of three important sections of the rural society of Uttar Pradesh: the martial castes, which have played an influential role in north Indian history and culture, based on their high ritual status and strong temporal power at the local level; the cultivating castes, which often occupy a central position in the village economy,

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[45] Strictly speaking, the Passi caste is also included in the Uttar Pradesh Scheduled Castes and Scheduled Tribes list. However, in social terms, Passis are seen and treated rather differently from Jatabs or Harijans in Palanpur. Passis, who have gradually migrated from eastern Uttar Pradesh, have a low but somewhat uncertain status; as Ansari (1964: 3) aptly put it, 'having come to this village from far off they do not seem to have imported with them their caste status and enjoy a definitely better position than they had in their ancestral homeland' (see also Bliss and Stern 1982: 34–7). In this chapter and the next, the term 'disadvantaged castes' refers primarily to the Jatabs.

[46] For further details, see Bliss and Stern (1982), chapter 2, and Sharma (1992).

and also represent a growing political force;[47] and the 'scheduled castes', accounting for nearly a quarter of Uttar Pradesh's rural population (with the Chamars representing the largest and most prominent group within that community).

In the remainder of this section, we present profiles of each of these three castes as they appear in Palanpur. These profiles are based on a combination of survey information and personal observations, and should be read in that light. In many cases, the relevant statements would be easy to substantiate. The notion that Muraos are hard-working, for instance, is clearly reflected in time utilization data. In other cases, we have incorporated an element of personal assessment, or given considered expression to widely-held perceptions that also concurred with our own observations. Needless to say, the distinguishing features of a particular caste, as portrayed here, do not apply to every individual within that caste. The broad contrasts, however, are fairly unambiguous.

Thakurs: The Vicissitudes of Power:

Thakurs pride themselves on not compromising their honour (*ijjat*), even at the cost of great hardship. For Thakur men, honour lies primarily in not doing anything that may put them in a position of subordination or moral debt. The same applies to Thakur women, although subordination to men within the extended family is accepted. The Thakur concern for honour is also reflected in other endeavours, such as the quest for local political leadership and the preservation of caste and gender hierarchies.[48]

Thakurs have a marked aversion for manual work, although they lay much stress on developing physical strength. This fits in with their traditional social role of rulers and warriors. Until recently, many Thakurs endeavoured to avoid manual labour altogether, by leasing out their land or cultivating it with hired labour. But declining land endowments and rising real wages have now compelled most of them

[47] Other prominent castes in this group include the Jats and the Yadavs (not represented in Palanpur). Many of these castes come under the official label of 'backward castes', but we shall avoid this dubious terminology. On the role of cultivating castes in Uttar Pradesh politics, see Brass (1980), Kohli (1987), Hasan (1989, 1995), and Drèze and Gazdar (1997), among others.

[48] Hitchcock (1975) presents a fine profile of Thakur culture in another village of western Uttar Pradesh ('Khalapur'), which concurs with our own observations on many crucial points. The gender aspects are further discussed in Kolenda (1984) and Minturn (1993), also based on Khalapur. See also Mandelbaum (1970: 452–5) and Bliss and Stern (1982: 34–8).

to take up the plough. Some have skilfully adapted to new economic pressures, and tried to achieve superiority even in this unfamiliar field. By and large, however, Thakurs are reluctant (and not particularly able) cultivators.

Although they are now extensively involved in cultivation, Thakurs do not engage in wage employment in the village, as this would put them in a subordinate position.[49] There is much less resistance to regular employment outside the village, for several reasons: the employer does not belong to the village community, labour can be performed out of sight of other villagers, regular employment is generally regarded as a high-status occupation, and salaries are quite substantial by local standards. Some forms of outside employment (especially regular jobs in the army and the police) are even viewed by Thakurs as quite attractive. Other acceptable occupations are shop-keeping, tailoring, and related activities, in which Thakurs are well-represented.

The lifestyle of Thakur women in Palanpur closely follows traditional high-caste norms. These include the seclusion of young married women, the practice of *purdah,* abstention from manual work outside the house, and a strong condemnation of widow remarriage.[50] In discussions with Thakur women, we found that most of them expressed strong approval of these norms, which they consider to be a matter of honour. These testimonies, however, may reflect the influence of patriarchal socialization from early childhood onwards.

Thakur men and women are also keen champions of the caste hierarchy. They look with nostalgia to the days when a Jatab would never have dared to draw water from their well, and when even Muraos treated them with deference.[51] Most of them are eager to preserve whatever they can of the distinctions and prejudices underlying the caste hierarchy, even though some claim to have resigned themselves to the notion that 'now we are all equal'.

Politically, Thakurs are still the most powerful caste in Palanpur, but they are no longer the unquestioned leaders of the village. Muraos, whose rising prosperity inspires much respect in the village,

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[49] In 1974–5, one Thakur was found to engage in wage employment in the village (see Bliss and Stern 1982, p. 34). He was an impoverished and broken man who had little to lose as far as honour was concerned.

[50] As explained in section 3.4, Thakur women who were born in Palanpur have a somewhat less restricted lifestyle; but they are a small minority.

[51] In 1983–4, Jatabs said that they were still prevented from drawing water from the Thakur well for drinking-water purposes, but that they could draw water for work purposes (e.g. in connection with construction work).

have started challenging their supremacy. Until 1973 or so, the village headman had always been a Thakur. Since then, successive elections have taken the form of a close contest between a powerful Thakur and an affluent Murao farmer (see section 3.6 for details). The current headman is a Murao.

Thakurs have the highest level of formal education in the village, but their educational qualifications are not always matched by a perceptive understanding of the modern world, or by a progressive attitude towards social and economic change. Other people in the village tend to view the typical Thakur as dense, vain, bossy, dishonest, indolent and prone to 'vices' such as drinking and gambling. Thakurs are also known for their short temper (*garam khoon*), which is supposed to be a corollary of excessive sensitivity and pride. They are more easily excited into acts of violence than people of other castes. Quarrels and rivalries have often led them to physical fights; a large proportion of murders in Palanpur and surrounding villages over the survey period (and there have been quite a few) were committed by Thakurs.

These general traits do not apply to every member of the Thakur caste, and it is easy to find individual Thakurs who are highly sociable, progressive and hard-working. Further, as the caste adapts to a sharp decline in prestige and power, there are signs of a changing Thakur personality. Some Thakurs, for instance, making virtue out of necessity, have started taking pride in hard work. Others see in advanced education a route to renewed prestige, and develop new attitudes in the process. The fact that Thakurs are in search of a new identity in the village society may well be a sign of positive social change.

Muraos: Farmers Par Excellence:

Muraos are the only caste in Palanpur which has cultivation as its traditional occupation. In 1957–8, their per capita land endowments were similar to those of the Thakurs. However, unlike the Thakurs, they have accumulated land over the survey period, so that they now have by far the best land endowments in the village.[52]

In sharp contrast with the Thakurs, Muraos have a strong commitment to cultivation and are, in general, very hard-working. They can often be found exerting themselves in the fields late in the evening, or on the day of a major festival (e.g. Holi), or in spite of a major disability such as blindness. Muraos have a frugal lifestyle, and invest a high

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[52]   For figures on land owned by different castes, see Table 5.

proportion of their savings in productive assets. They are generally considered reliable and honest. Very few of them drink or gamble.

Self-sufficiency is another important aspect of the Murao ethic. Muraos like to eat home-grown food, and even consider it a sin to sell milk, although some Muraos do sell *ghee*.[53] They dislike borrowing or lending; many of them have no debts, or rely exclusively on subsidized credit from institutional sources.

Good land endowments, hard work, sustained thrift, and excellent farming skills have enabled Muraos to take good advantage of recent technological change in agriculture (and, earlier on, of zamindari abolition). Their economic status, relative to that of other castes, has considerably improved over the survey period. In this respect, they have overtaken the Thakurs, who used to occupy the dominant position not only in terms of ritual status but also in terms of economic prosperity. The upward mobility of the Muraos causes much irritation to the Thakurs, and the growing rivalry between these two groups is a central feature of social life in Palanpur.

Rising prosperity among Muraos has also led to some improvement in their social status as a caste. Traditionally, Muraos occupy a low position in the caste hierarchy, well below the Thakurs, and even below the Dhimars.[54] Based on their economic success, however, Muraos now command much greater respect than in the past. Some of them insist on being called 'Maurya' instead of Murao; a few even attach the suffix 'Singh' to their name, a privilege normally reserved for Thakurs.

Some Murao women work on family plots, others do not. Here again, there seems to be some sign of social change linked with upward economic mobility. It is likely that, a few decades ago, Murao women generally worked in the fields along with other family members. Today, however, many affluent Murao farmers make it a point to keep their women at home, as they strive to improve their social status.

Muraos seldom work as agricultural labourers. This is not due to any aversion to the status of wage labourer, or to caste-based restrictions on their occupational choices. Rather, it is a reflection of their

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[53] In June 1993, we heard of a Murao who had started selling milk; his behaviour caused some resentment within the Murao community.

[54] The relative status of Muraos and Dhimars in Palanpur has become somewhat uncertain. There is wide agreement that Muraos 'used to' rank below the Dhimars; but some villagers take the view that the overall social standing of the Muraos is now comparable, or even superior, to that of the Dhimars, taking into account *both* their low ritual status and their lead in the economic field.

good endowments of land and agricultural capital; most Muraos can utilize their labour more effectively on their own farms than by working as agricultural labourers. What is more intriguing is that Muraos also have little involvement in regular employment outside the village. This looks a little surprising at first, because salary levels for regular jobs are quite high, and many Muraos have the educational and other qualifications required for such jobs. Some Muraos maintain that they have a principled commitment to cultivation, which they continue to regard as their caste vocation (*dharma*).[55] Others are apprehensive about the health hazards associated with many forms of wage employment outside the village. It is possible that, due to this relatively low interest in outside employment, Muraos as a caste have not developed strong links with the urban labour market. This would restrict entry into urban employment even for those among them who have some personal interest in occupational diversification.

In short, the way of life of most Muraos is confined to the narrow lane of cultivation. It is only in recent years that some of them have begun venturing outside these familiar bounds.

Jatabs: A Caste Apart:

Jatabs are, socially and economically, the most deprived caste in Palanpur. They all live in a single cluster of shabby mud houses on the edge of the village. They own little land or other productive resources, and most of them earn their living from a combination of subsistence farming and casual labour (inside and outside Palanpur). With only one or two exceptions, no Jatab has succeeded in obtaining regular employment outside the village at any stage of the survey period. Similarly, illiteracy has been near-universal among Jatabs throughout the survey period; even in 1993, not a single Jatab female was literate, and only a few males (all adolescents) were able to read and write. Despite some improvement in their social status in recent years, Jatabs continue to endure many forms of discrimination, not only on the part of fellow villagers but also from government officials. They have, for instance, been a prime target of extortion by urban-based managers of the local credit cooperative (see chapter 9).

Jatabs do their best to take advantage of casual employment opportunities, both within and outside the village. Some of them have

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[55] Some Muraos are fond of quoting the words of the poet Ghaagha, '*uttam kheti, madhyam ban, nishidha chakri, bheekh nidaan* ' (farming is best, next is trade, labour is forbidden, and begging is degrading).

acquired a reputation of being skilful and hard-working agricultural labourers, and are able to obtain employment within the village during most of the year. Jatabs also know their way around the casual labour market in Chandausi, where many of them manage to get employment for a substantial part of the year (e.g. as construction workers or coolies).

Jatabs in Palanpur rarely drink or engage in illicit activities. Knowing that they have little power in the village community, they tend to be wary of violating social norms or of crossing the path of the higher castes. They have humble attitudes, do not open up easily, and behave with diffidence towards outsiders.

Access to credit at reasonable rates is a major concern for many Jatabs. Private moneylenders are reluctant to lend to them, due to the perception that lending to Jatabs is illegal and that, in the event of a dispute, the government is bound to take their side.[56] Village moneylenders in Palanpur also claim that Jatabs have often defaulted in the past. The only form of private credit in which Jatabs are frequently involved as borrowers is the local system of seasonal loans in kind (*deorh*). As far as institutional sources are concerned, many Jatabs are afraid of being cheated, and prefer to avoid putting themselves at the mercy of undependable bank managers. The available information for the survey period indicates that these fears are amply justified (see chapter 9). Poor access to credit may be one reason why Jatabs sometimes lease out their land on cash rent, despite the unattractive terms of cash-rent contracts (from the point of view of the landowner) compared with sharecropping.

Most Jatab women work on family plots, although (with a few exceptions) they do not engage in wage labour. As in the case of the Muraos, there seems to have been some change in the lifestyle of Jatab women during recent decades, in the direction of closer conformity to high-caste norms. Many Jatab women now practice purdah, which may not have been the case forty or fifty years ago. Nevertheless, Jatab women retain much greater freedom of movement, activity, and expression than their high-caste counterparts.

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[56] For village moneylenders (as opposed to urban moneylenders, whose activities are monitored by the government), the prospect of legal action is, in fact, quite remote, given the highly informal nature of credit contracts within the village. However, the belief that the government 'is on the side of the Jatabs' does seem to convince moneylenders that it is safer not to deal with them.

3.3 Class

Class and the Village Economy:

It is not easy to divide the population of Palanpur into groups of households that have common economic interests and a shared position in the economic system. The main difficulty is that there are many different bases of common interest, each suggesting a different division. Tenants and landlords, employers and employees, landowners and the landless, the rich and the poor — these are a few examples of relevant social divisions leading to different partitions of the population. There is, of course, a measure of congruence between the different partitions: for instance, a landless person is more likely to be an employee than an employer, and (even more so) a tenant than a landlord. But the overlap is far from perfect, and the task of identifying a fundamental division of society into well-defined 'classes' raises serious conceptual problems.[57]

There are several additional difficulties. First, the position of a household in the economic system is not always stable, even over relatively brief periods. As will be seen shortly, for instance, it is quite possible for the same person to be an employer at one time of the year, and an employee at another time; similarly, it is common for a tenant to become a landlord, or vice-versa, from one year (or even season) to the next. There is also a considerable amount of inter-generational mobility (see chapter 2), leading to some further fluidity in class divisions.

Second, class (however defined) is only loosely related to other important bases of social division, such as caste and gender. This does not necessarily affect the notional division of society into classes, but it can blur this division for the concerned parties, obscure any consciousness of class interests, and reduce the scope for collective action on class lines.

Third, the last few decades have witnessed the emergence of social groups that do not fit easily into standard analyses of class divisions. Here, we think particularly of men who have been able to obtain regular employment outside the village in local factories, workshops, offices, etc. In the urban economy, most of them could be regarded as

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[57] For a similar assessment, see Harriss–White (1996). On class in rural India, see D. Thorner (1973), Patnaik (1976, 1980, 1987), Byres (1981), A. Thorner (1982), Bardhan (1984a, 1984b), Sharma (1985), Rudra (1988), Athreya, Djurfeldt and Lindberg (1990), Das (1992), Omvedt (1993), Breman (1994), Chakravarti (1997), and various contributions in Gupta (1991), among many others. Also relevant is the 'mode of production debate', on which see different contributions in Patnaik (1990).

belonging to the 'proletariat'. In the village, however, they are usually considered as a privileged group, enjoying relatively high incomes and performing less exacting work than cultivators and casual labourers. The collective interests of these employees are certainly different from, and sometimes even antagonistic to, those of casual labourers, and there is little solidarity between these two groups. A coherent analysis of class divisions in Palanpur's economy cannot afford to ignore this emerging division between *naukree* (salaried employment) and *mazdooree* (casual labour) within the working class.[58]

In case this is not already obvious from the preceding remarks, we should mention that an approach consisting of defining classes exclusively in terms of 'ownership of the means of production' holds little promise in Palanpur. Indeed, ownership of land (the principal means of production) is a highly inadequate predictor of economic status in Palanpur. The main difficulty is that the diversification of occupations that has taken place over the survey period has blurred the relationship between land ownership and economic status.[59] For instance, among the village's 27 landless households in 1983–4, one finds a great diversity of occupations and economic characteristics. Only 5 of these 27 households had agricultural labour as their primary occupation. Further, the head-count index of poverty for landless households (43 per cent) was not dramatically higher than the corresponding ratio for the population as a whole (34 per cent). Similar statements apply to the other survey years for which income data are available, with the exception of 1974–5.[60] In Palanpur, the correlation between landlessness and poverty is relatively weak, and the economic disparities between landowning and landless households are not such that one could naturally speak of their belonging to different 'classes'.[61]

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[58]   On this general issue, see also Holström (1991).

[59]   Even in the absence of economic diversification, land ownership would be an inadequate basis for the identification of classes in the absence of a sharply polarized land distribution (the *ranking* of households by land ownership, in itself, does not tell us how they can be categorized into discrete groups with divergent interests).

[60]   There are two possible reasons for the different pattern in 1974–5 (involving, *inter alia,* a high incidence of poverty among the landless relative to other groups): (1) this was a year of excellent harvests, when the incomes of landowning households may have been unusually high relative to those of landless households, (2) the 1974–5 sample excludes six landless households involved in non-agricultural occupations, and these households are probably more affluent than the other landless households.

[61]   In this respect, western Uttar Pradesh is probably quite different from regions such as (say) eastern India, where the rural economy is less diversified and casual labour remains the main occupation of landless households. The link between landlessness and poverty does seem to remain quite strong in that region (see e.g. Gazdar 1992, and Chakravarti 1997).

It is beyond the scope of this chapter to resolve these issues, and no attempt is made in this book to propose a clear-cut definition of class in Palanpur or elsewhere. Instead, we shall take a closer look at a particular division which must surely play a central role in any class analysis of agrarian economies: the division between employers and labourers.

Employers and Labourers:

The focus of this analysis is on casual labour, defined as labour hired on a daily basis.[62] Casual labour consists of (1) agricultural labour in the village (51 per cent of total person-days hired out in 1983–4), (2) non-agricultural labour in the village (18 per cent of total person-days), and (3) non-agricultural labour outside the village (30 per cent of total person-days). The main employers of casual labour in Palanpur are relatively well-off farmers, but other households occasionally hire casual labour as well. With rare exceptions, Palanpur employers always hire labour on a casual basis.

Participation in casual labour is an important indicator of a person's position in the economic system in at least two respects. First, casual labourers have important collective interests, e.g. in higher wages and expanded employment. Second, given the social stigma attached to performing casual labour, a person who engages in that activity can safely be considered as economically disadvantaged. As argued in chapter 7, agricultural labour in particular is essentially a 'last resort' occupation, used as a fall-back option when other alternatives (self-cultivation, sharecropping, non-agricultural employment, etc.) are unavailable.[63] If that interpretation is correct, we would expect a fairly close correspondence between economic deprivation and participation in agricultural labour.

Employers of casual labour can also be seen, to some extent, as

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[62] It is possible to refine this analysis by introducing further distinctions between different categories of employers and employees, e.g. agricultural vs. non-agricultural labourers, and occasional vs. regular employers. These refinements, however, seem to generate more complications than new insights. For further discussion of casual labour in Palanpur, see chapter 7.

[63] This does not apply to Thakurs, or to women in general; both groups are excluded from casual labour due to the prevailing caste and gender division of labour.

occupying a shared position in the economic system. This group consists largely of farmers who possess enough land to make it necessary — and affordable — to hire labour. There are two important reasons, however, why employers of casual labour and privileged households are not identical categories. First, the latter group includes households with relatively well-paid jobs in the urban sector, many of which do not hire any casual labour. Second, even poor households often need to hire agricultural labour at some time of the year. At harvest time, for instance, the need for speed of operation often leads some small cultivators to hire labour for a short period. Occasionally, a poor farmer also finds that he has no alternative other than to hire labour in order to perform tasks which cannot be performed single-handed, such as sowing behind the plough. The precise relationship between employment of casual labour and other economic characteristics is a matter for empirical investigation.

Table 6 : Classification of Households Based on Employment Relationships

Number of households, by employment status (1983–4)[a]		
Hiring out	Hiring in	
	Yes	No
Yes	33 (8)	34 (4)
	('employer-labourers')	('labourers')
No	62 (13)	14 (0)
	('employers')	('non-participants')

[a] In brackets, the number of households for which the number of days hired in, *or* the number of days hired out, is positive but less than five.

Note: A household is counted as 'hiring out' if at least one member has performed casual agricultural labour within the village during the survey year, and as 'hiring in' if it has employed any unskilled casual labour within the village. The latter category covers non-agricultural as well as agricultural labour (which are not always easy to distinguish in the case of labour hired in), but since casual non-agricultural labour accounts for a small share of total casual labour within the village, the basic patterns emerging from this table are independent of how casual non-agricultural labour is treated. The same remarks apply to the other tables presented in this section.

Taking 1983–4 as the reference year, we can divide Palanpur's households (there were 143 at that time) into four groups, depending

on whether they (1) only hire in, (2) only hire out, (3) both hire in and hire out, and (4) neither hire in nor hire out. We may refer to these four groups as 'employers', 'labourers', 'employer-labourers', and 'non-participants', respectively.[64] The respective sizes of these different groups are indicated in Table 6. Several features of this table are worth noting.

First, there are few 'non-participants' (14 households out of 143). The fact that most households in Palanpur are involved in the casual labour market, as employers or employees (or both), lends some support to the focus on employment relations as a crucial basis of social stratification.

Second, 'employers' form quite a large group (62 households). The notion that labour markets in Indian villages are often monopsonistic, or oligopsonistic, does not apply in Palanpur. Of course, some of these 'employers' only hired a few days of casual labour during the reference year (1983–4). But the fact that many employers have a quantitatively small involvement in the labour market is unlikely to facilitate the enforcement of any collusive agreements. Indeed, the primary concern of these occasional employers is often to complete some urgent task with the help of hired labour, and they have relatively little incentive to abide by collusive agreements geared to the protection of 'employers' longer-term interests.

Third, 'labourers' in Palanpur represent a relatively small group (24 per cent of all households). This feature is quite typical of this region of India, where the proportion of agricultural labourers in the population is comparatively low.[65]

Fourth, there were as many as 33 'employer-labourer' households in 1983–4. It is this group which poses a serious problem for the division of society into classes based on employment status, since households in this group find themselves on different sides of employment-based class boundaries at different times of the year. It is possible to remove this category by looking at *net* hiring out of casual

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[64] This approach is similar to that used in Roemer's (1982) theoretical work on class, and in Bardhan's (1984a) empirical work based on West Bengal data. One notable difference is that we retain the category of 'employer-labourers'. There is no such category either in Roemer's model (by construction), or in Bardhan's work (where households are classified as labourers or employers on the basis of a 'net hiring' criterion).

[65] In 1991, Uttar Pradesh had the third-lowest proportion of agricultural labourers in the rural labour force (22 per cent of all 'main workers') among all major states (Nanda 1991: 433–9).

labour (i.e. the number of days hired out less number of days hiring in), and classifying households in this group as labourers or employers depending on whether net hiring out is positive or negative.[66] But the rationale for this procedure is not entirely straightforward, since the focus of class analysis has to be on employment as a relationship and not just as a transaction; employment relationships cannot be arithmetically added and subtracted like employment days or wage earnings. Even in terms of the transaction aspect, one day of hiring in at any time of the year need not be considered as equivalent to one day of hiring out at any time of the year.

Rather than pursuing this line of enquiry, we prefer to take the view that employer-labourers form a heterogeneous group which cannot be associated with any particular 'class'.[67] But we would also suggest that most employer-labourers are socially closer to labourers than to employers. This is not so much because 'net' hiring out among employer-labourers is usually positive, but rather because, as argued at the beginning of this section, hiring out casual labour is a more telling indicator of economic status than hiring in. If a farmer who normally employs labour is observed to be in a situation where he has to perform casual labour himself, the chances are that he is experiencing severe economic hardship. Given the social stigma attached to performing casual labour, this predicament sets him quite apart, at least temporarily, from other employers. On the other hand, the fact that a poor labourer who owns a small plot of land may have to hire a few days of agricultural labour at harvest time to ensure a speedy completion of this operation does not necessarily have much social significance; in particular, it does not create any divide between him and other labourers. A majority of cases of employer-labourers are of the latter kind.

If we leave aside the problematic category of employer-labourers,

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[66] This is the approach followed in Bardhan (1984a) ; since the reference period, in that study, is a single week, the proportion of labourer-employer households in the sample was presumably small.

[67] For a stronger version of this view (namely that employer-labourers do not belong to any well-defined class), see Rudra (1988). The author also argues that, among 'employers', only the small minority of 'big landowners' who 'derive a certain economic and social power from the ownership of relatively large quantities of land with the help of which they dominate the rural society' constitute a class. There may well be a case for distinguishing between different types of 'employers', but the particular distinction proposed by Rudra is difficult to apply in practice, at least in Palanpur.

and also ignore the small group of 'non-participants', we find that in 1983–4 two-thirds of Palanpur's 143 households fell into two well-defined classes in terms of involvement in casual labour: 34 labourer households and 62 employer households. Let us now examine how these employment-based categories relate to other social divisions, such as those based on caste and land ownership.

Class and Caste:

Table 7 shows the distribution of different castes in terms of the four groups defined in the preceding section. The relationship between caste and class emerging from this table is instructive.

Table 7 : Caste and Class, 1983–4

Caste	Not hiring out		Hiring out	
	Hiring in only ('employers')	Neither hiring in nor hiring out ('non-participants')	Hiring in and out ('labourer-employers')	Hiring out only ('labourers')
Thakur	25	5	0	0
Murao	19	0	8	0
Muslim	2	0	11	7
Jatab	1	1	7	10
Other	15	8	7	17
Total	62	14	33	34
	(43%)	(10%)	(23%)	(24%)

As one might expect, there are no labourers or employer-labourers among Thakurs; except for five 'non-participants', all of them are employers. Most Muraos are also employers; there are no non-participants or labourers among them, but some are employer-labourers. This, again, is as expected, since Muraos are extensively involved in agriculture and have good land endowments but, unlike Thakurs, they have no principled objection to working for wages (so that the poorer Murao households do engage in casual labour to supplement their incomes from cultivation). On the whole, Table 7 suggests that Muraos and Thakurs are not very different in 'class' terms, both castes being predominantly (and unlike any other caste) in the 'employer' category.

While most Thakurs and Muraos are able to avoid performing casual labour, it is rare for Jatabs or Muslims *not* to engage in that

activity. Only two Jatab households, and two Muslim households, have that privilege. In that sense, there is some correspondence between caste and class, at least among those four groups (accounting for more than two-thirds of the population). The 'other' caste group is a diverse one, with most castes within this group falling somewhere around the middle of the caste hierarchy. The fact that this group is also quite heterogeneous in terms of employment status is consistent with the notion that there is some association between caste and class in this group as well (though it provides no direct evidence of such an association).

The broad congruence between caste and class suggests that at least some of the social distinctions we have established on the basis of employment status are not simply transient boundaries, reflecting the particular circumstances of different households in 1983–4. Consider, for instance, the four main castes appearing in Table 7. Within that group, and with only three exceptions, *all* employers are Thakurs or Muraos, while *all* labourers are Jatabs or Muslims. If this correlation is fairly stable over time, it implies that there cannot be a great deal of short-term mobility between the 'employer' and 'labourer' categories (since the caste classification itself does not vary in the short term). Taking the four main castes as the reference group, the caste patterns in Table 7 also suggest (based on a similar reasoning) that whatever mobility may exist between different employment-status categories within that group largely takes the form of (1) mobility between employers and employer-labourers among Muraos, and (2) mobility between labourers and employer-labourers among Muslims and Jatabs.

The preceding discussion suggests some association between caste and class (in the sense that distinctive employment patterns apply to different castes, and are in broad agreement with the caste hierarchy), but this association also involves some dissonance with the traditional caste hierarchy. Specifically, the analysis of employment status puts the Muraos rather close to the Thakurs, in contrast with the wide gulf that separates the two groups in the caste hierarchy. This is one outcome, among others, of recent upward economic mobility among the Muraos.

Class and Land Ownership:

We have argued earlier that land ownership, on its own, is a rather weak predictor of economic status in Palanpur. Table 8 confirms one aspect of that statement: the relationship between land ownership and employment status is far from tight. As this table indicates, most households owning more than 3 bighas of

land per person are 'employers', who hire in but do not hire out (these households account for about one-third of the village population).[68] Below this landholding size, however, there is no obvious association between land ownership and employment status. This finding is consistent with our earlier observations, including (1) the expansion of regular wage employment during the survey period, which has made it possible for many landless households and marginal landowners to avoid casual labour, and (2) the fact that even small cultivators often need to hire labour at some time of the year for specific tasks.

Table 8 : Class and Land Ownership

Land ownership per capita (bighas)	Not hiring out		Hiring out	
	Hiring in only ('employers')	Neither hiring in nor hiring out ('non-participants')	Hiring in and out ('labourer-employers')	Hiring out only ('labourers')
0	6	3	5	13
0.1–1.0	4	3	6	8
1.1–2.0	8	5	10	6
2.1–3.0	5	1	5	5
3.1–5.0	20	0	5[a]	2
above 5	19	2	2[a]	0
Total	62	14	33	34

[a]   All Muraos, except two households.

We add in passing that the association between class and tenancy status is also quite weak. Consider, for instance, households respectively classified as 'landlords' (i.e. those leasing out) and 'tenants' (those leasing in) in 1983–4. The proportion of employers turns out to be almost as high among tenants (41 per cent) as among landlords (52 per cent). And, interestingly, the proportion of labourers is *higher* among landlords (23 per cent) than among tenants (13 per cent); the reason being that a large proportion of tenants are employer-labourers (43 per cent, compared with only 12 per cent for landlords).

[68]   Out of 9 households that own more than 3 bighas per person and nevertheless engage in wage labour, 5 are Murao and one had mortgaged its land.

Overall, there is little systematic association between tenancy status and class as we have used the term in this section. This is consistent with the more general finding, discussed in chapter 8, that in Palanpur the economic and social characteristics of landlords and tenants are not very different. Tenancy status is an even less informative predictor of the economic circumstances of different households than land ownership.[69]

Class and Poverty:

Table 9 presents some information on the incidence of poverty in different groups, measured by the 'head-count' index. Three different poverty criteria are examined here, based on different measures of household economic status. Per capita income is the familiar notion of current household income over the reference year divided by household size. 'Trend per capita income' (for want of a better term) refers to the average of 1983–4 per capita income and 1974–5 per capita income. 'Observed deprivation' is an informal index of household economic status based on observer assessment.[70] In each case, the head-count index gives the population share of households falling below a pre-specified threshold in terms of the relevant criterion.

Irrespective of the criterion chosen, Table 9 suggests a clear ranking of the four employment-status groups in terms of poverty incidence, with labourers at the bottom of the scale and employers at the top. Interestingly, the poverty contrasts are sharper for the 'trend per capita income' and 'observed deprivation' criteria than for the per capita income criterion. In this connection, it should be recalled that 1983–4 was a year of poor harvests, when agricultural incomes were relatively depressed. As a result, the incidence of poverty among cultivators was unusually high. Taking this into account, the patterns of comparative poverty incidence emerging from Table 9 are quite consistent with each other (since the 'observed deprivation' and 'trend per capita income' criteria are less sensitive to short-term income fluctuations); and the last two rows probably give a better indication of the comparative incidence of poverty in different groups in a year of normal harvests than the first one. Based on these two rows, the poverty contrasts are quite sharp, e.g. the

[69]   Rudra (1988)   also argues that tenancy status is irrelevant as a criterion of class identity in rural India.

[70]   On these different notions, and the corresponding measurement issues, see chapter 4.

Table 9 : Class and Poverty, 1983–4

Poverty criterion	Head-count index of poverty (proportion of the population below the poverty line) for different groups, 1983–4			
	Hiring in only ('employers')	Neither hiring in nor hiring out ('non-participants')	Hiring in and out ('labourer-employers')	Hiring out only ('labourers')
Per capita income	18	39	43	63
'Observed deprivation'	9	34	47	75
'Trend' per capita income	7	18	23	42

Note: 'Observed deprivation' is an indicator of living standard based on observer assessment; 'trend per capita income' is the average of 1974–5 and 1983–4 per capita income; see chapter 4 for details. In this table, a household is counted as poor in terms of the 'observed deprivation' criterion if it belongs to one of the four bottom deciles of the scale of 'observed means' used in chapter 4. Note that, by construction, the head-count index for the village as a whole is similar for the 'per capita income' and 'observed deprivation' criteria (in both cases, 40 per cent of all households, accounting for one-third of all individuals, are below the poverty line); but the village head-count index based on 'trend income' is lower (22 per cent in terms of households, and 18 per cent in terms of individuals), because per capita incomes were higher in 1974–5 than in 1983–4. The purpose of this table is to highlight the *comparative* incidence of poverty in different groups, not the absolute value of the head-count index.

incidence of poverty is six to eight times as high among labourers as among employers. Even in terms of the current income criterion, labourers are four times as likely as employers to fall below the poverty line.

Implications:

The classification of households on the basis of employment status does appear to have some cutting edge, even if it does not lead to a neat partition of the village population into 'classes'. In particular, participation in casual labour seems to be a useful indicator of economic disadvantage — at least as useful as landlessness or caste or income. But some heterogeneity does remain

within each employment-status group, and the ambiguous position of employer-labourers poses a specific problem.

Two further qualifications are due. First, the approach we have taken in this section involves treating as 'non-participants' those who do not have a single day of casual labour hired in or hired out. It may be argued that this criterion is too stringent, and that those who have only a marginal involvement in the casual-labour market (in terms, say, of number of days hired in or out, or of the proportion of income earned from casual labour) should also be treated as non-participants. This modification would have the effect of enlarging the latter category, and thus reduce the usefulness of employment status as a basis for the definition of classes. This reflects the fact that Palanpur is essentially a small-farmer economy, where a substantial proportion of households are not *regularly* involved in the casual-labour market.

Second, the findings of this section are contingent on the fact that Palanpur has a relatively small landless population (23 per cent of all households in 1993), and a relatively small proportion of agricultural labourers in the population. This, as was mentioned earlier, is not atypical of this region of India. Employment-based and other class divisions may be much sharper in regions where there is greater polarization of land ownership.

Following on these observations, we end by noting that we have not come across any example of organized collective action by Palanpur labourers during the survey period.[71] Nor have we noticed any awareness on their part of the possible usefulness of formal arrangements for the protection of their collective interests, such as a trade union.

Much the same applies to employers. Towards the end of the survey period, however, there were signs of an emerging awareness of collective interests among farmers (not as employers, but as producers). It is now common to hear them complain that crop prices are too low, that fertilizer prices are too high, that farmers are being exploited, and that they have to organize to press for a better deal from the government. This new awareness has not developed spontaneously. Rather, it has

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[71] As argued in chapter 7, the downward rigidity of the money wage during the slack season can be plausibly attributed to a form of implicit collusion by labourers. But even if this interpretation is correct, implicit collusion is not the same as organized collective action. Labour organizations in rural Uttar Pradesh as a whole are quite weak (Drèze and Gazdar 1997), though there are signs of change in this respect in some areas (Srivastava 1994, 1995).

grown in response to mobilization efforts by the farmers' movement in Uttar Pradesh as a whole.

This points to an interesting contrast between labourers' and farmers' interests. The main concern of farmers is with input and output prices. Since these are the same over a wide area covering many villages, they provide a common focus to a large number of farmers, and make it possible for a form of collective solidarity to emerge across village boundaries (large farmers' rallies, which are increasingly common in Uttar Pradesh, are one expression of such solidarity). Labourers, however, are chiefly concerned with employment and wages, even though they may also have an indirect interest in better terms of trade for the agricultural sector. Further, as will be seen in section 4.4, employment and wages tend to be perceived as village-level variables: the village economy is quite 'isolated' as far as labour contracts are concerned, and large differences in wages between adjacent villages are common. By implication, it is not easy for labourers to organize over a wide area, as the farmers have done.

3.4 Gender

Background:

Western Uttar Pradesh is a region of exceptional gender inequality. To illustrate with reference to a simple indicator of basic gender inequality, the female-male ratio in western Uttar Pradesh is only 0.84. This value is much below that of *any* country in the world, if we exclude a few countries of west Asia (e.g. Bahrain and Qatar) where male in-migration has strongly tipped the demographic balance in favour of males. Pakistan, the country with the lowest female-male ratio in the world outside this small set of countries, has a female-male ratio of 0.92, which is much higher than western Uttar Pradesh's 0.84.[72]

The female-male ratio is only one indicator of the highly disadvantaged condition of women in western Uttar Pradesh. Further evidence in the same direction emerges from a wide range of indicators

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[72] The figures are from Nanda (1992b) and *Human Development Report 1994* ; the reference year is 1992. On gender relations in north India, see Altekar (1956), Karve (1965), Kapadia (1966), Shah (1973), Government of India (1974), Jeffery (1979), Parry (1979), Sharma (1980), Miller (1981), Kakar (1981), Dyson and Moore (1983), Sharma (1985), MacDorman (1986), Caldwell and Caldwell (1987), Das Gupta (1987, 1994b), Mandelbaum (1970, 1988), Jeffery *et al.* (1989), Basu (1992), Agarwal (1994), Drèze and Sen (1995), among others.

relating *inter alia* to literacy rates, nutrition levels, maternal mortality, fertility preferences, labour force participation, property rights, age at marriage, and political participation.[73] In these and other respects, western Uttar Pradesh emerges again and again as one of the most unequal regions of India as far as gender relations are concerned.

There is much evidence of similar patterns of gender inequality in Palanpur itself. The female-male ratio, for instance, hovered around 0.86 throughout the survey period.[74] This is in spite of the fact that migration patterns probably *raise* the female-male ratio among Palanpur residents. Further, age-specific female-male ratios strongly suggest that child mortality rates are much higher among girls than among boys, a common pattern for this region. Similarly, literacy rates in Palanpur are about four times as high for males as for females. Gender inequality is also conspicuous in terms of a wide range of other aspects of well-being, from time utilization patterns to participation in public life.

Women's Lives:

Symptoms of unequal treatment of male and female children in Palanpur can be observed from the moment of birth, when the village *dai* (midwife) usually receives a higher fee if the new-born baby is a son. Palanpur fathers and mothers candidly acknowledge that male children command a privileged share of parental care and attention in many families. The pro-male bias can take various forms, such as boys being more carefully weaned than their sisters, and receiving relatively prompt and expensive medical treatment when they fall ill. In 1983–4, we witnessed several cases of infant girls who were allowed to wither away and die in circumstances that would undoubtedly have prompted more energetic action in the case of a male child.[75]

A girl child's chances of receiving education are low. The proportion of girls reported to be attending school in the 6–10 age group was

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[73] For a sample of relevant indicators, see Nuna (1990) ; also International Institute for Population Sciences (1994b).

[74] See Table 1 in chapter 2. The female-male ratio lies between 0.85 and 0.87 in every survey year, except 1983–4, when it was 0.93. There is no obvious explanation for this upward blip (sex-selective migration is one possibility).

[75] These observations are consistent with the high incidence of severe undernutrition and mortality among female children in Palanpur, discussed in chapter 6. For similar findings elsewhere in Uttar Pradesh, see Jeffery *et al.* (1989), Khan *et al.* (1989), and Deolalikar and Vashishtha (1992), among others.

only 14 per cent in 1983–4 and 29 per cent in 1993. The proportion actually attending on a regular basis must have been even lower.[76]

Since she does not go to school, the typical girl child spends most of her time in domestic work, play, and (if her parents cultivate) field work on family plots. There are no cases of a girl child in Palanpur working for wages, with the exception of a few girls from poor households joining other family members for wage employment at the time of wheat harvesting or rice transplanting. Among the domestic tasks undertaken by female children, taking care of younger siblings is the most common one.

In Palanpur as elsewhere in Uttar Pradesh, women marry relatively early.[77] Standard marriage practices include caste endogamy, village exogamy, hypergamy, and patrilocality. That is, normally a young woman is married to a boy of the same caste, in another village, and preferably into a family of somewhat higher status; after marriage, she leaves her parental village and is incorporated in her husband's family. In Palanpur, these practices apply — with nuances — to all castes, and also among Muslims. Of course, individual exceptions to all these 'rules' do occur from time to time (there is, for instance, one notorious case of 'love marriage' involving a boy and a girl from Palanpur itself), but these deviations from accepted marriage practices tend to raise eyebrows — to put it mildly — and in most cases the parties involved conform to the prevailing norms.

The final departure of a young bride to her husband's family, which usually takes place a few months after the marriage ceremony, is more than a simple change of residence. It literally marks the 'transfer' of the young woman from one family to another. Indeed, marriage in Palanpur is understood as 'kanyadaan', 'the gift of a daughter'. After this transfer, a woman is expected to make only short, occasional visits to her parents' village. In her husband's village, she usually lives, at least to begin with, not only with her husband but also with some of her in-laws — most likely her parents-in-law but possibly also brothers-in-law and their nuclear families. In this new household, her

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[76] In 1983–4, the village school was non-functional most of the time, so that girls enrolled in the local school are unlikely to have spent much time in actual learning activities. See section 3.6 for further discussion.

[77] In 1983–4, 59 per cent of all women aged 15–19 in Palanpur were married; this figure, however, came down to 34 per cent by 1993. The corresponding figures for rural Uttar Pradesh are 61 per cent and 37 per cent (census data for 1981 and 1991, respectively).

situation is one of acute vulnerability, since she typically has no independent income-earning opportunities, no substantial property of her own, and no possibility of returning to her parents on a permanent basis. In her new home, she is expected to devote herself selflessly to the well-being of other family members (especially her husband), and in particular to perform most of the domestic duties. Tensions between a newly-married woman and her in-laws, especially her mother-in-law, are frequent, and a young bride often pleads with her husband for the formation of a separate household. As we noted in section 2.2, it is not uncommon for actual partition to take place within a few years of marriage.

The status of a married woman improves significantly after she bears children, especially male children. This is also the period when her role as decision-maker expands, especially if partition has taken place. As the principal manager of domestic affairs, a mother in an independent household becomes more of a partner to her husband — if not an equal partner — and less of a subordinate supplier of domestic services. Her work, however, remains largely confined to domestic chores, and possibly to helping with cultivation on family plots. Working for wages is a humiliation for a woman and her family, and only a few women from poor, low-caste households engage in wage employment. Gainful self-employment opportunities (e.g. weaving or tailoring) are few and far between, with the notable exception of dairy activities: women in Palanpur have the primary responsibility for taking care of cows, goats, and buffaloes, and many of them also retain at least part of the proceeds of milk sales.

While the child-bearing period leads to some improvement in a woman's status and position within the family, it is also a time of intense physical strain. Family planning practices are quite limited in Palanpur, leading to high fertility rates and short birth spacing.[78] Repeated pregnancies take an enormous toll on women's general health, and also put their lives at immediate risk at the time of delivery. A delivery almost invariably takes place at home with the help of a local dai (midwife) with no formal training, and it is only recently that

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[78] As noted in section 2.4, Uttar Pradesh has the highest total fertility rate among all major Indian states. The maternal mortality rate in Uttar Pradesh was estimated to be as high as 931 per 100,000 births in 1982–6 (Mari Bhat *et al.* 1995) ; only five countries in the world (Somalia, Ghana, Bhutan, Gambia and Congo) have higher estimated maternal mortality rates for that period (see *Human Development Report 1991,* p. 143).

awareness of the elementary hygiene of child delivery (e.g. avoiding the use of an unsterilized sickle to cut an umbilical cord) has become reasonably widespread in the village. No publicly-provided maternal health services are conveniently available.[79]

A woman who loses her husband before her sons have grown up finds herself in an unenviable situation. If she has no children at all, and is still quite young, she is likely to remarry.[80] But a widow with young children rarely remarries, even among the 'lower' castes.[81] Normally, she is granted possession of her husband's property until her sons have grown up. If she possesses land, a widowed mother usually leases it out, and subsists on the rent as well as on whatever income she is able to earn through other activities (e.g. keeping milch animals). Given the restrictions that apply to women's movements and activities in Palanpur, these income-earning opportunities are often inadequate to make ends meet. Child labour plays a crucial role in supplementing the incomes of several widowed mothers.

In old age, a woman is almost always looked after by one of her adult sons, either with her husband or — more likely — as a widow. In 1983–4, only one out of 20 women above the age of 60 lived separately from all her surviving sons; she was a widow whose only son had left the village after selling the family land. In the same age group, there

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[79] According to the recent National Family Health Survey (1992–3), in Uttar Pradesh only 6 per cent of currently-married women aged below 49 are currently using any modern non-terminal contraception method; only 4 per cent of births take place in medical institutions; and only 30 per cent of all births are preceded by any kind of ante-natal check-up (see Drèze and Sen 1995, Statistical Appendix, Table A.3). The situation is likely to be even worse in Palanpur, given the social backwardness of this village even by Uttar Pradesh standards.

[80] The remarriage of a young, childless widow is widely accepted in rural north India, except among some 'high' castes. The practice of leviratic union remains widespread in some communities, including the Thakurs and Muraos of Palanpur. In other cases, remarrying normally involves leaving the village and losing all customary rights to the deceased husband's property. A woman's second husband is often a widowed father, an old bachelor, or a man with a physical disability of some kind. For further discussion of these and other issues relating to widowhood in Palanpur and north India, see Drèze (1990a) and Chen and Drèze (1992, 1995).

[81] Aside from the lack of social tolerance for widow remarriage, a major reason for the low incidence of remarriage among widowed mothers is the fear that a second husband might fail to give kind treatment to the children born from the first marriage. Also, a widow who has sons may not be allowed by her in-laws to take them with her if she remarries.

were also two women (both widows) with no surviving son; one lived with her grandsons, and the other one with her widowed daughter.

In Palanpur as elsewhere in India, women's experience of old age is strongly associated with widowhood. Among women aged 60 and above, the proportion of widows was as high as 77 per cent in 1983–4 and 59 per cent in 1993.[82] The high incidence of widowhood among women who survive to old age, and the overwhelming dependence of old widows on adult sons for survival during that phase of the life-cycle, is an important aspect of the general dependence of women on particular male relatives (e.g. father, husband, son).

Gender Inequality and Women's Agency:

The disadvantaged condition of women in north India is sometimes interpreted as a reflection of some inherent anti-female bias in the local 'culture'. For instance, it could be said that it is not part of the local culture to send daughters to school. This statement would be hard to dispute, but it does not throw much light on the reasons for this attitude. Discussions with local residents, by contrast, often point to tangible reasons for this and other types of gender discrimination — reasons that often reflect very pragmatic considerations rather than abstract cultural patterns. Many parents, for instance, candidly admit that the potential burden of dowry is an important reason for the relative neglect of female children in Palanpur. This seems to play a far more important role, in particular, than any possible lack of affection of parents for their daughters (relative to sons), of which we find no evidence whatsoever.[83]

It is, in fact, relatively easy to identify several aspects of the local kinship system, and of production relations, that put adult women in an objective condition of dependence, and are also likely to contribute to the neglect of female children. First, the strong emphasis on patrilineal inheritance deprives women of any substantial property rights. Second, the twin norms of patrilocal post-marital residence and village

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[82]   In rural India as a whole, 62 per cent of all women aged 60 and above are widowed (1991 data from Government of India 1993a, p. 71). Incidentally, the corresponding figure for men (i.e. the proportion of widowers among men aged 60 and above) is only 21 per cent. The main reason for this striking gender gap — also evident in Palanpur — is the much higher rate of remarriage among widowed men compared with widowed women.

[83]   In another village of western Uttar Pradesh, Jeffery *et al.* (1989: 193–5) also observe that parental affection towards daughters is common, and note some ambivalence in parental attitudes towards the survival of female children due to the tension between material and affective considerations.

Table 10 : Reported Occupations of Adult Women, 1993

Primary oc-cupation	Secondary occupation						Remarks
	None	Domestic work[a]	Cultivation[b]	Tailoring	Midwife	Total	
None	6	0	0	0	0	6	Elderly women
Domestic work[a]	293	0	7	1	0	301	
Agricultural labour	0	2	0	0	0	2	Widows
Village sweeper	0	0	0	0	1	1	Harijan household
Shop-keeper	0	1	0	0	0	1	Widow
Anganwadi manager	0	1	0	0	0	1	Urmila
Anganwadi helper	0	1	0	0	0	1	
Total	299	5	7	1	1	313	

[a]   Including animal care, which was explicitly reported as an activity in only two cases, but is an important activity for many Palanpur women.
[b]   Often reported as 'help with cultivation'.

exogamy, amplified by the notion that a married woman literally 'belongs' to her in-laws, drastically curtail the supportive links between a married (or widowed) woman and her own relatives. They also have a crucial implication for female children: that any 'investment' made by parents in their upbringing is often perceived as unrewarding insofar as the benefits of these investments will be enjoyed by others (on this see also section 3.5 below). Third, the gender division of labour gives women very few opportunities for independent gainful employment.[84]

To illustrate the last point, Table 10 shows the reported occupations of adult women in Palanpur in 1993. It is extraordinary to find that, among 313 women aged 15 and above, only 14 are reported to have anything other than 'domestic work' as their primary *or* secondary occupation.[85] There may well be some underreporting here, especially since this information comes from a household question-naire addressed to a male household member in a majority of cases. Women's cultivation activities on family plots, for instance, may have been overlooked by some respondents, or assumed to be part of 'domestic work'. But even after allowing for some underreporting, the figures give a picture of extremely low female labour force participation, especially in the form of any involvement in independent, gainful employment activities (not to speak of any female employment outside the village, of which there is not a single case in Palanpur). Further, the figures given in Table 10 are consistent with 1991 census figures, according to which the female labour force participation rate (proportion of 'main workers' in the female population) is as low as 2.3 per cent in rural areas of Moradabad district.

Low female labour force participation is an important social issue in at least three respects. First, there is much evidence that intrahousehold gender inequality in India (e.g. the survival disadvantage of girls *vis-à-vis* boys) tends to be lower when adult women have wider opportunities for gainful employment.[86] Second, the restricted

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[84] Among landowning classes, a fourth factor of vulnerability is joint-family living, which further reduces young women's freedom of movement and action.

[85] A similar pattern emerges in other survey years: the absolute number of adult women reported to have any economic occupation other than 'domestic work' was 6 in 1957–8, 8 in 1962–3 and 27 in 1983–4 (the 1974–5 figure is not available). The higher figure in 1983–4 probably reflects more careful (though far from complete) recording of women's activities in that year.

[86] See Rosenzweig and Schultz (1982),   Kishor (1993),   Murthi, Guio, and Drèze (1996).

nature of these employment opportunities is a factor of vulnerability for many women, in so far as it puts them in a situation of over-whelming dependence on the earning capacity of adult men. In households with a single adult male (a common pattern in Palanpur, particularly among the landless), a spell of sickness or unemployment for the male earner can have disastrous consequences, not to mention the aftermath of permanent disability or death. Last but not least, female participation in gainful employment is one indication of the general participation of women in society, beyond the confines of domestic work. The suppression of women's agency in western Uttar Pradesh has extensive consequences not only for women themselves but also for the society as a whole. For instance, the enormous difficulties involved in posting female teachers in rural areas is an important source of continued educational backwardness in this region (Drèze and Gazdar 1997). Similarly, the virtual exclusion of women from most representative institutions in Palanpur (including the village panchayat) contributes to the limited focus and quality of local politics and public action.

Contrasts in Female Lifestyle:

Our earlier sketch of the life experiences of Palanpur women inevitably involves some simplifications and generalizations. Two particular variations from the general pattern deserve special mention.

To start with, gender relations vary significantly between different castes. Broadly speaking, the 'higher' a woman's caste, the more restricted her freedom of action, and the greater her subjection to conservative norms of female behaviour.[87] A low-caste woman, for instance, has greater freedom to circulate in the village and the fields, to go to the market on her own, to talk with a married man, to remarry after becoming a widow, etc., than a woman from a 'higher'

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[87] These conservative norms arise partly from what might be regarded as the traditional Hindu view of appropriate female behaviour, as found, for instance, in the oft quoted *Laws of Manu*. Whether these 'traditional Hindu values' were ever meant to apply, in fact, to the lower castes, is an open question. One possible view is that there is a shared set of values regarding the 'ideal' behaviour of a Hindu woman, and that the higher castes are simply more orthodox in their pursuit of these ideals. An alternative view is that different codes of behaviour have always applied to different social groups, and that the traditional texts which are often referred to in this context (e.g. the Laws of Manu) are really addressed to Brahmins or to the 'twice-born'. For a good discussion of these issues, see Kolenda (1983).

caste. She is, in a sense, more of a social person in her own right (as opposed to a mere appendage of her father, brother, husband, or son) than her high-caste counterpart.

There are several plausible reasons for this broad association between caste status and female autonomy. First, the objective factors of female dependence discussed earlier in this section are, in many cases, more influential among the privileged castes. The norms of patrilineal inheritance and patrilocal exogamy, for instance, are closely linked to land ownership, and tend to be particularly stringent among the propertied groups. Similarly, the gender division of labour tends to be less rigid among the disadvantaged castes, given the survival value of women's economic contributions in poor households. Second, the conservative lifestyle of women among the higher castes acts as a status symbol. For instance, it is a matter of pride for Thakur men that their women never work outside the home, and are rarely seen in public; these values are strongly internalized by Thakur women themselves, who often consider these practices as a matter of 'honour' (ijjat).[88] Third, the history and tradition of the martial castes (of which Thakurs are the chief representatives in Uttar Pradesh) have a continued influence amongst these castes, which contributes to their fiercely patriarchal mores. This patriarchal tradition includes practices such as child marriage, seclusion, and dowry, and even some acceptance of more extreme practices such as female infanticide and sati.[89] Some aspects of the patriarchal tradition of the martial castes have also been emulated by other status-aspiring castes (the so-called 'Rajputization' phenomenon). We will return, in the next chapter, to the significance of these links between caste and gender inequality.

The second important departure from standard patterns of female behaviour concerns a small number of Palanpur-born women who have had the privilege of remaining in Palanpur after their marriage, or of returning there (with husband and children) after a limited sojourn in their in-laws' village. These exceptions to the customary patrilocal pattern occur mainly when a young woman has no brothers. Following a common practice in north India, when such a situation

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[88] For similar observations, see Minturn and Kapoor's (1993) detailed study of Rajput women in Khalapur, another village of western Uttar Pradesh.

[89] On this, see Panigrahi (1972), Miller (1981), Kolenda (1984, 1987), Harris (1993), among others; also Drèze and Gazdar (1997) and the literature cited there.

arises the husband of the woman in question often lives in his wife's village (where he is known as a *gharjamai*) rather than the reverse.

Careful observation reveals that women who belong to this category have a very different (and, in many ways, less restricted) lifestyle than other Palanpur women. They move quite freely within the village, rarely veil their face, converse with adult men, and often work in the fields along with other family members (irrespective of caste). In 1983–4, one of them was Palanpur's leading moneylender, despite being a widow (see Gulabo in chapter 9); another, also a widow, was heading a joint-family household with 16 members; yet another was inducted into the village panchayat (see Bano in section 3.6). Palanpur-born married women also appear, in many respects, to have a far more equal position *vis-à-vis* their husbands than other village women.[90]

As a matter of fact, an adult woman who lives in her natal village after marriage enjoys a number of objective advantages that can be plausibly expected to have a liberating influence. First, she retains a strong and often supportive connection with her parents and other natal kin. Second, her own husband, who tends to be considered for a long time as a stranger by the village community, is himself in a state of relative vulnerability.[91] Third, having been brought up in the village, which she continues to consider as her own home and community after marriage, she enjoys much greater freedom of association and movement than other married women. Last but not least, she and her sisters are the recognized heirs of the family property, including land.[92]

These and other advantages of continuing to live in one's natal

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[90]   For similar observations elsewhere in north India, see e.g. Chambard (1980: 62), Sen Gupta (1970: 330), Vatuk (1975: 147), Kolenda (1983), Jeffery *et al.* (1984), Randeria (1989), Agarwal (1994).

[91]   The inferior and insecure position of a gharjamai in a north Indian village has been observed in many of the studies cited in the preceding footnote.

[92]   It seems to be the normal practice in north India that the wife of a gharjamai, rather than the gharjamai himself, inherits her parents' property (Sen Gupta 1970: 330; Shah 1973: 112; Sharma 1980: 55; Institute of Social Studies Trust 1984, Appendix II, Case Study 12; Madan 1989; Mitra 1989 –90: 213–27; Kelkar and Nathan 1991: 91; Jain 1993: 28; Nandwana and Nandwana 1994; personal observations in villages of Uttar Pradesh, West Bengal and Gujarat). Under traditional Hindu law, the land rights of a daughter who marries a gharjamai represent only 'a life interest in ancestral property' (Agarwal 1989: 75), but the ethnographic evidence strongly suggests that these rights are now effectively recognized as full ownership rights, both legally and customarily.

village after marriage help us to understand the relatively free and autonomous lifestyle of Palanpur-born adult women. They also draw our attention, indirectly, to the *disadvantages* deriving, for an overwhelming majority of women, from the combined practices of village exogamy and patrilocal residence. This feature of the local kinship system is a major factor of vulnerability and dependence for adult women.[93]

3.5 Literacy

Literacy Rates:

Educational achievements in Palanpur are extremely poor. At the beginning of the survey period, in 1957–8, literacy rates for persons aged 7 and above were as low as 18 per cent for males and 0.5 per cent for females. By the end of this period, in 1993, the corresponding figures were 37 per cent for males and 9 per cent for females.[94] There has been some progress, but at a sluggish rate, and the absolute levels of literacy are still remarkably low. What is particularly worrying is that literacy rates in Palanpur are low even in the younger age groups. In 1993, not even one-third of adolescents aged 15–19 had learnt to read and write.

Low as they are, literacy rates in Palanpur are not exceptional by the standards of Uttar Pradesh. As a matter of fact, literacy rates in Palanpur are very close to the corresponding figures for Moradabad district. At the time of the 1991 census, the 7+ literacy rate in rural areas of Moradabad district was 37 per cent for males and 10 per cent for females, compared with 37 per cent and 9 per cent in Palanpur two years later. In Uttar Pradesh as a whole, the corresponding figures were a little higher: 52 per cent and 19 per cent, respectively. But literacy levels comparable to those of Palanpur or Moradabad prevail in large parts of the state.

These low aggregate figures conceal even lower literacy rates for particular social groups. Caste and gender differentials are especially striking.

Caste and Literacy:

Table 11 gives caste-specific figures on literacy and

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[93] For an insightful analysis of the relationship between patrilocal exogamy and gender bias in survival, see Kishor (1993). The author finds significant evidence that the female disadvantage in child survival tends to be larger (*ceteris paribus*) in regions with stronger norms of patrilocal exogamy.

[94] For details of literacy rates in different survey years and for different caste groups, see chapter 2. In each survey, a person is counted as literate if he or she is reported as being able to read and write.

school attendance in 1993. This table is based on the usual caste groups, but we have separated out the Kayasth, who really represent a caste apart as far as education is concerned. The Kayasth, who have a long tradition of high involvement in clerical and related occupations, attach high importance to education and spare no effort to ensure that their children learn to read and write. For instance, only Kayasth parents in Palanpur send their young daughters to study in other villages, or organize tuitions at home when the village school does not function.

Table 11 : Literacy and School Attendance in Palanpur, 1993

Caste group	Number of persons	Percentage of literates among persons aged 7 and above		Percentage attending school among children aged 6–10[a]	
		Male	Female	Male	Female
Kayasth	8	100	100	—	—
Thakur	283	56	19	50	46
Murao	294	39	2	63	25
Muslim	140	20	2	31	29
Jatab	133	12	0	33	0
Others	275	38	8	61	31
Total	1,133	37	9	51	29

[a]   *All* schools (including private schools and government schools in nearby villages) are taken into account in these attendance figures.

   Note: There were no Kayasth children between the ages of 6 and 10 in 1993.

As Table 11 indicates, there are sharp contrasts in educational achievements and school attendance between different castes. At one end, the Kayasth are fully literate (there were few Kayasths in Palanpur in 1993, but the high educational achievements of this community consistently emerge in the successive surveys, as well as in the surrounding villages). At the other end, all Jatab women are illiterate, and not a single Jatab girl is attending school. The same basic pattern emerges in each survey year (see Table 13 in the next chapter).

It is striking that literacy rates and school attendance should vary so widely between different castes within the same village, where elementary education is supposed to be freely available to all. Further, the problem is not simply that the disadvantaged castes are too poor

to send their children to school. Statistical analysis suggests that caste has an influence of its own, independently of per capita income (and even after controlling for parental education).[95] This is also what the sharp contrasts illustrated in Table 11 lead us to expect.

The strong association between caste and literacy in Palanpur illustrates a common pattern in north India. The precise reasons for this association call for further empirical investigation, but a number of hypotheses can be formulated. First, the traditional upper-caste view (often internalized by others) that education is not important or even suitable for the 'lower' castes probably continues to have some influence in Palanpur's conservative society. This view is bound to affect the educational aspirations of children from the disadvantaged castes, and the parental and social support they receive in pursuit of these aspirations.

Second, there may be objective differences in economic and other returns to education for different castes. For instance, given their restricted access to formal-sector employment opportunities, Jatabs may have weaker incentives to invest in education than those who have already established good connections with the formal sector.[96]

Third, one should not dismiss the possibility that the operation of the schooling system involves some discrimination against children from disadvantaged castes. Blatant forms of discrimination, such as low-caste children being prevented from attending school, have certainly disappeared. But this does not rule out the persistence of subtler forms of caste-based discrimination.[97] Until 1992, the village teacher in Palanpur was a Thakur, who considers any form of direct contact

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[95] A probit analysis of school attendance, based on 1983–4 data, indicates that Jatab and Muslim boys are less likely to attend school than boys of other families, controlling for per capita income and parental education (this result is statistically significant). The income coefficient is positive but not statistically significant. It should be borne in mind, however, that per capita incomes are subject to substantial short-term fluctuations and measurement errors; this affects the precision of the income coefficient, and probably magnifies the caste coefficient (because caste partly acts as a proxy for 'permanent income'). Girls are less likely to go to school than boys in all groups, with too little variation in girl attendance to identify caste effects. For similar results based on all-India district-level data, see Labenne (1995).

[96] On the relationship between caste-based discrimination in the labour market and investment in human capital, see Montgomery (1995) and the literature cited there.

[97] There is much evidence of the persistence of such discrimination in many north Indian schools; see Drèze and Gazdar (1997) for further discussion.

with Jatab children as repulsive, and who may also share the view that Jatab children need not be educated. These prejudices are quite likely to have an adverse effect on his rapport with these children, further discouraging them from attending school.

Female Education:

As the figures mentioned earlier indicate, the progress of female literacy in Palanpur has been exceedingly slow. By the end of the survey period, the literacy rate among women aged 7 and above was nil among Jatabs, 2 per cent among Muraos and Muslims (these three groups accounted for half of the total village population in 1993), and 8 per cent in the village as a whole (see Table 11). This is, of course, a major change compared to the situation in 1957–8, when not a single woman outside the Kayasth caste was able to read and write. But the persistence of near-universal illiteracy among women remains the primary fact.[98]

One reason for low levels of female literacy is the deplorable state of educational institutions in Palanpur. We will return to that. But the state of the schooling system cannot be the only factor: even in periods when the village school functioned reasonably well, female attendance has remained well below male attendance. This suggests a strong problem of inadequate parental motivation.

The motivations involved in schooling decisions are quite different for boys and girls. In the case of male education, strong economic incentives are involved. Indeed, education is widely seen as a requirement of occupational promotion, and parents expect tangible benefits from the improved employment prospects of their sons, e.g. in the form of old-age security.[99]

The same does not apply to female education. To start with, the perceived value of female education obviously depends on the role which adult women are expected to play in society. The 'ideal' woman in Palanpur is a dutiful housewife devoted to the welfare of her husband and children. The vast majority of girls are expected to spend most of

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[98]　Note that widespread illiteracy among *adult* women is a reflection of what has been happening in the villages where they have been brought up. It seems that female literacy is just as low in these villages as in Palanpur; this is consistent with our earlier observation that literacy rates in Palanpur are very close to those of Moradabad district as a whole.

[99]　There is much empirical evidence that the motivations of Indian parents for sending boys to school are dominated by economic concerns, particularly the prospect of improved employment opportunities; see Bhatty (1997) and the literature cited there.

their adult life in domestic work and child-rearing (and possibly some family labour in agriculture), irrespective of their educational achievements. It is in the light of these social expectations about the adult life of women that female education seems 'pointless' to many parents. The situation might be quite different in a society where the gender division of labour is less stringent and where women spend a greater part of their adult life in activities for which education is perceived to be important.

Elementary education is actually of much value even in domestic activities and child-rearing.[100] Whether this fact is widely recognized, however, is another matter. In Palanpur, it is well understood that literate men have better employment and earning prospects than illiterate ones.[101] But the effects of maternal literacy on child health, and other benefits of female education, are much harder to observe.

Even if the benefits of female education are correctly perceived, the problem remains that few of these benefits are of direct interest to the parents of the female children who are in need of education. As we saw earlier, in Palanpur (as in much of north India) a girl is 'transferred' at the time of marriage from her parents' family to that of her husband, in a different village. Those who bear the costs of female education, therefore, have little share in its benefits. A strongly patrilineal kinship system, which emphasizes patrilocal residence, creates a deep asymmetry in the rewards of male and female education from the point of view of parental self-interest.[102]

The north Indian kinship system has another feature which further reduces economic incentives in favour of female education, particularly among disadvantaged castes. This relates to the pattern of marriage transactions. Many studies have observed that north Indian parents are often worried that a well-educated daughter may be harder to marry because (1) an educated woman is expected to marry a *more*

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[100] There is, for instance, much evidence of a strong positive link between maternal education and child health in rural India; see Murthi, Guio and Drèze (1996) and the literature cited there.

[101] These perceptions are supported by our survey data (see chapters 3 and 4). In particular, education has a positive effect on individual chances of obtaining a job in the formal sector.

[102] The situation is neatly summed up in popular sayings such as 'bringing up a daughter is like pouring water in sand' (Dube 1988: 168). Similarly, in her study of female education in rural Maharashtra, Vlassoff (1993: 8) reports: 'The most common objection to education . . . was that it was not useful in the village context where women *become the property of others* ' (emphasis added).

educated man, and (2) the required dowry payments are likely to be higher if the husband is well-educated, especially if the general level of education in the relevant caste is quite low (so that educated men are quite scarce).[103] In these circumstances, the economic returns to female education from the point of view of the parents may not just be low — they may be altogether negative.

In short, the economic incentives in favour of female education are very weak in north India, given the gender division of labour and the kinship system. If some parents have sent a daughter to school during the survey period, it is not out of self-interest, but out of concern for their daughter as a person, and in recognition of the contribution which education can make to the quality of her life. In addressing the problem of female education in north India, it may be just as important to promote such concerns (going well beyond the narrow view of education as an economic investment) as to improve the schooling system or the economic incentives.

The persistence of massive illiteracy in Palanpur is one of the most serious failures of public policy over the survey period. Its consequences include not only a diminished quality of life for illiterate persons and their families, but also missed opportunities for the village society as a whole. One aspect of this collective loss is a great deal of inertia in matters of social change, public action, and village politics.

3.6 Collective Action

By now, it should be clear that the society of Palanpur is a highly divided one. And, as was discussed earlier, it is not just that economic and social inequalities are quite large (as would be the case in most Indian villages). A further consideration is that there are many different bases of social division (caste, class, gender, kinship, ownership, occupation, education, etc.), leading to multiple solidarities and oppositions. Jatab and Muslim agricultural labourers are unlikely to cooperate with each other, despite their common class characteristics. The deep rivalry between Thakurs and Muraos hinders any collective

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[103] See Bhatty (1997) for further discussion. It is worth noting, however, that as male education rises in a particular caste, female education may become an asset rather than a liability from the point of view of marriage prospects (because more and more grooms expect to have educated wives). There is some evidence of this, too; see e.g. U. Sharma (1980), Jejeebhoy and Kulkarni (1989) and Minturn and Kapoor (1993). The rise of female schooling among Thakurs in Palanpur towards the end of the survey period may be another manifestation of this phenomenon.

pursuit of their shared interests as farmers and employers. Women and men, by and large, cannot publicly engage in common activities. Those among the landless who have succeeded in obtaining secure employment in the urban sector are unlikely to give much active support to other landless households in their possible demands for land redistribution or wage increases. Short-term factional alignments behind the dominant landowning families lead to further obfuscation of the common interests of disadvantaged groups. The village society, in short, is highly fragmented, with few solid rallying points for collective action, whether of a 'cooperative' or 'adversarial' type.

One of the central themes of this book is that the limited reach of collective action in Palanpur is responsible for some of the most serious failures of its development experience. We leave the details of this story to the next chapter, and set the background here with a short account of collective institutions in the village. In the following discussion, it will be useful to distinguish between 'formal' and 'informal' institutions for collective action.

Formal Institutions:

The only formal collective institution of any significance in Palanpur is the village *panchayat*. Other collective institutions such as political parties, trade unions, women's organizations, youth associations, and cooperative societies have been conspicuous by their absence throughout the survey period.[104]

Also conspicuous by its absence, even though it officially exists, is the so-called *gram sabha* or village assembly. Officially, this assembly is a periodic gathering of all adults in the village, convened to take certain decisions such as choosing beneficiaries for some anti-poverty programmes. Such an assembly has never been convened in Palanpur, or (to the best of our knowledge) in any of the surrounding villages. In fact, should such an assembly be convened, in spite of the social divisions that pervade the village community, that itself would be a positive political development. As things stand, the notion that all adults in the village might gather and deliberate on an equal basis (irrespective of caste, class, and gender) is quite alien to Palanpur's political culture.

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[104] A 'cooperative credit society' has its headquarters in the village, but, as explained in chapter 9, there is nothing cooperative about its functioning. In fact, the credit society is not very different from other government-run rural banks. In the late 1980s, a youth association was formed in Palanpur, based on a new government scheme, but this association disintegrated within a few months.

The village panchayat is constituted every few years, when local elections are organized by the state government. The main focus of these elections is the post of village headman, who is chosen on the basis of a village-wide ballot. In addition, the village is divided into 'wards' (effectively on caste lines, given the caste-based residential division of the village), and each ward elects one panchayat representative. In 1993, the panchayat had 11 members.

Up to this point, things proceed more or less according to the rules, although there have been instances of fraud and manipulation during the elections. Once formed, however, the panchayat ceases to function for practical purposes, and all important decisions and responsibilities are taken by the headman. The main task of the headman is to oversee the implementation of a number of government 'schemes' at the village level (a number of these schemes are discussed in chapter 2). He also receives official guests, and lends his signature to various kinds of individual applications submitted to government authorities, e.g. applications for a subsidized loan or an old-age pension. These different activities offer ample opportunities for self-serving patronage and lucrative fraud.

Ever since the inception of the modern panchayat system, the headman in Palanpur has been a privileged landowner. Until 1973 or so, the post of headman was monopolized by Kulbir Singh, a powerful Thakur. Kulbir Singh's family already dominated village politics before the panchayat system was introduced, and in that sense the arrival of adult franchise made no difference, initially at least. Sometime around 1973, Kulbir Singh was defeated by Toti Ram, an affluent Murao farmer. He came back to power in 1982, allegedly by rigging the elections, which he had fought against Toti Ram for the second time. Kulbir Singh was murdered in 1987, and replaced by another Murao landowner, Lakshman, who was still headman at the end of the survey period. In all the surrounding villages which we have visited, the headman is also an affluent landowner, usually from a high or middle caste. Some of them are known as dangerous criminals or ruthless tyrants.[105]

The panchayat in Palanpur formally includes some reserved seats for the scheduled castes. Since 1984, there is also a reserved seat for

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[105] For an interesting case study of the social background of village headmen in Uttar Pradesh, see Singh (1993). The author finds, *inter alia,* that two–thirds of the headmen in his 82 survey villages (situated in Dodhi block, eastern U.P.) belong to the Thakur caste.

women. When this rule was first introduced, the panchayat members unilaterally decided to induct a particular Muslim woman, Bano, as the female member of the panchayat. She was informed of her new status, and that was the end of the story. So far as we know, Bano never attended the subsequent panchayat meetings.

In short, the key feature of the formal village-level political system in Palanpur is that the headman acts as a local agent of the government. There is, of course, a long tradition of this mode of governance in rural India. Rulers have often found it convenient to deal with a single representative of the village community, and to let the internal affairs of the village take care of themselves. The modern arrangements involve a little more state involvement in these affairs, and, more significantly, the use of elections to choose a headman. As things stand, however, these departures from the earlier pattern have not profoundly altered the elitist and non-participatory character of local politics.[106]

Informal Institutions:

Even informal collective institutions are few and far between in Palanpur. In fact, we can cite only two that have any political significance.

First, there are the panchayats, as understood in local usage: an informal group of village elders or wise men, convened on an *ad hoc* basis to resolve a specific dispute. The practice of convening such panchayats has not died out, despite the development of modern means of arbitration such as courts. In fact, court proceedings, which tend to be costly, protracted, and unpredictable, are usually reserved for serious conflicts such as major land-related disputes. For minor disputes, informal conflict resolution has obvious advantages.

It may help to give an illustration of the functioning of informal panchayats. Sometime in 1982, Harpal, a prosperous Thakur landowner, found that a young buffalo belonging to one of his tenants, Mahesh (a Dhimar), had strayed into one of his fields. As he was angrily chasing the calf away, the poor animal fell in the village pond and drowned (a rope had been tied from its neck to one of its feet, to prevent it from straying too far). A panchayat was convened to decide whether Harpal was responsible, and, if so, how he should compensate Mahesh. It was decided that Harpal would give Mahesh

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[106] It remains to be seen whether the 73rd constitutional amendment (known as the 'panchayati raj' amendment), which came into force *after* the end of the survey period, will have a significant impact in this respect. On this, see also the Postscript to chapter 2.

an interest-free loan to replace the lost calf. The decision was taken by consensus, which is the normal procedure, and accepted by Harpal.

This whole episode is quite instructive, bearing in mind that Harpal is a powerful landlord (brother of the then village headman), who could have resisted any claim on Mahesh's part. The fact that he was stricken with remorse may help to explain his unexpectedly humble behaviour. It is also possible that Harpal felt naturally bound by the panchayat decision, having grown up at a time when informal panchayats were still widely considered as natural and authoritative means of conflict resolution.

By the end of the survey period, however, informal panchayats had become infrequent events. In 1983–4, we witnessed three of them, and the total number of panchayats held during that year could not have been much larger than ten or twelve. In each case, the issue was a relatively uncomplicated one, e.g. a minor boundary dispute. Informal panchayats are valuable means of conflict resolution, but their role in Palanpur's political life is now quite limited.

The same applies to 'caste councils' (*jati panchayats*), the other significant example of informal collective institutions in Palanpur. These caste councils lay down certain social norms applicable to a particular caste in all villages under their jurisdiction. Their concerns are largely confined to marriage arrangements, kinship organization, commensality rules, and related matters. For instance, a caste council may be called to decide whether a particular widow should be allowed to remarry, or how a boy and girl who have fallen in love and wish to marry should be dealt with.

A specific illustration may help. In 1983–4, we heard that the local Teli panchayat had decided to impose a limit on the amount that could be spent on dowries. Here again, it is easy to see that the existence of an agreed mechanism to take collective decisions is potentially helpful. Indeed, the payment of large dowries in Palanpur is a prime example of a custom which most people resent but no one feels able to stop. This can only be done through concerted action.[107] Unfortunately, the Teli

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[107] The basic problem is that, in any particular marriage, *one* side benefits from the payment of dowry (the family of the groom), and is not likely to agree to a dowry-less marriage. On the other hand, a collective agreement to abolish or limit *all* dowry payments is likely to receive widespread support, and may be enforceable. On the economics of Pareto-inferior but nevertheless self-perpetuating social norms, see Akerlof (1984) and Kuran (1995).

panchayat did not succeed in enforcing the decision. The problem, we were told, was that grooms from outside the area under the jurisdiction of the caste panchayat refused to cooperate with the proposed arrangement; even within that area, some wealthy parents continued to pay large dowries, to enhance their prestige, and were later emulated by others.

Whatever their true contribution to social well-being (they have negative as well as positive aspects), caste councils have been in sharp decline over the survey period. In 1993, they were entirely defunct in Palanpur and the surrounding villages, even though some still survived in other parts of the district.

The Domain of Collective Action:

It may be argued that the amorphous nature of collective institutions in Palanpur is not a serious issue because collective-action problems themselves are uncommon or unimportant. Just in case the reader takes this argument seriously, here are three simple examples — among many — of situations where a modicum of collective action could have substantial and widely-shared benefits.

(1) *Drainage:* The survey period has seen a major expansion in the ownership of private hand-pumps. These are installed in courtyards, and provide a convenient source of water for domestic purposes. But this abundance of water on domestic premises is also the cause of a major public nuisance — the uncontrolled flow of large quantities of waste water from private courtyards to public lanes. Except during the summer months, many of the village lanes are full of stagnant water or filthy mud.[108] This makes movement within the village quite difficult, and sometimes even dangerous for those who are not sure-footed (e.g. the elderly). Further, the presence of stagnant waste water throughout the village is a serious environmental hazard.

Palanpur villagers agree that drainage can be substantially improved if each hand-pump owner digs a hole outside her or his courtyard, and directs waste water to that hole. It takes only a short time to dig such a hole with an ordinary spade. However, an individual has little incentive to dig a hole unless her or his neighbours do the same. In order to be effective, this measure has to be taken

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[108] Until the late 1980s, Palanpur had only earth lanes. From then on, brick lanes have been gradually constructed under the Jawahar Rozgar Yojana, a decentralized public-works scheme (see chapter 2).

by all the residents in the village, or at least all the residents of a particular lane. This has not happened.

In a similar vein, everyone knows that the state of the village lanes can be decisively improved by spreading sand over them. Sand is available in abundance on the village commons, and can be easily transported to the village by bullock-cart. Again, this requires coordinated action since no particular individual is likely to take the trouble of spreading sand over village lanes for the benefit of others. In January 1984, we discussed this issue with some influential members of the village, and it was eventually decided that, on a particular day, everyone would be asked to contribute a few hours of free labour (*shramdaan*) to the needed sand-spreading operation. Not everyone responded, but participation in this event was sufficiently high to lead to a major improvement in the state of the village lanes. The benefits of this operation lasted for about a year. After that, the village lanes returned to their familiar state, and the situation has remained the same ever since.[109]

> (2) *Early Sowing:* In the rabi (winter) season, Palanpur farmers sow several weeks later than agronomists would like them to sow.[110] They acknowledge that, if everyone sowed earlier, yields would be higher. But they also claim that those who sow early are particularly vulnerable to seeing their seeds being eaten up by hungry birds and *nilgai*. Sowing before others is considered risky, and farmers' individual desires to avoid being the first to sow leads to some general delay in sowing activities. This, at any rate, is how the matter was repeatedly explained to us.

Coordinated sowing is one possible answer. This strategy may be constrained by differences in optimum sowing dates between different plots, in the progress of agricultural operations, etc. But its success does not require all cultivators to be involved — only enough of them to provide some mutual protection against targeted damage. A more important constraint is the absence of any forum for reaching a collective

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[109] Note that the hole-digging problem is more in the nature of an 'assurance game' than of a 'prisoner's dilemma', whereas the sand-spreading problem is a good example of the latter. This is because an individual has at least some incentive to dig a hole if her or his neighbours do the same, while in the second operation there is a temptation to let others do all the work.

[110] This issue is also discussed in Bliss and Stern (1982: 119–20). The main concern there, however, was with the fact that wheat sowing in 1974–5 seemed to be *particularly* late, rather than with the sustained practice of late sowing, observed by us over a longer period.

decision of this kind, and of any practice of cooperation among farmers (except in specific forms, involving few partners, such as joint tenancy and exchange labour). There is no sign of any attempt to resolve the problem.

(3) *The Village School:* As discussed in section 3.5 (see also chapter 2), the expansion of basic education in Palanpur has been considerably slowed down by the poor functioning of the village school. In fact, around the end of the survey period the village school remained virtually non-functional for more than ten years, due to systematic absenteeism and shirking on the part of the local teacher. The most extraordinary aspect of this situation is that there has been no concerted effort to do anything about it. Admittedly, the scope for putting pressure on the village teacher has been somewhat reduced by the fact that, for much of the relevant period, he was the son of the village headman.[111] But the situation did not change very much after a new headman was elected in 1988.

The situation might have been quite different had a group of parents made an organized attempt to demand an improvement in the functioning of the village school. They could have asked the headman to discipline his son, or tried to put direct pressure on the teacher, or submitted an official complaint to the responsible authorities at the district level.[112] Whether any of these steps would have succeeded is a different matter, but Palanpur parents had no reason to believe that it was not worth trying. There has, in fact, been much talk of the need to do something, but no action.

Implications:

These are three elementary examples of opportunities for collective action that have not materialized. Many other examples can be cited, ranging from fairly simple collective-action problems such as the provision of bathing facilities for women to more complex ones such as the protection of groundwater resources. The domain of collective action is potentially quite extensive, but Palanpur's achievements in this crucial field have been extremely limited. In this respect,

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[111] Note, however, that this statement is contingent on the fact that the headman himself had no interest in promoting education, and was not really accountable to the village panchayat. Had the headman been motivated to prevent his son from shirking, he would have done it.

[112] Parents could also have organized to set up an informal private school. Palanpur did have a fairly successful private school at one stage; but this private school was set up on a commercial basis by an outsider, and only lasted for a few years (see chapter 2).

Palanpur conforms to a familiar pattern in Uttar Pradesh. Indeed, one of the striking regularities emerging from studies of Uttar Pradesh villages is the factionalist, elitist, and opportunistic character of village politics, leading to a tremendous neglect of real social issues.[113]

The possible roots of this phenomenon include pervasive social divisions and widespread illiteracy, and also the recent history of political institutions in this region. In pre-independence Uttar Pradesh, the institutional basis of local governance largely derived from the network of social and economic relations associated with *zamindari* and *jajmani*. The powerful *zamindars* dealt with higher levels of political authority, and sometimes also played a role in matters of collective interest at the village level. The jajmani system defined economic relations pertaining not only to private transactions but also to some public goods and services. While the services of non-agricultural castes such as carpenters, smiths, barbers, etc., were privately consumed, some castes were responsible for services of a more public nature such as sweeping, sanitation, drainage, and street maintenance.[114] Even schooling was largely organized on the basis of traditional caste obligations (in this case involving Brahmin teachers) in many villages.

This system of customary obligations was, of course, also associated with a highly unequal and oppressive social order. From that point of view, the gradual displacement of hierarchical customary obligations over time has been part of the process of emancipation of the labouring classes. These positive developments were not accompanied, however, by a corresponding adaptation of collective arrangements for the provision of collective goods and services. Nor was state intervention successful, in Uttar Pradesh, in providing a sound basis for such arrangements. The challenge of creating an effective system of participatory local governance remains largely unmet.

There are other interesting trends that also indicate some decline in different forms of collective action in Palanpur, and may or may not be linked to the collapse of jajmani and related institutions. Most people take the view that cooperation and mutual assistance have become

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[113] See the literature cited in Drèze and Gazdar (1997), where these issues are discussed in greater detail.

[114] For detailed accounts of the jajmani system and its decline over time in various parts of Uttar Pradesh, see Elder (1970), Wadley and Derr (1989), Wiser and Wiser (1971), among others. On issues of public provision and concerted action within the framework of jajmani and other patron-client relationships, see also Mathai (1915), Bailey (1957) and Mandelbaum (1960).

much less frequent than they used to be. This feeling may be partly based on misplaced nostalgia for an imaginary golden age, but at least some reported symptoms of this trend are hard to dismiss. Examples include the sharp decline of reciprocal interest-free credit (a widely-cited phenomenon), the fading practice of exchange labour, and the increasing reluctance of many farmers to lend their implements. While some of these trends may have other causes than changing social relations, taken together they add up to a consistent picture of intensifying individualism and competition.

The failure of collective action in Palanpur has far-reaching implications. Indeed, the effectiveness of a whole range of local public services can be greatly enhanced through skilful use of local channels of information and accountability. Examples of such services include primary education, health care, environmental protection, social security, and infrastructural investment. When these local services have to be organized on the basis of centralized bureaucracy, with a little help from the village headman, the results are often disappointing. As will be seen in chapter 2, the record of public services in Palanpur over the survey period has indeed been extremely poor, with deeply negative consequences for Palanpur's development achievements.[115]

Before concluding, a word should be said about adversarial forms of collective action. So far, the focus of this section has been on situations where cooperative action can generate benefits for most or all members of the village. But adversarial action, involving some conflict between different groups (e.g. employers and labourers), also has a crucial part to play in village politics, even if the social gains of such action are questionable in some cases (e.g. when it is geared to the preservation of sectional advantages for the privileged groups). Better collective organization of disadvantaged groups, in particular, could play an important role in helping them to challenge extant social inequalities and to improve their bargaining power in the village society. To illustrate, it would be quite hard for a woman on her own to defy established patriarchal norms such as female seclusion and patrilineal inheritance. Such a challenge, however, is quite possible based on collective action, as women's movements elsewhere in rural India

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[115] As argued in Drèze and Gazdar (1997), much the same diagnosis applies to Uttar Pradesh as a whole. A significant exception may have to be made, however, for the Himalayan region of the state, where social divisions based on ownership, caste and gender appear to be comparatively weak, with more scope for cooperative action.

amply demonstrate.[116] Similarly, improved political organization of the disadvantaged castes can be crucial in helping them to resist exploitative or humiliating treatment from the higher castes.[117]

Adversarial forms of collective action, however, are no more developed in Palanpur than the more cooperative forms discussed so far. As we noted earlier, organizations such as trade unions, political parties, or women's groups are nowhere to be seen. Nor have we come across any significant example of adversarial collective action based on informal institutions, such as an improvised strike or street demonstration. Following a familiar pattern in rural Uttar Pradesh, village politics in Palanpur have been dominated by short-lived factional alignments behind the main landowning families. These factional alignments perpetuate fairly traditional patterns of patronage (such as those associated with the jajmani system), and defuse the scope for more radical forms of collective action. This is one reason for the slow pace of social change in Palanpur during the survey period, and for the persistence of debilitating social inequalities.

4. Economy

Much of this book is about Palanpur's economy. In this section, we discuss the main features of this economy, drawing extensively on the more detailed material presented elsewhere in the book. The reader is referred to the relevant chapters for further details.

4.1 Land

Agriculture is the main basis of Palanpur's economy. This statement applies throughout the survey period, but the relative importance of agriculture as a source of employment and income has gradually declined over that period. The counterpart of this decline (and, to some extent, of the decline of traditional crafts and services) has been a major expansion of wage employment outside the village. Even today, however, agriculture is the most important source of employment and income in Palanpur. Agriculture accounted for 88 per cent of village

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[116] See e.g. Omvedt (1980, 1993), and the literature cited there.

[117] South India and western India have a long tradition of organized social movements geared to the emancipation of disadvantaged castes; see e.g. O'Hanlon (1985), Omvedt (1994), Ramachandran (1997). Such movements have been comparatively weak in north India, including Uttar Pradesh, even though they have not been completely absent (and have been gaining strength in recent years).

income in 1957–8, 85 per cent in 1962–3, 84 per cent in 1974–5, and 60 per cent in 1983–4. The last two figures are, respectively, an overestimate and an underestimate of the contribution of agriculture to total income in a year of normal harvests around the time of the relevant surveys, given that 1974–5 was a good agricultural year and 1983–4 a poor one.

As was mentioned in section 1, Palanpur is surrounded by an area of about 400 acres of land, circumscribed by the official boundaries of the village as an administrative unit. Most of this land is actually owned by Palanpur villagers, some of whom also own small plots of land in adjacent villages.[118] For convenience, the reader may think of the area of land falling within the administrative boundaries as more or less identical with the area of land owned by Palanpur villagers. Given that inter-village leasing of land is infrequent, this area may also be considered, without major loss of precision, as the land cultivated by Palanpur households.

As in most Indian villages, land ownership in Palanpur is highly unequal. In 1993, 23 per cent of all households were landless. At the other end of the spectrum, households in the top two deciles of the land ownership scale owned nearly 55 per cent of the village land. The Gini coefficient of land ownership, counting each household as one unit, was 0.57. Very similar figures apply to the other survey years (the Gini coefficient of land ownership, in particular, has remained remarkably stable during the survey period). These figures give a somewhat exaggerated impression of the extent of inequality in land ownership, because there is a positive correlation between landholding size and household size. To correct for this, we can work in terms of individuals rather than households, with each household member being considered as the owner of an equal share of the household land. In that case, the Gini coefficient comes down to 0.52 in 1993. The inequalities involved remain very substantial.[119]

Having said this, a notable feature of Palanpur's social structure is the absence of *very* large landholdings, and — following from that — the relatively limited power of the larger landowners. The size of the largest landholding in the village was only 37 acres in 1957–8 (with

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[118] A few Palanpur residents also own land in more distant villages. They are mainly in-migrants who have not (or not yet) sold the land they owned in their village of origin.

[119] For further details on land distribution, including the Lorenz curves and inequality indices applying in different survey years, see chapters 2 and 5.

the second-largest landholding only about half that size), declining to 14 acres in 1993. The absence of large landholdings and landowners is one of the village characteristics that will have to be borne in mind as we go along. For instance, the absence of powerful landlords, combined with the absence of a large group of landless labourers, helps to explain the relatively muted nature of class conflict in the village. Palanpur is essentially a village of owner-cultivators where clashes of interest between landowners and the landless, or between employers and labourers, are not particularly conspicuous.

Another important feature of land endowments in Palanpur is that the proportion of irrigated land is high. The percentage of owned land within reach of irrigation devices increased from about 50 per cent in 1957–8 to nearly 100 per cent by the end of the survey period.[120] This is not to say that the development of irrigation is complete, since much scope remains for further investment in improved irrigation devices (e.g. electric tubewells as opposed to Persian wheels or diesel pumpsets).[121] Widespread access to irrigation, however, implies that one major source of economic inequality in rural India — the privileged access of larger landowners to modern irrigation facilities — is now largely absent in Palanpur. As will be seen in the next chapter, the transition from partial to near-complete irrigation over the survey period seems to have had an equalizing influence, helping to explain the absence of a sharp accentuation of economic inequality during the Green Revolution period.

4.2 Capital

Investment in productive capital during the survey period has been overwhelmingly concentrated in agriculture. As will be discussed shortly, employment outside the village consists almost exclusively of wage employment; further, self-employment activities outside the village, such as they are, remain largely confined to highly labour-intensive occupations such as rickshaw-pulling (the ultimate in labour-intensity is dancing, reported by one male respondent as a secondary occupation). Even within the village, self-employment outside agriculture is poorly developed and usually labour-intensive (petty shop-keeping is the most common example). A few sewing

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[120] In Uttar Pradesh as a whole, 46 per cent of cultivated land was irrigated in 1983–4 (Sharma 1992).

[121] The spread of modern irrigation devices, however, also carries a real danger of further depletion of groundwater resources (see chapter 2).

machines, grocery shops, and, more recently, flour mills, make up the bulk of Palanpur's non-agricultural capital.

As far as agricultural capital is concerned, irrigation has been the priority area for large investments over the survey period. In 1957–8, there were only 11 Persian wheels in Palanpur, and no other means of irrigation; in 1983–4, there were as many as 22 Persian wheels and 27 diesel pumpsets.[122] By that time, the use of pumpsets had become so common that Persian wheels were beginning to fall into disuse. Ten years later, all Persian wheels had been dismantled, and the number of pumpsets had further increased to 41. The impressive speed at which Persian wheels have spread and then disappeared in Palanpur is one indication of the pace of recent economic changes, including agricultural investment.

Along with this expansion of irrigation facilities, a growing accumulation of other forms of agricultural capital has taken place. Aside from sustained investment in farm buildings and traditional implements (bullock-carts, ploughs, hand-tools, etc.), capital accumulation has increasingly involved various types of modern machinery, e.g. threshers (from the late 1970s onwards) and tractors (starting a little before the 1983–4 survey). But it is important to note that, except for diesel engines (which are primarily used for pumping groundwater, although they do have other purposes), investment in modern machinery is quite recent and, even now, quite low. This 'second wave' of investment in agriculture follows quite far behind the expansion of irrigation facilities, which — along with the spread of new seeds and chemical fertilizers — has been the driving force behind the increase in agricultural productivity.

The expansion of irrigation, and the subsequent investment in modern agricultural machinery, represent quite different forms of technological change. The former, although largely based on modern devices such as pumpsets, is primarily land-augmenting rather than labour-displacing. In fact, better irrigation provides the basis for a considerable increase in agricultural employment, through double-cropping and adoption of more labour-intensive crops. Investment in items such as tractors or threshers, on the other hand, has important labour-displacement effects.[123]

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[122] In 1983–4, Palanpur also had three electric tubewells, but two of them were non-functional due to lack of electricity supply (see chapter 2).

[123] Tractors may also have land-augmenting effects, to the extent that faster ploughing makes it possible to raise cropping intensity.

If we mention this contrast, it is because the 'Green Revolution' label often conflates a number of distinct (though related) technological developments such as the adoption of new seeds, the expansion of irrigation, and the mechanization of agriculture. These different forms of technological change, in fact, have quite different economic implications. They are linked, but not inseparable (or simultaneous), and evaluations of the economic and social implications of technological change should not be based on treating them as a package.

4.3 Occupations

The occupational structure in Palanpur has undergone substantial change over the survey period. We will come back to that in the next chapter; in this section, the focus is on Palanpur's occupational structure in 1993. To keep things simple, we restrict our attention to adult males (defined as men aged 15 or above). The economic activities of women were considered in section 3.4. Most children spend their time playing, studying, minding their siblings, or helping their parents with agricultural work and domestic chores; we will meet them again in chapter 2. In this section, the terms 'occupational structure', 'employment', etc., should be understood to refer specifically to adult males.

The occupations of adult men are quite diverse, and there are several ways of classifying them into different groups. In Table 12, we adopt a simple classification based on (1) nature of the activity (e.g. agriculture versus non-agriculture), and (2) type of employment relation (e.g. self-employment versus wage labour).[124] Another relevant distinction is whether the activity in question takes place in Palanpur or outside the village. As a first approximation, the reader may consider that cultivation, self-employment, and casual agricultural labour take place within the village, and that other occupations take place mainly outside Palanpur.[125]

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[124] There is a much greater diversity of labour contracts, both within as well as outside the village, than is suggested by the elementary classification adopted in Table 12. Labour contracts are discussed in section 4.5 below (see also chapter 7).

[125] Employment outside the village is concentrated in Chandausi and Moradabad. Other possible locations, each accounting for a few jobs in 1993, are (1) other towns within Moradabad district (e.g. Bilari), (2) nearby sugarcane factories, (3) cotton-spinning mills in adjacent districts, (4) distant cities such as Delhi. Employment in another village is rare (more on this further on).

Table 12 : Occupational Structure in 1993, by Caste

Occupation type	Percentage of adult males reporting the stated occupation as their primary occupation, 1993[a]					
	Thakur	Murao	Muslim	Jatab	Others	All castes[a]
Cultivation and livestock	44	73	60	48	46	54(188)
Skilled self-employment[b]	2.5	4	2	0	3	3(9)
Other self-employment	4	1	0	2	5	3(10)
Regular wage employment	12	7	7	0	13	9(31)
Seasonal or semi-regular wage employment	10	1	2	4	7	5(19)
Casual labour[c] (non-agriculture)	2.5	0	7	11	4	4(14)
Casual labour[c] (agriculture)	1	2.5	14	13	2	5(17)
Study	15	6	0	9	9	9(30)
Other	4	2.5	0	2	2	2(8)
None[d]	5	2.5	7	11	8	6(22)
All occupations[a]	100(81)	100(82)	100(43)	100(46)	100(96)	100(348)

[a] In brackets, absolute numbers of adult males in the relevant groups.
[b] Carpenter, barber, etc.
[c] Many casual labourers divide their time between agricultural employment in the village and non-agricultural employment outside the village. We have tentatively split them between agricultural and non-agricultural labourers, based on the available information on their activities during 1993, but it should be borne in mind that there is much mobility between these two categories.
[d] Mainly elderly or disabled men.

The main features of Palanpur's occupational structure are as follows. First, the economic activities of adult males are dominated by (1) self-employment in agriculture, and (2) regular or semi-regular wage employment outside the village. These two groups of activities accounted for 54 and 14 per cent of primary occupations in 1993, respectively. These figures reflect a gradual shift from cultivation to wage employment over the survey period: the corresponding figures in 1957–8 were 81 per cent and 3 per cent.

Second, if we go beyond broad occupational categories and examine the constituent activities, we find that the occupational structure in Palanpur is quite diversified. Within agriculture, the changes that have taken place over the survey period (including the expansion of double-cropping and the spread of water-intensive crops) have led to some expansion in a number of activities that had much less importance earlier, such as irrigating, weeding, transplanting, and marketing.[126] More importantly, wage employment outside the village spans a wide variety of jobs. Over time, Palanpur men have found employment in a widening range of urban establishments such as cotton-spinning mills,

[126] It is only towards the end of the survey period (from 1983–4 onwards) that labour absorption in the more traditional agricultural activities (ploughing, sowing, threshing, and harvesting) has started declining due to greater mechanization, e.g. the increasing use of threshers and tractors.

sugar factories, steel-polish workshops, bakeries, railways, the army, and the police. Further, many adult men move between different types of self-employment and casual wage employment over the year.[127] It is quite common, for instance, for a small landowner to work part-time as a self-employed farmer, perform agricultural labour at harvest time, work as a wage labourer in a sugarcane factory during the slack season, and hire out the services of his bullock-cart in his spare time. The diversification of activities is an important aspect of economic development in Palanpur.

Third, non-agricultural self-employment is poorly developed in Palanpur. Self-employment outside the village is almost non-existent, and, to the extent that it does exist, it takes the form of low-status unskilled occupations such as rickshaw-pulling in Chandausi. Within the village, self-employment mostly takes the form of petty trade (grocery shops, tea shops, door-to-door selling), or of activities

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[127] This does not apply to those who have regular jobs outside the village, and who tend to restrict themselves to a single occupation (partly for lack of spare time, and partly because most of these jobs are relatively well-paid).

requiring familiar skills and limited investment (e.g. barber, mason, tailor). The survey period has witnessed both a decline in some traditional activities based on self-employment (see chapter 2) and the emergence or growth of other forms of self-employment such as masonry and shop-keeping. Overall, there has been no major expansion of self-employment.

Fourth, the proportion of adult men who have agricultural labour as their primary occupation is quite small. Although as many as 35 adult males reported agricultural labour as one of their activities in 1993, only 17 of them (less than 5 per cent of the adult male population) reported agricultural labour as their primary occupation.[128] The proportion of adult males with agricultural labour as their primary occupation was higher at the beginning of the survey period, but even then it was not very large (13 per cent). Those who still have agricultural labour as their primary occupation are mainly landless or quasi-landless men who, for one reason or another (e.g. poor health), have been unable to take substantial advantage of employment opportunities outside the village.

Fifth, the link between caste and occupation has become quite loose. As was mentioned in section 3.2, only a few households in Palanpur still engage in the activity traditionally associated with their caste. This is not to say that caste has no influence on occupational choices. We have seen, for instance, that cultivation remains the predominant activity of most Muraos; and the involvement of different castes in different types of wage employment outside the village is quite uneven, with, for instance, Thakurs striving particularly hard to obtain jobs in the army or the police. On the whole, however, the similarities of occupational structure between different castes are now more striking than the differences. In particular, each of the four broad observations made in the preceding paragraphs applies *within* each of the numerically significant castes as well as to the village as a whole.

4.4 Exchange

Preliminary Considerations:

For a wide range of consumption goods, intermediate inputs, and agricultural products, Palanpur households can be considered as 'price-takers': the prices of these commodities are

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[128] In addition, 11 adult males with casual non-agricultural labour as their primary occupation engage in agricultural labour as a secondary occupation.

determined outside the village, based on processes over which they have only a marginal influence, and no quantity rationing is involved. For instance, the price at which Palanpur farmers are able to sell their wheat or rice at harvest time is determined by market forces involving millions of other farmers (and to some extent also by government policy), and is not significantly influenced by what goes on in Palanpur itself; nor is there any likelihood of someone in Palanpur being unable to buy or sell these commodities at the going price. Similar remarks apply to most other agricultural products, most consumption goods, and intermediate inputs such as seeds and fertilizer.

This feature, however, does not apply in the case of several key production factors that are exchanged under very different conditions. The most important of these factors are land, labour, credit, and the services of various kinds of farm assets (e.g. bullocks, threshers, and irrigation devices). For these factors, village transactions are less smoothly 'integrated' with the rest of the economy; more precisely, *inter-village exchange is infrequent*. It is quite rare, for instance, for sharecropping contracts to involve partners from different villages, for a farmer to recruit labour outside her own village, or for a village moneylender to have clients in several villages.[129]

There are several mutually-reinforcing reasons for this pattern. To start with, inter-village exchange involves travel and search costs. For instance, hiring a labourer in one's own village simply requires walking to his home in the evening and asking him to turn up for work the following morning. But walking to the next village and back for the same purpose is a more tedious affair, especially after dark, when most people avoid moving around (even within the village) on grounds of safety. Similarly, sharecropping a plot of land in an adjacent village involves cumbersome coming and going between the home and the field, sometimes with a heavy plough on one's shoulder.

Another relevant factor is that imbalances between demand and supply within adjacent villages are to some extent synchronic. Thus, during the slack agricultural season, when many labourers in Palanpur are unemployed, there is little point in their searching for work in neighbouring villages, since there is much unemployment there too. And similarly with employers during the peak season, when excess demand for labour develops over a wide area.

Further, a distinct advantage of intra-village exchange is that the

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[129] On this feature of many Indian villages, and its implications, see also P. Dasgupta (1993).

partners involved tend to know each other well. This does not apply to inter-village exchange, which is much more vulnerable to problems of asymmetric information, including adverse selection and moral hazard. In some contexts, these problems are quite important, and inter-village exchange is correspondingly unusual. A village money-lender, for instance, rarely lends to a stranger, since personal information about the borrower is essential in order to assess the likelihood of repayment.[130]

A related consideration is that partners who live in the same village are involved in long-term relationships as members of the village society, and this, too, can reduce the adverse incentive problems that often arise in the transactions we are concerned with. As explained in chapter 8, for instance, one of the qualities which sharecroppers are most anxious to find in their 'landlord', and vice-versa, is described by them as 'honesty'. It is much easier for relationships based on honesty and trust to develop among persons who live with each other over a long period than for partners engaging in *ad hoc* contracts.[131] Similarly, there is likely to be greater scope for successful contractual agreements when the potential partners have a healthy concern for their reputation in the village society. Concern for reputation, for instance, may dissuade labourers from shirking, or employers from engaging in exploitative or violent behaviour.[132] Although 'reputation effects' may operate, to some extent, across villages, they are obviously much stronger at the village level.

The near-absence of inter-village trade in key production factors does not necessarily imply that Palanpur should be regarded as a 'closed economy' as far as these factors are concerned. In the case of labour and credit at least, a certain amount of regular exchange occurs with nearby towns (especially Chandausi and Moradabad). And, since most villages in the area also trade with the towns, extensive rural-urban links also lead to some implicit inter-village arbitrage. Thus, if the labour market

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[130] See chapter 9 for further discussion. The only village moneylender who lends in Palanpur without residing there, Vishnu Dutt of Ari Khera, always demands a large collateral, and often uses the threat of physical violence (a threat which, in his case, is highly credible) to enforce recovery. This kind of behaviour would be very unusual for resident moneylenders.

[131] The only case of breakdown of a tenancy contract we know of for 1983–4 involved partners from different villages, who bitterly accused each other of reneging on the initial terms of the contract.

[132] On the importance of reputation effects in labour markets and related contexts, see Akerlof (1984).

within and between each village and the nearest town could be considered as competitive, then the wage rate for daily casual labour in each village should be equal to the wage rate in the nearest town minus the relevant commuting costs. In fact, things are not quite that simple, and the implicit 'integration' of labour and credit transactions that takes place through the intermediation of the urban sector is far from complete. In the case of land and of the services of most farm assets, no such implicit integration operates, since rural-urban exchange does not take place at all.

In sum, when it comes to key production factors, most of the action takes place within the village. The remainder of this section focuses on the village-level institutions and arrangements on the basis of which these factors are exchanged (for a more detailed discussion, see chapter 7–9). For convenience, we take 1983–4 as the reference year for this discussion, in view of the availability of particularly detailed information on contractual arrangements for that year. Since the basic structure of contractual arrangements has remained remarkably stable over the survey period, most of what is said below also applies to the rest of that period.

Agricultural Labour:

As we saw earlier, there is an important distinction between wage employment within and outside the village. Wage employment outside the village usually takes the form of regular or semi-regular jobs in urban establishments. Wage employment within the village consists almost exclusively of casual labour, mainly in agriculture.[133] In 1983–4, agricultural labour accounted for three-quarters of all days worked by casual labourers within the village, with activities related to the construction and maintenance of buildings accounting for most of the remainder. This section focuses on agricultural labour, but much of the discussion also applies to non-agricultural casual labour within the village.

For agricultural labour, most employment contracts take one of three forms: (1) daily-wage contracts, (2) piece-rate contracts, and (3) harvest shares.[134] Under daily-wage contracts, which account for

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[133]   In the early years of the survey period, there were occasional cases of 'permanent labour' (involving long-term contracts) within the village; but permanent labour contracts have gradually disappeared.

[134]   Other types of agricultural labour contracts include exchange labour (now quite rare) and *begar* or uncompensated labour (no longer observable). Little will be lost by ignoring them in this section.

about 60 per cent of all agricultural labour in terms of number of days employed, the labourer receives a fixed money wage for one day of work under close supervision.[135] Under a piece-rate contract, a labourer agrees to complete a given task (e.g. weeding a particular plot of land) for a given sum of money. Harvest-share contracts are used mainly for wheat and sugarcane harvesting, and consist of giving labourers a fixed share of the produce they harvest (e.g. one-twentieth of the produce, in the case of wheat).[136] Formally, harvest shares can be considered as a particular case of piece-rate contracts, with payment in kind rather than in cash.

Daily-wage labour is almost invariably supervised. Supervision standardly takes the form of one or several members of the employer's household working with the hired labourers, with everyone being expected to work at the same pace. Piece-rate labour is usually unsupervised, or subject to loose supervision (e.g. occasional spotchecks by the employer).

Discussions with employers indicate that they have a clear view of the respective merits of piece-rate and daily-wage contracts. The chief advantage of piece-rate contracts, as they see it, is that they obviate the need for close supervision. The problematic side of these contracts is quality control.[137] For instance, a labourer who weeds a field under a piece-rate contract may be tempted to cut the weeds above the root, instead of fully uprooting the weeds, in order to achieve greater speed. Some employers (notably among the Muraos) are quite particular about the quality of the work performed by hired labourers, and make it a point to avoid hiring labourers on piece-rate contracts whenever possible.

The quality-control consideration leads to the prediction that

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[135] In addition, the employer usually provides a mid-day meal. If a meal is not provided, e.g. because the labourer is reluctant to accept food from the employer on grounds of caste, it is replaced by a cash payment (one rupee in 1983–4). When a particular figure is given in this chapter for the level of the daily wage in the village (e.g. Rs 6 in late 1983), it does *not* include the imputed value of the mid-day meal.

[136] According to Mukherjee (1993), 'the one-twentieth share of harvest for wheat is the one that has been dictated by the rules codified in the *wajib-ul-arz*, the code of rules that dictate the customary payments made to various caste groups since the sixteenth century'.

[137] Other considerations may also influence the choice between daily-wage and piece-rate contracts, e.g. the need for speed (usually weighing in favour of piece rates) and the relative costs of getting a particular task completed under alternative contracts.

piece-rate contracts will be confined to particular tasks, for which the quality of work is relatively unimportant or can be easily monitored. This does seem to be the case. Sowing is a good example of a task requiring great care, and for which work quality is not easy to monitor *ex post*; it is almost never carried out under a piece-rate contract. Harvesting, on the other hand, does not involve serious quality-control problems, and for this task piece rates are the standard mode of payment.

An important feature of daily-wage contracts is that all (adult male) labourers receive the same wage — there is no difference in remuneration based on skill or other personal characteristics. Variations around this 'standard wage' can be observed from time to time, e.g. when a labourer is asked to perform a particularly unpleasant task (such as irrigation in cold weather) or to work for unusually long hours; but what is far more striking is the absence of deviation from the standard wage in an overwhelming majority of cases. We also find that this 'standard wage' remains the same (in money terms) for long periods, usually several months, sometimes several years. The uniformity of the wage rate is not a trivial point, given that the abilities and behaviour of different labourers are a matter of common knowledge within the village, and that, for some tasks at least, differences in productivity are not likely to get ironed out by close supervision. The rigidity of the wage rate over time also requires explanation. In periods of low activity, employers prefer to hire the most productive labourers, and it is not immediately clear why the other labourers do not offer to work for a lower wage in order to obtain employment. We shall return to these issues shortly.

Tenancy:

Tenancy plays a major role in Palanpur's agricultural economy, mainly as a convenient means of bringing together the relevant factors of production.[138] In 1983–4, 28 per cent of the total area cultivated by Palanpur households was leased in. Out of a total of 143 households, 38 per cent were leasing in, 48 per cent were leasing out, and only 26 per cent were neither leasing in nor leasing out. Further, leasing was common at all levels of the land ownership

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[138]   The main alternative is wage labour. The fact that tenancy is not entirely displaced by wage labour reflects labour-market imperfections linked with supervision costs, quality control, wage rigidities, and limited tradeability of certain kinds of labour (e.g. female labour); on this and other aspects of tenancy in Palanpur, see chapter 8.

scale, with little overall difference in land ownership between lessees (hereafter 'tenants') and lessors (hereafter 'landlords').

There are two important types of tenancy contracts in Palanpur: fixed cash rents and sharecropping. In 1983–4, they accounted for 11 and 80 per cent of total leased-in area, respectively. Cash-rent and sharecropping contracts usually last for a year, sometimes for a single season. Other contract types, some of which involve long-term arrangements, include fixed kind rents (3 per cent of leased-in area), usufruct mortgage (2 per cent), and special arrangements (3 per cent); we shall ignore them in what follows.

Fixed cash rents are always paid in advance. The amount to be paid is a matter of mutual agreement between tenant and landlord. As has often been observed elsewhere (Hayami and Otsuka 1993), the rent is typically a good deal lower than what a landlord can expect to earn from a sharecropping contract; this makes sense, given high discount rates and the risklessness of cash-rent contracts for the landlord. In a cash-rent contract, it is often the case that the 'landlord' is a relatively poor landowner in pressing need of cash, while the tenant is a well-off farmer, possible a moneylender.

Most sharecropping contracts consist of what is locally known as *batai* (literally 'the act of dividing'). In a batai contract, the output is shared equally between tenant and landlord; so are all inputs, except labour and seeds, which are entirely supplied by the tenant. This basic formula remained unchanged throughout the survey period.[139]

Like daily-wage labour contracts, batai contracts involve standardized contractual terms which do not vary between different tenants or landlords. Tenant and landlord often argue with each other about cropping patterns, input levels, the timing of different tasks, etc., but the sharing formula is taken for granted. Alternative sharecropping arrangements (*tihai, chauthai,* etc.) also involve standardized shares. In a tihai contract, for instance, the tenant receives only one-third of the output; the counterpart of his reduced output share is that he or she is allowed to use the landlord's draught animals.

As discussed in chapter 8, the chief advantages of sharecropping contracts, compared with cash-rent contracts, are that (1) they involve risk-sharing between landlord and tenant, and (2) they also involve an

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[139] The practice of fifty-fifty output sharing is quite widespread in contemporary India. This norm also seems to have a long history, going back at least to the ancient *Arthasastra,* although actual practice seems to have frequently deviated from it.

implicit loan from the landlord to the tenant, since the payment of the rent is delayed until after the harvest. These advantages do not apply when the landowner is less liquid and more risk-averse than the tenant, and this is precisely the kind of situation where cash-rent contracts tend to be used. These situations have become more common over the survey period, and, accordingly, there has been a sustained increase in the incidence of cash-rent contracts.

For future reference, the following features of tenancy contracts in Palanpur are worth noting. First, tenants and landlords are widely distributed in the scales of per capita income, land ownership, caste status, etc. Further, contrary to the cliché that pitches a helpless tenant against an oppressive landlord, the average characteristics of the two groups are remarkably similar. Second, it is common for a tenant or landlord to have several partners, sometimes as many as 8 or 10. Third, there is considerable 'turnover' from year to year, with landlords and tenants re-sorting themselves after the wheat harvest as at the end of a dance; further, the annual changes include some tenants becoming landlords and vice-versa. Fourth, landless households have little access to land through tenancy. This picture of tenancy in Palanpur, while quite similar to that reported in other village studies for Uttar Pradesh, is somewhat at variance with the standard perception of tenancy in the theoretical literature on sharecropping as well as in policy debates; this contrast is discussed in chapter 8.

Credit:

Palanpur households obtain interest-bearing credit from three major sources: formal credit institutions, urban moneylenders, and village lenders.[140] In addition, interest-free credit is sometimes forthcoming from friends, in-laws, patrons, landlords, and related partners.

By definition, the latter represents the cheapest source of credit in financial terms. Interest-free credit, however, is tightly regulated by social norms of obligation and reciprocity. In conventional accounting terms, the cheapest source of interest-bearing credit consists of formal credit institutions. The drawback of these institutions, as far as the borrowers are concerned, is that their mode of operation is highly

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[140]   We avoid the term 'village moneylenders', since village lenders give loans in kind as well as in cash. It is also worth noting that village lenders are a large and diverse group, although only a few of them lend on a regular basis and would qualify for the designation of 'moneylender' in the conventional sense of the term.

bureaucratic and notoriously corrupt; borrowers who are poor, illiterate, or from a disadvantaged caste are special targets of extortion. Urban moneylenders (mainly goldsmiths) are more reliable, but they charge relatively high interest rates (2.5 to 3 per cent per month in 1983–4), and invariably demand a large collateral, typically in the form of jewelry. These limitations of alternative sources of credit explain why Palanpur households, particularly poor ones, often resort to borrowing from village lenders, who charge even higher interest rates than urban moneylenders.

Loans from village lenders are informal arrangements, usually unwritten though often agreed upon in the presence of witnesses. Credit is available both in kind and in cash. Loans in kind are based on a simple system of seasonal lending (locally known as 'deorh') which has remained unchanged throughout the survey period, and, like batai, has a long history.[141] The basic rule is that the amount of wheat borrowed has to be repaid with an interest of 50 per cent in kind after the next wheat harvest. This applies irrespective of the date of borrowing, although most borrowing takes place a little before the wheat sowing season. If a loan is not repaid, it is rolled over to the following year, with compound interest (*byaj pe byaj*); but the repayment rate seems to be very high, even though deorh loans are always unsecured.[142] The borrowers are usually poor agricultural labourers or small farmers, and the lenders are typically large farmers.

Cash loans have somewhat more flexible features. Villagers have a common understanding of what constitutes the 'standard rate' for interest payments on cash loans (5 per cent per month in Palanpur in 1983–4), but there are many possible variations around that standard rate, depending *inter alia* on the personal characteristics of the borrower and the lender as well as on the relationship that exists between them. A cash loan is normally unsecured, but tough moneylenders sometimes demand a collateral (e.g. land or animals) from undependable borrowers. Unlike loans in kind, cash loans can be taken and

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[141] Systems of seasonal loans in kind, identical or similar to the deorh system currently practiced in Palanpur, appear to have been common in north India in the 19th century; see e.g. Pouchepadass (1983) on colonial Bihar, Whitcombe (1972) and the Famine Commission Report of 1880 (Appendix I, p. 194) on Uttar Pradesh, and Brennan *et al.* (1985: 10) on Bengal.

[142] In a sense deorh loans are secured by the borrower's harvest (or his harvest wages, if he is a landless labourer). Indeed, some lenders do not hesitate to press an immediate claim on the borrower's harvest at the time of reaping or threshing, if they fear default.

repaid at any time of the year. Interest applies at a simple rate. Default is not frequent, but it does occur from to time to time, and is a matter of concern for the lenders. Ability to assess creditworthiness and to enforce recovery is one of the crucial personal characteristics of a successful lender.

Farm Assets:

In Palanpur, standard arrangements exist for hiring the services of a number of farm assets. These assets include Persian wheels (still common in 1983–4), pumpsets, threshers, bullock carts, and, more recently, tractors. It would be tedious to spell out and discuss all the relevant arrangements. For specificity, we concentrate here on irrigation devices — Persian wheels and pumpsets.[143]

A Persian wheel consists of a chain of buckets installed vertically inside an open well, linked by cogwheels to a large horizontal handle at the top. When bullocks are harnessed to this handle and driven round and round, the buckets go up and down, lifting water at the bottom of the well and pouring it out at the top. Children are often used to drive the bullocks. In addition, at least one adult (usually the owner of the plot being irrigated) is required to monitor and direct the flow of water through the field. It takes approximately five hours to irrigate one bigha of land with a Persian wheel.

Persian wheels are hired at a standard rate per bigha irrigated (Rs 3 per bigha in 1983–4). The person who hires the Persian wheel has to operate it herself, with her own draught animals and family labour.[144] It is interesting that the same rate is charged by each owner to every user, despite the fact that owners of Persian wheels have some (differentiated) local monopoly power, in so far as many of their customers have no access to alternative irrigation devices. It is also interesting that the common rate does not vary seasonally, even though the marginal productivity of irrigation is probably much greater in the rabi than in

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[143]   Hiring arrangements for other farm assets are comparatively straightforward. For instance, in 1983–4 the services of a mechanized thresher could be hired from any owner at the rate of 8 kg of grain per quintal threshed; ploughing cost Rs 4 or 5 per bigha depending on the technique used (e.g. tractor vs bullocks, and improved vs traditional plough); and sugarcane could be transported on a bullock-cart to the nearest sugarcane factory for a payment of Rs 2 per quintal.

[144]   For all other farm assets, it is the owner who operates; the difference with Persian wheels is that, being very robust, they are not vulnerable to poor maintenance (like threshers or tractors) or bad treatment (like draught animals).

the kharif season: during the kharif season, a cultivator who is unable to irrigate always has some hope that the rains will save his crops, but rabi cultivation without irrigation is not a productive venture. Altogether, it seems that Persian wheel owners make little use of opportunities for price discrimination. This may be seen as a particular application of the principle of standardization of contracts, to be discussed shortly.

A 'pumpset' (or 'pumping set') is a small diesel engine supplemented with a pump, which can be carried around on a bullock-cart, and attached to any bore for irrigation purposes. A bore is a fixed metal pipe drilled vertically into the ground; landowners usually install them near one of their larger plots. The services of a pumpset can be hired at a standard hourly rate (Rs 10 per hour in 1983–4).[145] Of this, one rupee goes to the owner of the bore, and the rest to the owner-operator of the pumpset.

Owners of bores are in a position similar to that of Persian wheel owners, and it is interesting that, here again, the hiring charge is not only the same for each transaction (despite some potential for price discrimination) but also quite low in relation to the marginal benefit which a user derives from being able to irrigate. Things are a little different for pumpsets, whose ownership does not impart any monopoly power since any pumpset can be attached to any bore. We estimate that fuel costs in 1983–4 were of the order of Rs 5 per hour, leaving a margin of Rs 4 per hour to the owner-operator. From this, we have to deduct the cost of wear and tear, for which a reasonable back-of-the-envelope estimate is Rs 2 per hour. This implies that owner-operators earn about Rs 2 per hour when they hire their pumpset. This is roughly twice the effective hourly wage rate earned by casual agricultural labourers (also in 1983–4). At that rate, we expect most pumpset owners to be eager to hire out in normal circumstances. This is consistent with our direct observations for 1983–4, which suggest that the services of pumpsets are readily available at the going price during most of the year. However, there are also short spells of excess demand at times of peak irrigation activity. The fact that the

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[145] It takes about one hour, on average, to irrigate one bigha of land with a pumpset. Thus, the cash cost of irrigation (per bigha) is more than three times as high for pumpsets as for Persian wheels. Pumpsets, however, require less labour per bigha irrigated than Persian wheels, and no animal labour. Speed of completion is another advantage of pumpsets, which can be important in some circumstances.

standard price of Rs 10 per hour applies throughout the year leaves no room for adjustment to seasonal fluctuations in demand.

The issue of how hiring charges for irrigation devices are determined is quite intricate.[146] In the case of pumpsets, there is a fair amount of competition among users and suppliers, and no obvious basis for (or evidence of) large and sustained deviations of hiring charges from the competitive price. One still has to explain, however, (1) why changes in hiring charges over time have taken the form of particular discrete increases at relatively distant intervals (from Rs 3.5 per hour in the early 1970s to Rs 5.5, then Rs 8, then Rs 10 in 1983–4), rather than of more continuous adjustments, and (2) the absence of seasonal adjustments in hiring charges. In the case of Persian wheels and bores, a further complication is the need to explain why the owners apply standard hiring charges, despite possessing some local monopoly power.[147] Some general observations on these features of contractual arrangements in Palanpur will be presented further in this section; we leave it to Joe Stiglitz and others to develop a full solution of these exciting puzzles.

The emergence of active markets for the services of a wide range of farm assets is a significant aspect of economic change in Palanpur over the survey period. On the positive side, these arrangements have facilitated investment in indivisible assets, and have made the services of these assets accessible (at a price, of course) to non-owners. On the negative side, the rapid expansion of energized irrigation devices has accelerated the depletion of groundwater resources. Both aspects will receive further consideration in chapter 2.

4.5 On Contractual Arrangements

Standardized and Personalized Contracts:

Contractual arrangements in Palanpur can be divided into two broad types (see Table 13). Some

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[146] On this, see also Bliss and Stern (1982), chapter 4.   The pricing of private irrigation services in rural India is also discussed in the growing literature on 'water markets' (see e. g. Shah 1989, Bhatia 1993,   Palmer–Jones 1993,   and the literature cited there).

[147] One interesting line of explanation starts from the observation that there are aggregate efficiency gains in keeping hiring charges for irrigation devices close to their marginal cost, which is low in the case of Persian wheels and bores (basically some wear and tear). Further, most farmers depend on the use of other people's Persian wheels and bores for irrigating at least some of their plots. Thus, there may be substantial and widely-distributed gains from observing a social norm which prevents owners of bores and Persian wheels from charging monopoly prices — a form of 'generalized reciprocity'.

Table 13 : Contractual Arrangements in Palanpur: November 1983

	'Standardized' contracts	'Personalized' contracts
Tenancy	Batai (50–50 sharing of output and non-labour inputs)	Fixed cash rent (peshgi)
	Other share contracts (tihai, chauthai, etc.)	Fixed kind rent
Labour	Daily wage (Rs 6/day + meal)	Piece rates
	Harvest share (e.g. 1/20 for wheat harvest)	
Credit	Kind loans (deorh)	Cash loans[a]
		Usufruct mortgage
Farm assets[b]	Hire of pumpset (Rs 10/hour)	
	Hire of Persian wheel (Rs 3/bigha)	
	Hire of thresher (6% of amount threshed)	
	Hire of bullock-cart for sugarcane transport (Rs 2/quintal)	

[a] Cash loans are standardized to some extent, but there is scope for variation in interest rates and other contractual terms between different partners.

[b] Except for Persian wheels, the farm assets listed here are always operated by the owner; thus, strictly speaking, the *services* of these assets are being hired, rather than the assets themselves.

contracts, which may be called *standardized contracts,* have the feature that the same contractual terms apply irrespective of the identity of the partners involved. For instance, a daily-wage employment contract involves the payment of a standard sum of money (e.g. Rs 6 in November 1983, in addition to the mid-day meal) for a standard number of hours of work; there is no question of paying different wages to different (adult male) labourers. Similarly with a batai lease, a deorh loan, or the hiring of a Persian wheel, all of which involve non-negotiable contractual terms. Other contracts, which may be

called *personalized contracts,* involve contractual terms that vary between different partners, and are often the object of explicit bargaining. Examples of personalized contracts include cash-rent tenancy, piece-rate labour contracts (excluding harvest shares) and, to some extent, cash loans.

In understanding this dichotomy, the first thing to note is that some contracts are intrinsically hard to standardize. Cash rents, for instance, have to take into account the quality of the land (unlike sharecropping, which involves some built-in response of the effective rent to land quality).[148] Similarly, many piece-rate labour contracts have to be adjusted to the precise nature of the work; for instance, weeding contracts have to take into account the density of weeds in the relevant field. As a first approximation, it can be said that the tendency is to standardize, if possible, and that most personalized contracts are simply contracts that happen to be hard to standardize.

In some cases, there is nothing special about the fact that contracts are standardized. After all, competition for a homogeneous product would lead to exactly that. This model approximately applies, for instance, to the hiring of pumpsets. In 1983–4, there were as many as 27 such pumpsets in the village, all near-perfect substitutes for each other since they were designed in much the same way and could be carried around and attached to any bore. In these circumstances, it would have been surprising if any pumpset owner had succeeded in hiring out his pumpset for a higher price than the other owners.

Standardized contracts, however, are less easy to explain when the content of the transaction is affected by known personal characteristics such as productivity (for labourers), skill (for tenants), creditworthiness (for borrowers) and willingness to pay (for the users of Persian wheels). In many cases, one would have expected these personal characteristics to have an influence on contractual terms. The more common pattern, however, is that uniform contractual terms apply despite the heterogeneity of personal characteristics. This requires explanation.

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[148] There could, in principle, be a standard 'scale of rents', specifying the standard rent as a function of land quality; in practice, however, this abstract concept would be difficult to apply in Palanpur. Note also that the built-in response of sharecropping contracts to land quality is only partial: if shares were quality-specific, the higher-quality land would normally fetch a higher output share for the landlord (this is a condition for tenants to be indifferent towards whether they are leasing-in good land or bad land).

Before we address this issue, we must qualify the notion that standardized contracts are widespread, in two respects. First, a particular contract may seem to be standardized in terms of some accounting convention, but not in terms of another. For instance, harvest shares are standardized in the sense that every labourer gets one-twentieth of what he or she harvests. In terms of the money value of daily earnings, however, this arrangement implies wide inter-personal variations, since the more productive labourers are able to harvest a good deal more (often two or three times as much) in one day than the less productive ones. The fact remains that standardized contracts are uniform with respect to *some* simple accounting convention, while personalized contracts are not.

Second, it may be useful to make a broad distinction between what might be called 'primary' and 'secondary' contractual terms. Primary contractual terms are the most basic and obvious aspects of a contract, and they are the first ones to be standardized. Secondary contractual terms are more incidental aspects of a contract, not always standardized. To illustrate, in a sharecropping contract the agreed output and input shares may be regarded as the primary contractual terms. Secondary contractual terms include the provision of farm-yard manure by the tenant, which most landlords in Palanpur insist on (the standard rate is one cart-full of manure per bigha). In a daily-wage contract, the level of the wage and the provision of a meal by the employer are primary contractual terms; the possible provision of free *bidis* by the employer is an example of secondary contractual terms.

The point of this distinction is that sometimes a contract looks highly standardized because the primary contractual terms are uniform, but closer examination of secondary contractual terms reveals some significant responsiveness to personal characteristics.[149] Having said this, the room for adjustment provided by secondary contractual terms is usually quite small. The value of a free bundle of bidis, for instance, was less than 5 per cent of the standard daily wage in 1983–4. This is nibbling at the margins compared with the large variations that can be observed (both inter-personally and over time) in personalized contracts.

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[149] A similar argument is given in Robertson (1987) with reference to sharecropping in Africa, and in Rogaly (1993) with reference to agricultural labour in West Bengal.

Motives for Standardized Contracts:

The widespread reliance on standardized contracts in Palanpur contrasts with the common notion (widely applied, for instance, in the literature on 'interlinkage') that major transactions in a village economy are typically personalized. The basis of this common notion seems to be the assumption that, in a face-to-face economy where partners in economic transactions know each other well, contractual terms are likely to be responsive to personal characteristics. In reality, the fact that everyone knows everyone else so well in a village economy works both ways: it makes personalized contracts possible, but it also makes such contracts socially less acceptable than they would be in an anonymous economy.

Indeed, personalized contractual terms for comparable transactions are often considered as a form of 'discrimination', which demands principled resistance from the less favoured parties, and may also generate resentment among other members of the village community. For instance, a situation where two adult males work for the same number of hours but receive different wages would be considered as intolerable by the lower-paid labourer; self-respect demands rejection of the offer.[150] Similarly, should the owner of a Persian wheel decide to charge different prices to different users (e.g. a higher price to those whose plots are out of reach of alternative irrigation devices), those who are asked to pay a higher price would strongly resist this attempt to 'take them for a ride'. The owner would also take the risk of acquiring the reputation of a greedy and avaricious person, leading to some general loss of goodwill in the village society.

Aside from this issue of perceived fairness in individual situations, there may be good practical grounds for collective resistance to personalized contractual terms, relating for instance to their broader distributional implications. Wages, rents, interest rates, etc., are not just allocative signals; they are also crucial determinants of the distribution of income between different social groups. These different groups often have a collective interest in colluding (explicitly or implicitly) to prevent adverse shifts in wages and prices. And collusion is

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[150] Palanpur villagers, of course, are used to—and accept—all sorts of discrimination, e.g. based on caste and gender. The crucial question is whether or not the relevant differences of treatment are perceived as 'legitimate'. While wage discrimination between adult males is not tolerated, for instance, the fact that female casual labourers receive lower daily wages than men for the same amount of work is considered as perfectly natural.

hard to achieve if these wages and prices are personalized.[151] Standardized contracts, on the other hand, give clear expression to group solidarity, and provide a useful focus for distributive battles.

A further consideration is that there may be widely-shared efficiency gains from the standardization of contracts, such as a reduction in the economic and social costs of repeated haggling (including the possibility of failure to reach an agreement).[152] Standardized contracts also reduce uncertainty, to the extent that they are relatively stable over time, as will be seen in the next section.

Finally, the resilience of standardized contracts is easier to understand if we remember that, in many cases, they coexist with flexible personalized contracts for the same services (or close substitutes) which alleviate the rigidities associated with standardization. For instance, a male labourer who is considered as weak and unproductive, and who is unable to find work at the going daily wage, often has the opportunity of obtaining work on piece rates. The fact that piece-rate contracts, being hard to standardize for most tasks, are open to bargaining between individual employers and labourers, makes it possible for him to compete with the more productive labourers on the piece-rate market.[153] In the absence of this alternative contractual option, there would be greater pressure on him to disrupt the prevailing daily wage norm by accepting a daily wage lower than the standard wage.

The Rigidity of Standardized Contracts:

The stability of standardized contracts over time is quite striking, especially in contrast with the flexibility of personalized contracts. In Palanpur, the basic terms of batai leases, deorh loans, and harvest shares have remained the same throughout the survey period; and, as we saw earlier, at least some aspects of these customary arrangements (e.g. the equal sharing of output between tenant and landlord) seem to have deep historical roots. Even the standard daily wage for casual agricultural labour, which is

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[151] The word 'collusion' has a somewhat negative ring. Commenting on the uniformity of daily wage rates in Indian village economies, Ashok Rudra (1982a) prefers to see it as a symptom of 'class consciousness', and Karin Kapadia (1993) as an expression of 'mutuality' among labourers.

[152] For interesting arguments along these lines, including the notion that 'norms of equity increase efficiency by coordinating people's expectations and reducing the transaction costs of bargaining' (p. 129), see Young (1994), chapter 7.

[153] For a formal analysis of the coexistence of daily-wage and piece-rate contracts in agrarian economies, see Baland, Drèze and Leruth (1996).

bound to change from time to time if only to adjust for increases in the level of prices, remains constant for surprisingly long stretches of time: it was Rs 6 from November 1983 until April 1984, then Rs 8 for a period of about two years, then Rs 10 for another two-year period. The daily wage in Palanpur shows little responsiveness to seasonal and other short-run changes in labour demand and supply.[154]

Where collusion is a strong factor, the standardization of contracts and their short-run rigidity can be seen as two sides of the same coin: for instance, implicit collusion among labourers may explain both the existence of a uniform daily wage and the downward rigidity of the daily wage during the slack season (see chapter 7). It is also possible that standardization is the primary fact, of which the rigidity of standardized contracts over time is largely a consequence. Consider, for instance, the case of wage payments during the slack season. Piece-rate contracts for most tasks are personalized, and an unemployed labourer has no strong reason to refuse working for a low rate, as long as that rate is above his 'reservation wage' for the relevant task. In the case of daily-wage contracts, however, a labourer who is offered employment at a wage lower than the standard wage has to consider the consequences of *disrupting the current wage norm*. In particular, he has to consider the possibility that the standard daily wage will fall (e.g. because employers take his acceptance of a lower wage as a 'signal' that a lower wage standard can be enforced in the village as a whole).[155] This would defeat his attempt to obtain a greater share of available employment, since his ability to compete with other labourers is not very different at the lower wage than at the initial wage.[156] A decline in the standard wage would also expose him to resentment from fellow labourers, possibly leading to

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[154] Rudra (1982a) also observes that money wages in West Bengal villages tend to remain the same over extended periods, and to change in discrete steps. Two qualifications are in order. First, the *real* wage for daily-wage employment is less rigid than the money wage: it declines a little during the slack season, which is a time of high prices, and rises at harvest time. Second, some seasonal wage adjustment does take place in the form of a changed incidence of different contract types, e.g. the switch from daily wages to harvest shares at harvest time. These qualifications do not obviate the need to explain the rigidity of the money wage over extended periods.

[155] This observation is not new. The Famine Commission of 1898, for instance, notes that in some places 'they [the labourers] have obstinately refused to work for cash wages below the customary rate, for fear that such a rate would then be permanently reduced' (Government of India 1898: 295).

[156] In fact, his ability to compete is likely to improve marginally, to the extent that some labourers may withdraw from the labour force at the lower wage.

various kinds of informal sanctions. In many circumstances, the risk will not be worth taking, unless the labourer in question is absolutely desperate. As will be seen shortly, these considerations seem to be very real for unemployed labourers; and similar considerations are likely to apply in the context of, say, tenancy and credit contracts.

There is another important reason why standardized contracts easily lend themselves to staying rigid over long periods of time. Consider, for instance, the case of credit contracts. The typical situation is that, at the going rate, some borrowers (or potential borrowers) would like to obtain more credit, but are unable to do so because they are not considered creditworthy by village lenders; while, at the same time, some lenders (or potential lenders) are unable to lend as much as they would like to the 'better' borrowers. In that sense, there is *both* excess demand and excess supply, and in such a situation it may be hard to say whether the prevailing interest rate is 'too high' or 'too low'. For the same reason, there may be no clear market force in the direction of an increase or decrease in the going rate.

There is no need to decide here whether the standardization of contracts and their rigidity over time have a common root, such as collusion, or whether one leads to the other. At this stage, our concern is to recognize that these two features of contractual arrangements tend to go together. Their implications call for further comment.

Standardized Contractual Terms and Quantity Rationing:

Let us now accept that many contractual arrangements for crucial production factors are standardized (and also relatively rigid over time), despite pronounced heterogeneity in relevant personal characteristics. Several implications of this aspect of the village economy are worth mentioning. In the following, for the sake of simplicity, we take sharecropping as the reference contract. We assume, to start with, that tenants are heterogeneous in terms of farming skills (some are more productive than others), but that landlords are homogeneous in terms of all the relevant characteristics, including the quality of their land.

The first implication of standardized contracts is rationing. For any given pattern of standard input and output shares, the most productive tenants will be in excess demand, and/or the least productive ones will fail to obtain land on lease.[157] More generally, we can say that one implication of standardized *prices* is personalized *quantities*: everyone

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[157] Some of the least productive tenants may take land on cash rent, if they have a sufficiently low discount rate and are not too risk-averse.

trades on the same terms, but the extent to which someone experiences quantity rationing depends on his or her personal characteristics.

Second, 'excess supply' may coexist with 'excess demand', in the sense that both types of rationing apply simultaneously to different persons: some landlords find themselves leasing out less land than they would if they were able to attract the more productive tenants, while some tenants are unable to obtain land because they are not considered as attractive partners by the landlords. As a corollary, it may be impossible to say whether, considering the village economy as a whole, there is excess demand or excess supply for a particular factor.

Third, rationing of tenants is likely to take the specific form of the least productive tenants being unable to obtain land. For labour contracts, the corresponding prediction is that the least productive labourers are more likely to remain unemployed.[158] Generally, standardized contracts make it particularly difficult for the most disadvantaged persons to participate in economic exchange. This does not imply that a switch to personalized contracts would be to their advantage, since they may also share in some of the benefits associated with standardized contracts, e.g. the possibility of collective resistance to wage cuts in the slack season.

Fourth, if there is also some heterogeneity among landlords (e.g. in terms of the quality of their land), one may ask whether particular tenants are likely to associate with particular landlords. A plausible hypothesis is that the most productive tenants will tend to 'match' with the owners of the most productive land; this, indeed, is in their mutual interest.[159] The least productive tenants will have to be content with low-quality land, if they are able to obtain any land at all.

Fifth, given that the standardization of contractual terms leads to some individuals being rationed, and deprives them of the opportunity to compete by offering concessionary contractual terms to their potential partners, alternative means of competition may develop. For instance, some landlords may try to attract productive tenants by allowing them to pay their share of input costs at harvest time, or by making other concessions relating to 'secondary contractual terms'.

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[158] This has also been noted by Rudra (1982a) and Pal (1994) with reference to West Bengal and the ICRISAT villages, respectively.

[159] There is an interesting analogy here with the role of 'positive assortative mating' in economic analyses of marriage (see e.g. Becker 1981). The positive qualities of landlord and tenant can be seen as complementary inputs, leading to the prediction that the 'better' landlords and tenants will seek each other.

Similarly, a large landowner may secure a privileged claim on the services of a particularly productive or reliable labourer by developing some kind of patron-client relationship with him (based, for instance, on interest-free lending). 'Interlinked' transactions of various kinds may also play a similar role.

Sixth, the rigidity of standardized contractual terms often creates an incentive to 'bypass' such contracts altogether by resorting to alternative arrangements for the same transactions—arrangements that are not bound by the same rules. For instance, exchange labour is occasionally used as a means of avoiding the need to pay the standard wage rate during the slack season. A similar purpose is served by the special arrangements available for harvesting sugarcane, also during the slack season (see Drèze and Mukherjee 1989).

Seventh, standardized contractual arrangements create a premium on anything that provides some protection against rationing. In particular, it enhances the benefits deriving from ownership of productive assets (as opposed to reliance on hiring arrangements). For instance, owners of diesel pumpsets are not exposed to the risk of being unable to find a pumpset for hire at times of peak irrigation activity. Generally, hiring arrangements are not a perfect substitute for the services of owned resources.[160]

Each of these inferences (and all the illustrations we have given) are entirely consistent with our observations in Palanpur.

Alterations of Contractual Norms:

Since rationing is an inherent characteristic of allocation under standardized contracts, market-clearing contractual terms for such contracts may fail to exist. On the other hand, there may be many equilibria with rationing. This basic consideration helps to understand the short-run rigidity of standardized contracts, and the resilience of customary arrangements such as batai leases and deorh loans. The latter may be interpreted as contractual arrangements that are no less plausible than other arrangements from an allocative point of view (in the absence of market-clearing contractual terms), and have specific advantages such as being perceived as 'fair' or being a 'focal point' in the space of contractual terms.[161] And

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[160] This is one reason, among others, why the production and consumption decisions of farm-households cannot be 'separated'; on this point, see also the appendix to chapter 8.

[161] On the notion of focal point, see Schelling (1960) and Sugden (1986) ; see also Young (1994: 124–7) for a discussion of more recent investigations of the relevance of this notion in bargaining situations.

yet, the terms of standardized contracts do change from time to time (even the batai contract underwent substantial modification during the survey period with the introduction of extensive input-sharing). This raises the question—how *do* standardized contractual terms change over time?

A useful starting point is to recognize that, when a change occurs in the accepted terms of a particular contract (e.g. the daily-wage labour contract, or the 50–50 sharecropping contract, or the deorh contract for kind loans), *someone* is bound to have taken the first step in breaking the earlier norm. In Palanpur, there is no explicit collective bargaining between employers and employees, or between landlords and tenants, and even less between borrowers and lenders. When the current norm is violated, there is usually an identifiable pair of individuals who have agreed, for some reason or other, to trade on non-standard terms.[162] Identifying when and how this 'first move' took place can help us to understand changes in contractual norms over time. Some examples follow.

(1)   During the 1983 kharif season (just before we began our field work for the 1983–4 survey), the daily wage rate for agricultural labour in Palanpur fell from Rs 7 to 6. This happened as follows. Mahavir is a landless Jatab labourer who lives from hand to mouth, and has the reputation of being rather unreliable and prone to shirking. Being widely regarded as a second-rate labourer, he obtained very little work during the slack period of the kharif season. One day Mohan, one of the few large landowners in Palanpur who hire labour almost every day, told Mahavir that if he was willing to work for Rs 6 rather than Rs 7, he would be hired regularly during the next three months. Surrendering to the pressure of immediate need, Mahavir accepted, notwithstanding the resentment of other labourers. From then on, employers refused to pay more than Rs 6 per day.

(2)   The recent upward shift in the standard interest rate on cash loans (from 3.5 to 5 per cent per month) seems to have followed a similar pattern. As far as one can tell from the available data, the first loan bearing an interest rate of 5 per cent per month was given in 1982 by Gulabo, Palanpur's leading moneylender. The borrower was Sadari,

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[162] A related observation is that alterations of accepted contractual norms usually take the form of *discrete* changes. We have already noted this for agricultural wages and pumpset hiring charges. Similarly, the going interest rate on cash loans increased from 3.5 to 5 per cent per month at one go, sometime around 1982.

a Muslim landless labourer who is also one of the poorest persons in Palanpur. Sadari reported taking this loan to pay for his own marriage. He also explained that, being a destitute labourer, he had faced great difficulties in finding a wife, and had eventually resorted to the humiliating procedure of 'buying' a woman from a distant village in eastern Uttar Pradesh.[163] It is plausible that Sadari, desperate to get married, and unable to obtain a loan at the going interest rate, was the first person to yield to Gulabo's inflated demands, and that this precedent was instrumental in setting a new norm.

(3) We have no first-hand experience of a change in the terms of sharecropping contracts, but we did hear an interesting story from the headman of Ari Khera, a nearby village. He explained that, in the early 1980s, many former tenants gave up cultivation to work outside the village. This enhanced the bargaining power of the remaining tenants, who succeeded (without resorting to collective bargaining) in persuading landlords to pay for half of the seed costs, in contrast with the traditional arrangement—still applicable in Palanpur—whereby the tenant has to provide the seeds.

(4) We have heard several stories of individual employers being constrained to deal with a temporary shortage of labour by offering a higher wage, at the risk of antagonizing other employers.[164] This often leads to an increase in the standard wage, but here is an instance where the latter did not happen. In late November 1986, the daily wage rate was Rs 8. Sometime during the period of peak sowing activity, when labour demand is relatively high, a Thakur landowner found himself in urgent need of agricultural labour, but no one was available for work. He eventually turned to Roop Chand, a Jatab farmer who normally avoids agricultural labour. Roop Chand demanded Rs 9, and the landowner eventually agreed. For a short while after that, many labourers made the same demand, and some actually obtained Rs 9. However, as labour demand fell again towards the end of the sowing period, employers succeeded in reasserting the eight-rupee norm.

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[163] This last-resort method of finding a wife is not uncommon among the very poor in rural north India; there are several other examples (including Sadari's brother) in Palanpur itself.

[164] In May 1984, for instance, two landowners simultaneously decided to install a new bore on their land. This required hiring a total of about 8–10 labourers for several days, at a time when many people were still busy with post-harvest operations such as threshing and storage. The labourers demanded Rs 8 per day, instead of the standard Rs 6. The landowners accepted, and thereafter the standard daily wage remained Rs 8 for about two years.

These examples essentially suggest that two conditions have to be met for standard contractual terms to be altered. First, there must be a form of market pressure (e.g. a pronounced imbalance between supply and demand), which makes the current norm difficult to sustain. Second, a specific situation has to arise where two partners have a strong incentive to violate the current norm (even at the cost of some loss of reputation and goodwill in the village society), which acts as a catalyst of this market pressure. On its own, this story does not predict what contractual terms will turn out to be in a particular economic environment. But this is an understandable limitation, since contractual norms are to some extent 'path-dependent'.

The preceding remarks are, to some extent, trivial, and Palanpur farmers would be astonished if they knew that the little stories we have just told are worth publishing under a distinguished imprint. One reason why they may be worth telling is that the obvious inadequacy of the simple perfect-competition model of exchange as a description of the village economy has led to a proliferation of alternative theories that are, in many cases, over-complicated. We submit, for instance, that a simple combination of medium-term response to supply and demand with some short-term rigidity is quite adequate to understand real wage movements in Palanpur. Further, the short-term rigidity can be plausibly understood as a form of implicit collusion or solidarity (among labourers or employers, as the case may be).[165] If this simple model remains understudied, it is partly because the absence of formal bargaining institutions in rural labour markets has led many observers to overlook the possibility of implicit collective action, and perhaps also partly because the dominant theoretical tools (such as the principal-agent model), notwithstanding their general merits, are not always well suited to analysing the social dimensions of labour contracts. This has led to much energy being expended in a vain search for the Holy Grail of nutrition-based efficiency wages and other theoretical artefacts.[166] Focusing on the wage rate as a short-term social norm may hold greater promise of enlightenment.

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[165] The same interpretation is put forward in Anindita Mukherjee's contribution to this book; on the importance of labour solidarity in Indian villages, see also Rudra (1982a), Datt (1989), Kapadia (1958), Jha (1995).

[166] On the empirical relevance, or rather lack of it, of nutrition-based efficiency wage theories in rural India, see also Bliss and Stern (1978b, 1982), Walker and Ryan (1990), and Swamy (1993). Some theories, of course, do give ample recognition to the social dimensions of labour contracts; in particular, the notion of the wage rate as a social norm has been insightfully explored by Akerlof (1984: chapter 5), Osmani (1990), and Datt (1996), among others.

Interlinkage and All That:

Interlinkage has come to be widely regarded as a possible 'key to understanding many features of traditional economies' (Basu 1984, p. 149). In contrast with this assessment, interlinkage in Palanpur is conspicuous by its absence.

Sharecropping contracts, of course, may be interpreted as excellent examples of interlinked transactions (involving labour, credit, etc., in addition to land). On the other hand, the interlinkage of sharecropping contracts with *other* major transactions is rare in Palanpur, and the incidence of labour-credit interlinkage is also very low. For instance, out of 106 households with at least one or more tenancy partners in 1983–4, only 23 had a credit contract with any of these partners; and, of course, even these credit contracts are not necessarily 'interlinked'. Similarly, among casual labourers, only eight per cent of employment days in 1983–4 were spent working for an employer who was also a credit partner.[167]

We did have a few interesting examples of arrangements that could be interpreted as interlinkage. For instance, there is one case of informal patronage relationship whereby a large landowner gives regular employment and interest-free loans to a quasi-landless labourer in exchange for loyalty. There is also one significant example of credittenancy interlinkage: Nisar, one of Palanpur's regular moneylenders, often cultivates the land of his debtors in lieu of interest payments (this may be described as 'usufruct mortgage'), or leases it out—sometimes to the owner! Interesting as they are, however, these arrangements play a minor role in the village economy as a whole.

How does this picture compare with related findings elsewhere in India? On this, several remarks are due. First, there are pronounced interregional variations in the incidence of interlinkage, as one would expect. Some studies, like ours, find little or no evidence of interlinkage, but this may not be a general pattern.[168] Second, a good deal of alleged evidence of interlinkage is no evidence at all. Often, the 'evidence' consists of showing that, over a certain period, two persons have transacted in several markets (e.g. a labourer has taken a loan

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[167] For further discussion of the evidence, see Sharma and Drèze (1990).

[168] For examples of such studies, see Jodha (1981) on the ICRISAT villages, Chen (1989, 1991) on a village of Gujarat, and Taslim (1988) on Bangladesh. For some interesting cross-regional evidence, see Bardhan and Rudra (1978) and Bell and Srinivasan (1989).

from his or her employer). Even in the absence of interlinkage, however, such patterns would be frequently observed. Most accepted definitions of interlinkage (e.g. Basu 1984, p. 149; Bell 1988, p. 797) require that the contractual agreements in question should be reached *simultaneously,* which is a much stronger requirement. The distinction is not trivial, partly because there are many situations where the relationship between two persons is such that it makes sense for them to engage in multiple transactions over time without these transactions being necessarily interlinked in the conventional sense of the term. And even in the absence of special relationships, non-simultaneous transactions on different markets between the same partners are bound to be observed over time in a small village economy. Third, actual evidence of simultaneous contractual agreements almost invariably take the form of *credit* being linked with some other transaction. Examples include a labourer taking an advance on future wages, a landlord agreeing to recover the tenant's share of input costs at harvest time, and a farmer borrowing from a grain trader on the understanding that the latter has a first claim on the farmer's postharvest sales. Following on this observation, we suggest that 'quasi-collateral arrangements' is a more helpful term for most of the transactions that pass for interlinkage. A farmer who borrows from a trader against future sales, for instance, effectively uses his or her crop as a quasi-collateral. There is no great advantage in obscuring the operation of this fairly transparent arrangement by using the term 'interlinkage', with all its irrelevant connotations. On the whole, empirical evidence of the pervasive role of interlinkage in Indian village economies is rather slim as things stand, despite the possible importance of interlinked contracts in specific contexts.

A Remark on Theory:

The literature on contractual arrangements in agrarian economies has made extensive use of two closely-related notions of modern institutional economics—transaction costs and imperfect information.[169] In the preceding discussion of contractual arrangements, we have also made frequent use of these basic notions. Not to do so would be obscurantism, given their obvious and pervasive relevance in Palanpur's economy. We might add that, in our discussions with Palanpur villagers, we were often struck by their

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[169] For useful reviews and assessments of this literature, see Stiglitz (1988), Nabli and Nugent (1989a), Bardhan (1989b), Hoff and Stiglitz (1990), Dasgupta (1993), Hayami and Otsuka (1993), Hoff *et al.* (1993).

sharp understanding of many of the issues that have been analysed in this literature. Most of them are quite conversant with notions such as labour incentives, moral hazard, and risk-sharing, even if they use less formal terms for these and related concepts (e.g. *dekhidekha* for Bayesian learning).

In this and other ways, our findings are consistent with the hypothesis, central to much of the literature in question, that 'institutions adapt to reflect. . .information (and other transaction) costs' (Stiglitz 1988: 100). Having said this, contractual arrangements and agrarian institutions also seem to have many features that cannot be entirely accounted for in those terms. A full understanding of the gender division of labour in Palanpur, for instance, requires a much broader framework (the fact, say, that a Thakur woman's honour is compromised if she works outside the house can only be tautologically described as a transaction cost). Even to understand the structure of casual-labour contracts, we have to go much beyond considerations of imperfect information and transaction costs. While these notions can be very helpful, for instance, in analysing the choice between daily-wage and piece-rate contracts, understanding the resistance of labourers to wage cuts during the slack season calls for a different line of reasoning, focusing *inter alia* on distributional conflicts between employers and employees.[170]

Similar remarks apply in the context of sharecropping. The literature on sharecropping has built heavily on the imperfect information paradigm (and vice-versa), mainly within the principal-agent framework.[171] That approach has been extremely productive in enhancing our understanding of many aspects of sharecropping, such as the role of incentives and risk-sharing. At the same time, the principal-agent model misses some important features of tenancy contracts, such as the partnership aspects of the relation between tenant and landlord (on this point, see chapter 8). Further, as discussed earlier, the terms of sharecropping contracts (e.g. the batai contract in Palanpur) are really in the nature of social norms, rather than individual bargains, and the collective processes that determine these social norms are somewhat beyond the scope of the principal-agent framework.

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[170] This example illustrates the scope for combining institutional analyses based on transaction or information costs with theories of collective action, a point emphasized by Nabli and Nugent (1989b). For an example of an application of the latter approach to rural labour markets, see Osmani (1988).

[171] For a brilliant survey of this literature, see Hayami and Otsuka (1993).

As a matter of fact, the literature on sharecropping has come up against one or two brick walls that usefully highlight the limitations of the standard framework. One example is the widespread practice of equal sharing of output between landlord and tenant, widely regarded as 'a major theoretical puzzle' (Stiglitz 1988; Dasgupta 1993; Hayami and Otsuka 1993). Attempts to solve this puzzle have included the development of some extraordinary mathematical representations of tenancy contracts which—mercifully—few take seriously.[172] We submit that the answer has to be much simpler and more general. Indeed, equal sharing of output between two partners in a joint income-earning venture (often involving the provision of labour by one of the two partners, and of some productive asset by the other) is a common pattern in north India, which is not restricted to tenancy.[173] This points to the need for a general argument for equal sharing, which is not tied to the specific features of sharecropping.

One such argument builds on the basic observation that the fifty-fifty arrangement has one feature which no other share level possesses —that of symmetry between landlord and tenant. In this connection, it should be remembered that sharecropping is not so much a one-off contract as a *partnership,* involving sensitive joint decisions on cropping patterns and input levels, the sharing of many input costs, some pooling of assets such as irrigation devices, and a great deal of personal interaction over the year around these and other issues. The success of this partnership may be facilitated when a facade of equality is maintained between landlord and tenant. The two partners, of course, are often objectively unequal (e.g. in terms of land ownership and other resources). As discussed in chapter 8, however, the social distance between landlord and tenant in Palanpur is not large 'on average', and nor does it necessarily take the form of the tenant being the disadvantaged party; and similar observations have been made in many—not all—other studies of tenancy in contemporary north

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[172] See particularly Bell and Zusman (1976), Hurwicz and Shapiro (1978), and Allen (1985) ; and, for a sound critique, Hayami and Otsuka (1993).

[173] Here are some examples from Uttar Pradesh: (1) in the Palanpur area, 'share-rearing' of animals involves equal sharing of the sale price (on share-rearing, see also Beck 1994) ; (2) in parts of the hill districts, a village herder is entitled to half of the dairy produce of the herd under his care (Das 1996) ; (3) in Varanasi, a boatman shares his earnings equally with the owner of the boat (personal observation); (4) in Palanpur, if someone hires out transport services using his own bullocks and someone else's bullock-cart, the income is shared equally between the two partners.

India. Against this background, it is quite understandable that many tenants and landlords would resist an arrangement that ostensibly puts them in an inferior position *vis-à-vis* their partner.[174] This argument, of course, may not apply in situations of large and systematic inequalities between landlords and tenants. But these are precisely the situations where one often observes sharing rules that depart from the fifty-fifty pattern.

These comments do not detract from the value of economic analyses of agrarian institutions based on transactions costs or asymmetric information. While these analyses have been the object of various criticisms, the main issue may not be so much to decide whether to accept or reject these analyses as to learn to use them on a discriminating basis, and to *supplement* them with other types of argument. This approach may not lend itself to a convenient technical format, but perhaps that is as it should be.

5. Concluding Remarks

Here ends our little tour of Palanpur. For the benefit of the lazy readers who went straight from the introduction to the concluding section of this long chapter, we now recapitulate some salient features of Palanpur and its economy. First, in terms of agrarian relations, Palanpur is essentially a small-farmers economy. The proportion of landless households (23 per cent in 1993) is relatively small by Indian standards, though not unusual for Uttar Pradesh, and there is no massive concentration of economic or political power among the larger landlords (the biggest landholding in 1993 had less than 15 acres). Second, the bulk of economic activities in Palanpur consist of agriculture, and wage employment outside the village. The latter primarily takes the form of daily commuting to Chandausi, Moradabad and other easily-accessible urban agglomerations. Third, the demographic transition in Palanpur is still at an early stage. The demographic characteristics of the village include high fertility and

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[174] The fact that game-theoretic models of sharecropping (a useful alternative to the principal—agent framework) have not found it easy to capture these common-sense considerations raises interesting issues. One of them is that equal sharing may be *perceived* as 'fair' even when game-theoretic arguments suggest otherwise (given that 'the allocation of agricultural production does not resemble the division of a cake of fixed size', as pointed out by Dasgupta 1993: 232). On this, see Young (1994: chapter 7) and also Rubinstein (1991).

mortality rates, a population growth rate of around 2 per cent per year, and a low female-male ratio. Fourth, Palanpur does not have a very clear-cut class structure. While useful distinctions can be made on the basis of land ownership and employment relations, these distinctions do not lead to anything like a neat partitioning of the village population into different classes with antagonistic interests. Fifth, social stratification patterns are further modified by complex caste divisions. The main castes in Palanpur are Thakurs (a martial caste), Muraos (a cultivating caste), and Jatabs (a labouring caste), in decreasing order of social status. In addition, there is a relatively heterogeneous collection of smaller castes, and a small Muslim population. Sixth, social stratification patterns also include extreme gender inequalities, sustained *inter alia* by patrilineal property rights, the practice of patrilocal post-marital residence, and a rigid gender division of labour. Seventh, literacy rates in Palanpur are very low, even in the younger age groups, and there are sharp caste- and gender-based inequalities in educational achievements. Eighth, Palanpur's economy is by and large a private-ownership market economy (with few effective government restrictions on production and exchange), but in many respects it is very different from textbook models of market economies based on assumptions such as 'perfect' competition, complete markets, full information, costless transactions, opportunistic behaviour, and absence of extra-economic coercion. Contractual arrangements in agriculture, in particular, are partly in the nature of social norms. Finally, these broad characteristics also apply to the state of Uttar Pradesh as a whole. While Palanpur is obviously not 'representative' of that region (and nor is any other village), it does qualify as a useful setting for a detailed case study.

At the risk of some simplification, it may be said that Palanpur combines lively economic institutions with a conservative society. The former does not mean that Palanpur has high income levels or growth rates.[175] Rather, it is a characteristic which the village shares (to various degrees) with much of rural India, and which has been reflected in impressive changes in agricultural technology, occupational patterns, economic organization, and living standards over the survey period. There is no counterpart to this economic dynamism in

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[175] The level of per capita incomes in Palanpur is similar to the average for Uttar Pradesh, which is now among the poorer Indian states; and growth rates have also been quite similar in Palanpur and Uttar Pradesh (see chapter 2).

the field of social change or political institutions. The absence of any credible system of local governance, the persistence of near-universal illiteracy among disadvantaged castes, the resilience of extreme forms of gender inequality, the retarded pace of the demographic transition, and the lethargic state of collective institutions are some symptoms of this inertia. In the next chapter, we examine the relationship between these contrasting features of Palanpur's economy and society and its development achievements over the survey period.

We do not want to end without correcting a possible bias in the reader's perception of the village. Much of this chapter has concentrated on issues of deprivation and inequality, with relatively little emphasis on the positive aspects of village life. This focus is to some extent natural (in this case) for development economists, and would also be compelling for many other observers. There is plenty of human wretchedness in Palanpur, as well as deep social inequalities. But this is not the full picture. Much could also be said on the human qualities of the actors, the reassuring familiarity of community life, the cheerful atmosphere of seasonal festivals, and all the other things that make life well worth living in Palanpur despite high rates of deprivation, inequality, morbidity, and illiteracy. Fine accounts of these positive features of village life in Uttar Pradesh have indeed been given by a number of other writers.[176] We also hope that the authors of the next book on Palanpur will find good reason to describe the village in a more cheerful light.

[176] See, for instance, Wiser and Wiser (1971), and Wiser (1978) ; other relevant sources are Lewis and Barnouw (1958), Minturn and Kapoor (1993), Tully (1995), and Hindi novels such as Prem Chand's *Godan,* Phanishwar Nath Renu's *Maila Aanchal,* Rahi Masoom Raza's *Adha Gaon,* and Srilal Shukla's *Raag Darbari,* among many others.

Chapter 2 Economic Development in Palanpur, 1957–93[177]

Jean Drèze, Peter Lanjouw and Naresh Sharma

Preamble

Once upon a time, there lived in Moradabad district a *raja* of the Thakur caste, who had two daughters. He married one to a Tomar and one to a Katheria (two Thakur sub-castes), and invited his sons-in-law to settle on his estate, in Palanpur. At that time, Palanpur was mainly inhabited by Murao farmers, who cultivated the land as tenants of the raja. It was a small hamlet, with a single well. The raja evicted some of his Murao tenants to make room for his sons-in-law. This, we are told, is how Palanpur became what it is today, a Thakur-dominated village with a strong presence of Murao cultivators. Most of the other castes, which are numerically smaller, presumably joined later on to attend to the various needs of the founding residents.

These events may have taken place some two hundred years ago. We have little information on what happened from then until 1957–8, the date of the first Palanpur survey. During the period of British rule, the village lived in the shadow of the zamindars, who acted as intermediaries between the colonial administration and the cultivators (mainly in the capacity of land revenue collectors). What elderly villagers remember of the British rulers themselves can be summed up in a few sentences: 'The British rulers were very powerful people. They used to stop the local train at will to go hunting, and had tea whenever they felt like it, at a time when we had never even tasted tea. They dealt severely with crime and rebellion, and in those days the countryside was free of dacoits and robbers.'

The historical background becomes a little clearer as we come closer to the survey period itself.[178] A tentative reconstruction of what Palanpur might have looked like, say, during the first half of this century is as follows.[179] In those days, the village land was in the hands of three zamindars, all of whom lived in other villages. Two of them were Thakurs, the third one was a Brahmin. So far as one can tell from the testimonies of village elders, the zamindars did not strongly interfere with the daily life of the village; but they did exercise some control on village affairs through local underlings, and their rule set the broad parameters of social organization. Their presence was mainly felt at harvest time, when they collected a share of the crop. They also used to requisition unremunerated labour (begar) from the villagers at any time of the year.

The relations between the zamindars and their tenants seem to have varied, and the overall picture is somewhat uncertain. In our experience, Palanpur villagers generally remember the zamindari regime as quite oppressive. The main complaint is that the zamindars used to collect a large share of the crops for themselves (over and above official taxes), leaving farmers with barely enough to eat. Some village elders also mentioned that the zamindars did not allow them to build proper houses, and that some zamindars in the area even used to prevent their tenants from digging wells. Ansari (1964: 10), however, gives a much less negative picture of the zamindari period, based on the testimonies he heard at the time of the 1957–8 survey. The author goes so far as to state that 'to this day a nostalgia remains among villagers in regard to the good old days under the zamindars', and that 'most of the villagers do not treat the abolition of zamindari as a beneficial act to them'. This assessment seems to be primarily influenced by testimonies from the former tenants of the Brahmin zamindar, Kunwar Jayanti Prasad, who was 'reported to have been very generous and helpful' and still claimed 'the affection of his

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[178] In this chapter as in chapter 1, the term 'survey period' refers to 1957–93. Other terminological conventions introduced in section 1.1 of chapter 1 also continue to apply.

[179] This picture is based on what village elders remember, or have heard from their parents, about life in the pre-independence period. We have also taken a few clues from the first report on Palanpur (Ansari 1964), as well as from village studies carried out elsewhere in Uttar Pradesh, and covering that earlier period—including Hopper (1957), Lewis and Barnouw (1958), Marriott (1960a), Wiser and Wiser (1971), Cohn (1959, 1987), Wadley and Derr (1989).

former tenants'.[180] The Thakur zamindars, on the other hand, 'did not command such respect', and 'at least one of them was actually reported to have been very oppressive and hard'. Even after taking into account the somewhat unusual personality of the Brahmin zamindar, however, Ansari's account of the zamindari period is considerably more positive than the picture that emerges from the recollections of village elders 25 years later. It is difficult to guess which of the two is more reliable.

In those days, agriculture was based on simple methods involving low levels of non-labour inputs and output levels well below what they are today. Less than half of the land was irrigated, and much of the irrigated portion was probably under the control of Thakur landowners. Wheat and bajra (pearl millet) were the main rabi and kharif crops, respectively. Some farmers claim that the village used to follow very simple cropping patterns, with wheat being sown on one side of the railway line and bajra on the other, and the reverse pattern the following year. This is probably a caricature of actual cropping patterns, but what is not in doubt is that wheat and bajra used to dominate Palanpur's agricultural economy (Ansari 1964).

At that time, urban-based employment and other links with the outside economy were far more restricted than they are today, and economic activity in the village revolved mainly around cultivation and the activities that derive from it. Thakurs were still able to live without doing much hard work, partly based on their control of a large part of the village land. To the extent that they engaged in field work, it was largely to supervise hired labourers, drawn mainly from the Jatab caste. Much of the land they possessed was leased to households of other castes.[181] Thakurs were in control of activities such as money-lending and village politics, and some of them also acted as henchmen of the zamindars. Given their high rank in the caste hierarchy, favourable access to land, and privileged connections with the zamindars, the Thakurs were the unchallenged holders of

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[180] Note also that, by 1957–8, few Palanpur farmers had acquired full land ownership (*bhumidari*) rights. The main short-term effect of zamindari abolition had been to transform them from tenants of the zamindars to tenants of the state, and the new revenue collectors were not always more sympathetic than the zamindars themselves. For further discussion of this and other aspects of zamindari abolition in Palanpur, see Bliss and Stern (1982: 17–19).

[181] We informally use the word 'possession' to refer to the hereditary occupancy rights that existed at that time.

authority *within* the village. In terms of the framework developed by Srinivas (1960, 1987), they were Palanpur's 'dominant caste'.

The Muraos were overwhelmingly engaged in cultivation, both on the land they possessed themselves and on leased-in land.[182] The productivity of the land being very low, and in the absence of much other employment, they lived a frugal life. They accepted the authority of the Thakurs, and kept a low profile. The Jatabs worked as casual labourers, mainly for Thakurs, and also cultivated small amounts of land as tenants of the zamindars or of the Thakurs. They lived in fear and abject poverty.

The other castes in the village were numerically small, and mainly engaged in providing various services to the cultivators. There were water-carriers, potters, sweepers, carpenters, oil-pressers, washermen, barbers, black-smiths—perhaps one or two households each.[183] Economic relations between these castes and the cultivators were largely based on the jajmani system. For instance, each cultivator would give the village carpenter a fixed amount of grain for each plough he or she owned, in exchange for year-round services; and similarly with other artisans. In addition to their traditional occupations, many of these households also had some involvement in agriculture, either as cultivators or as labourers.

To summarize, in those days the village essentially consisted of a cultivation-based nucleus involving Thakurs, Muraos, and Jatabs, combined with a collection of relatively small service castes linked to that nucleus through the jajmani system. This provides the background to the profound changes that have taken place over the survey period.

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[182] The distribution of land between Thakurs, Muraos, and Jatabs in those days is not entirely clear. Just after the abolition of zamindari, Muraos and Thakurs had similar amounts of land per capita, while Jatabs had much less (see the 1957–8 survey data in Table 6). But it is unlikely that the same situation applied earlier, if only because this would be hard to square with the fact that Thakurs were significantly more affluent than Muraos in the pre-survey period, even though they leased out a significant proportion of their land. What is more plausible is that Thakurs used to control a large portion of the village land (a common pattern in pre-independence U.P.), and that, at the time of zamindari abolition, some of the land which they used to lease out was transferred to their former tenants, including some Muraos. As far as Jatabs are concerned, most of them must have acquired possession rights at the time of zamindari abolition, in the capacity of former tenants of the Thakurs.

[183] A few Brahmins also used to live in Palanpur, long before the beginning of the survey period (1957–8). We were told that they had been wiped out by an epidemic.

1. Population, Employment, and Technology

1.1 The Forces of Change

The process of social and economic change in Palanpur over the survey period has been strongly influenced by several factors that might be called 'prime movers'. By prime movers, we mean crucial forces of change that may be considered as exogenous for our purposes, at least over this period. The following clearly qualify for this category: (1) population growth, (2) the expansion of employment opportunities outside the village, and (3) the development of new agricultural technology. Each of these three developments is partly endogenous, but the exogenous element is sufficiently strong to allow us to consider them as prime movers.[184]

These three basic forces of change will be examined here as part of a broader discussion of demographic change (section 1.2), occupational change (section 1.3), and technological change (section 1.4). They also receive sustained attention in other parts of this book, particularly chapter 3. Before focusing on these forces of change, we briefly mention a few other factors that could also qualify for the status of prime movers, even though their influence has been less extensive.

Terms of Trade:

During the survey period, there has been some decline in the price of foodgrains relative to other commodities. In particular, the price of wheat (the most important crop in Palanpur) has lagged behind the general price level, especially during the second half of the survey period. This has slowed down the growth of average incomes in Palanpur (since the village is a net seller of wheat), though it may have assisted the growth of real agricultural wages.

Government Intervention:

As discussed further in this chapter, local government intervention (e.g. the provision of public services) has had a limited impact on Palanpur's development over the survey period. One possible exception concerns public lending institutions, which may have assisted the process of agricultural investment despite their inefficient and corrupt management. In addition, of

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[184] It may be argued that population growth is completely endogenous. The point, however, is that substantial population growth would have occurred in Palanpur over the survey period under most plausible scenarios (except perhaps a draconian family planning programme). In that sense, rapid population growth may be considered as a largely exogenous factor for our purposes.

course, the economic policies of the national and state governments have defined the broad parameters of economic activity in Palanpur.

Cultural Influences:

The growing links between Palanpur and the outside world, particularly the urban economy, have involved greater exposure to external cultural influences. In some cases, these influences have been important factors of social change within the village. For instance, the erosion of the traditional caste order in Palanpur has probably been hastened by frequent contact with the urban society.

Abolition of Zamindari:

The abolition of zamindari took place just before the beginning of the survey period, in the early 1950s, and will not be dealt with in any detail in this book. But it is important to remember that the abolition of zamindari, and concomitant land reforms, set the stage for much of what happened later. Their main achievement was to confer secure land rights on Palanpur farmers, who used to have the status of tenants.[185]

1.2 Demographic Change

Between 1957–8 and 1993, the population of Palanpur has roughly doubled (from 528 persons to 1,133). This has posed a crucial challenge to the village economy, given that the amount of land owned has remained more or less constant (in fact, it declined a little) over the same period. By 1993, land owned per person had declined to 0.33 acres. This implies that, if Palanpur farmers were cultivating now in the same way as in the 1950s, total agricultural output would be roughly equivalent to 125 kgs of grain per person per year.[186] This would not be enough to cover essential calorie requirements, even under the assumption of egalitarian land distribution. In other words, Palanpur villagers simply cannot afford to follow the same occupational patterns and technological practices as in the 1950s. This elementary point has to be borne in mind in any evaluation of recent economic changes, and of the alternatives that might have existed.

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[185] On the abolition of zamindari in Palanpur and Uttar Pradesh, see Ansari (1964: 10–11), Bliss and Stern (1982: 18–19) and Sharma (1992) ; also Neale (1962), and Singh and Misra (1964).

[186] This calculation assumes a cropping intensity of 1.25 (i.e. that about a quarter of the land is double-cropped), and an average yield of three quintals per acre of cultivated land in each season (a little *more* than observed wheat yields in 1957–8).

While population growth has been an important factor of socioeconomic change in Palanpur over the survey period, demographic change itself has been quite slow. At the end of the survey period, Palanpur's population growth rate, average household size, age distribution, and female-male ratio did not look very different from what they were in 1957–8 (see Table 1). In all likelihood, sustained population growth has gone hand in hand with some decline in birth and death rates; but the decline must have been slow, judging from the fact that the infant mortality rate was still as high as 160 or so (per 1,000 live births) in 1983–4. All this is consistent with the corresponding trends in Uttar Pradesh, where demographic change in recent decades has been quite sluggish in comparison with many other Indian states.[187]

This picture of slow demographic change, however, conceals a significant transformation in the underlying patterns of mortality and fertility. During the first half of the survey period, it seems that mortality was declining faster than fertility, leading to an increase in population growth, average household size, and share of children in the population (each of these three indicators peaked in 1974–5). A reverse pattern applies after 1974–5. There are, thus, some signs of acceleration in the demographic transition during the second half of the survey period.

A similar picture of stability, with some significant changes around the end of the survey period, applies to household structure. As indicated in the last row of Table 1, the 'type' distribution of households in different survey years is remarkably stable. The only major qualification is a noticeable decline in the proportion of joint families between 1983–4 and 1993, and a corresponding increase in the proportion of nuclear families (this is one reason for the sharp increase in the number of households between 1983–4 and 1993, from 143 to 193). But this development is at least partly a transient effect of the 1985–6 land consolidation operation (see section 4.3), and it is difficult to say whether a structural break is also involved.

The aggregate figures presented in Table 1, however, hide some subtle but important changes in family structure. One of these is the virtual extinction of fraternal joint families, which seems to have

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[187] On demographic trends in Uttar Pradesh, see Bose (1991) and Drèze and Gazdar (1997) ; as noted in chapter 1, demographic indicators in Palanpur seem to be quite similar to the corresponding figures for Uttar Pradesh. The same remark applies to patterns of demographic change.

Table 1 : Palanpur: Population in Different Survey Years

	1957–8	1962–3	1974–5	1983–4	1993
Population	528	585	790	960	1,133
Number of households	100	106	117	143	193
Average house-hold size	5.3	5.5	6.8	6.7	5.9
Female-male ra-tio	0.87	0.87	0.85	0.93	0.85
Annual growth rate of	—	2.2	2.5	2.2	1.7
population since previous survey[a] (%)		(2.3)	(2.7)	(1.9)	(2.2)
Age distribution of the population (%)					
0–14	39	38	46	44	41
15–24	21	19	15	20	21
25–44	23	25	25	23	22
45–64	14	13	12	10	12
65 +	3	5	2	3	4
Proportion of the population in different caste groups (%)					
Thakur	20	21	22	23	25
Murao	22	23	23	23	26
Muslim	10	10	12	12	12
Jatab	13	12	12	12	12
Other	35	34	31	30	25
Proportion of households of different types[b]					
single-person	6	6	3	3	3
nuclear	45	44	41	44	54
stem	28	28	29	33	31
joint	21	22	28	20	12

[a] In brackets, the corresponding 'migration-adjusted growth rate', defined as the population growth rate for the set of households that stayed in the village throughout the survey period (for further details, see chapter 3).

[b] For definitions, see Table 3 in chapter 1.

Note: The 1974–5 population includes 6 households excluded by Bliss and Stern (1982) on the grounds that these households were not involved in cultivation.

preceded the 1985–6 land consolidation operation.[188] There were nine fraternal joint families in 1957–8, but only two in 1983–4 and none in 1993. Another interesting change is the increasing propensity of adult sons to live separately from their father, which has also preceded the land consolidation operation. There were only two adult sons in that category in 1957–8, and three in 1962–3, rising to 16 in 1983–4. Both observations (the decline of fraternal joint families and the rising incidence of filial separation) are fully consistent with the villagers' own perceptions of changes in family structure over the survey period. Many of them, particularly in the older age groups, regret these tendencies towards nuclearization. As was discussed in chapter 1, however, nuclear households have some advantages for young women, who are widely thought—rightly or wrongly—to have played a part in bringing about these changes. Some young women explicitly view the trend towards nuclearization as a positive development.

1.3 Occupational Change

The process of economic development is often seen in terms of the gradual transfer of 'labour' from a traditional, low-productivity sector (e.g. agriculture) to the modern, high-productivity sector (e.g. industry). Savings and investment tend to be regarded as the chief constraints, with labour (usually treated as a homogeneous quantity) playing a rather passive role, supplying itself wherever the wage is higher.[189] It may be argued that this approach overlooks some important aspects of the process of occupational change. The extensive changes of occupational structure that take place in the course of economic development raise issues of their own (such as the occupational mobility of labour, the acquisition of skills, and the nature of the search process), which can be just as important as those of savings and investment. Issues of occupational change may be of special interest in India, given the link between occupation and caste.

Caste and Occupation:

The occupational structure outlined in the introductory section, and the underlying association between caste and

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[188]   On the definition and significance of joint families, see chapter 1,   section 2.2.

[189]   These are, for instance, basic features of the textbook model of development in a 'dual economy' (e.g. Lewis 1954).   Recent research in growth economics, however, has gone well beyond these early models, paying much greater attention in particular to the issue of 'human capital'; see e.g. Mankiw (1995),   and the literature cited there.

occupation, have radically changed over time. By 1993, among castes other than the Muraos, only three households in Palanpur (a barber, a sweeper, and a carpenter) were engaged in their traditional occupation in the strict sense of the term.[190] Further, occupational contrasts between different castes have lost much of their sharpness (without disappearing altogether). Essentially, each caste is now engaged in some combination of cultivation and (mainly non-agricultural) wage employment. The details of these combinations, of course, do reflect the characteristics of various castes, including their traditional occupation: Thakurs often serve in the army and the police, Muraos give overwhelming priority to cultivation, Jatabs are still mainly engaged in menial occupations, etc. In this and other respects, caste is still relevant to occupational choices, but certainly not in the form of assigning a specific, hereditary occupation to most members of the society. As discussed in chapter 1 (section 4.3), the basic similarities in occupational structure between different castes are now far more striking than the differences.[191]

An obvious reason for the erosion of the earlier link between caste and occupation is that the occupational structure has undergone considerable change, while the caste composition of the population has been comparatively stable. The transformation of the occupational structure reflects both the growth of new employment opportunities and the decline of some traditional occupations. On the growth side, the survey period has witnessed a rapid expansion of wage employment opportunities outside the village. Even within the village, some economic activities have expanded or emerged in response to new demands—for masonry, carpentry, tailoring, and so on.

At the same time, there has been a marked decline of a number of village-based traditional occupations. Water-carriers, oil-pressers, and even washermen are now completely out of work as far as their traditional occupations are concerned; and some service castes, such as blacksmiths and potters, can no longer be found in Palanpur. One cause of this decline is that village artisans face increased competition from urban areas and larger villages, due to factors such as

[190]   Most Muraos were engaged in cultivation, but even that can be interpreted as involving some departure from their traditional occupation, in so far as the latter supposedly involves the cultivation of specific crops (particularly vegetables).

[191]   For similar observations in another village of western Uttar Pradesh, see Wadley and Derr (1989).

technological change, reduced transaction costs, scale economies, changing consumer preferences, and the expansion of urban infrastructure. For instance, energized oil-pressing in urban establishments has entirely displaced the earlier village *kolhus* operated by the Telis (the largest Muslim group in Palanpur). Even within the village, there has been some displacement of traditional occupations due to technological change; the widespread availability of handpumps, for instance, has played a part in the collapse of the demand for services of water-carriers. Another reason for the decline of many traditional occupations is the increase of real wages in the economy, which might be expected to lead (*ceteris paribus*) to some substitution away from labour-intensive services.[192] With the relative price of hired labour going up, for instance, Thakurs and other major employers have started engaging in various forms of manual labour which they might have shunned earlier. While Thakurs still carefully avoid the indignity of performing wage labour (at least within the village), they do draw water from the well, wash their own clothes, and work in their own fields, and this has reduced the demand for some types of traditional services. A third consideration is that some of these traditional occupations have a low social status, and that, as living standards improve, the younger generations show a growing reluctance to take them up.

Along with a changing association between caste and occupation, recent decades have seen a gradual change in the demographic balance between different castes. For instance, Palanpur now has as many as 20 Teli households, even though oil-pressing is a defunct occupation, but not a single potter or blacksmith. There is nothing new, of course, in the fact that some castes within a village happen to grow faster than others. It is plausible that the resulting problem of unstable balance between different occupations used to be dealt with through intra-rural migration. For instance, if the village carpenter died, another carpenter (e.g. one of his relatives) would be promptly called from another village.[193] If this migration process takes place relatively smoothly, differential population growth rates between different castes within a village pose no problem as long as the aggregate caste composition and

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[192] Note, however, that economic growth is often accompanied by an expansion of labour-intensive services for which there is a high income elasticity of demand, as has happened with carpentry in Palanpur.

[193] This process can still be observed today for some of the specialized caste occupations that continue to be in strong demand, including carpentry.

occupation structure are relatively stable.[194] Thus, had oil-pressing remained a dynamic rural occupation, some of Palanpur's Telis would probably have migrated elsewhere. Instead, the Teli population has expanded in Palanpur itself, and, given the collapse of their traditional occupation, the Telis have had to rely more and more on wage labour for their survival. An analogous reasoning applies to the disappearance of potters and blacksmiths. Palanpur's last potter, who died a little before the beginning of the survey period, would probably have been replaced had a continued need been felt for his services. Instead, Palanpur villagers now buy their pots at weekly markets in larger villages, or from Chandausi. For similar reasons Palanpur no longer has a blacksmith.

It is worth noting that these broad changes in occupation structure, in the relationship between caste and occupation, and in the demographic balance between different castes, have been observed in other recent studies of Uttar Pradesh villages.[195] This is not surprising, since the economic forces behind these changes are not specific to Palanpur.

Broad Occupational Trends:

Tables 2a and 2b present a summary picture of occupational change in Palanpur during the survey period. For convenience, the tables focus on adult males; as noted in chapter 1, women's work outside the household accounts for a tiny fraction of their primary occupations. The main features of occupational change during the survey period are (1) a relative decline of self-employment in agriculture, (2) some decline in the share of casual labour, (3) correspondingly, a major expansion of wage employment of a regular or semi-regular nature (most of it outside the village), (4) the virtual disappearance of specialized caste occupations as primary occupations, and (5) some expansion of other forms of self-employment outside agriculture.

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[194] Over long periods, of course, the occupational structure has never been rigid; in the past, long-run responses to occupational change have probably taken the form of changes in caste organization itself, with the formation of new castes and the adoption of new occupations by particular castes.

[195] See in particular Wadley and Derr (1989) ; also Wiser and Wiser (1971), Fuhs (1988), Saith and Tankha (1992), and Sharma and Poleman (1993). The decline of traditional caste occupations has also been widely noted elsewhere in India.

Table 2a : Occupational Change, 1957–93: Summary

Occupation type	Number of adult males with the stated occupation in 1957–8		Number of adult males with the stated occupation in 1993	
	as a primary occupation[a]	as a secondary occupation	as a primary occupation[a]	as a secondary occupation
Cultivation and live-stock	141 (81)	12	188 (54)	13
Self-employment (non-farm) of which:	6 (3)	2	19 (5)	10
specialized caste occupations[b]	6	2	1	2
other skilled self-employment	0	0	8	4
unskilled self-employment[c]	0	0	10	4
Wage employment (regular or semi-regular) of which:	5 (3)	6	50 (14)	4
regular job (skilled)	1	0	7	0
regular job (un-skilled)	4	4	24	1
seasonal or semi-regular (skilled)	0	0	1	0
seasonal or semi-regular (unskilled)	0	2	18	3
Wage employment (casual) of which:	22 (13)	24	31 (9)	35
agricultural labour	22	7	17	18
unspecified casual labour	0	17	14	17
Study	0 (0)	0	30 (9)	0
Other	0 (0)	0	8 (2)	0
None	1[d] (1)	131	22[d] (6)	286
Total	175 (100)	175	348 (100)	348

[a]   Percentage distribution in brackets.
[b]   Barber, sweeper, carpenter, etc.
[c]   Including shop-keeping and door-to-door selling.
[d]   Mainly elderly or disabled men.

   Note: The figures in the last row indicate the total number of adult males in the village. A few respondents reported having a third occupation (not included in this table).

Table 2b : Occupational Structure in Different Survey Years

Occupation	Number of adult males with the stated occupation as a primary occupation[a]				
	1957–8	1962–3[b]	1974–5	1983–4	1993
Cultivation and livestock	141 (80.5)	125 (72)	140 (65)	141 (49)	188 (54)
Self-employment (non-farm)	6 (3)	8 (5)	n/a	17 (6)	19 (5)
Wage employment (regular or semi-regular)	5 (3)	16 (9)	46 (21)	73 (26)	50 (14)
Casual labour (in and outside agriculture)	22 (13)	16 (9)	n/a	23 (8)	31 (9)
Other[c]	1 (0.5)	8 (5)	n/a	31 (11)	60 (17)
All occupations	175 (100)	173 (100)	214 (100)	285 (100)	348 (100)

[a]   Percentage distribution in brackets.
[b]   Approximate figures.
[c]   Study, unknown, none, etc.

These broad trends are consistent with the corresponding trends at the state level. In particular, the recent expansion of non-farm employment in rural Uttar Pradesh (mainly in the form of non-agricultural wage employment) is well documented.[196] In this respect, the pace of change in Palanpur has probably been a little faster than in Uttar Pradesh as a whole, partly because of its location in a region with a relatively well-developed non-agricultural sector, and partly because of its convenient railway connections with Chandausi and Moradabad.[197]

[196]   See especially Ranjan (1994, 1996), and the literature cited there; also Sharma and Poleman (1993) on the particularly rapid expansion of rural non-farm employment in western Uttar Pradesh, and Papola (1992) for an assessment of all-India trends.

[197]   The importance of the last factor should not be exaggerated. The railway connection is an advantage, but Palanpur is not directly linked to a road, so that no one commutes to urban centres by bus or even cycle (a common mode of transport in other villages). Overall, there is no reason to believe that Palanpur's employment connections with the urban economy are much above average for this area.

Non-Agricultural Wage Employment:

The expansion of non-agricultural wage employment in Palanpur has primarily taken the form of regular or semi-regular employment outside the village. The distinction between casual labour on the one hand, and regular and semi-regular employment on the other, is far from unambiguous in many cases, and in reality there is a whole spectrum of employment statuses reflecting varying arrangements relating to job security, earning levels, legal protection, and other contractual terms. As a first approximation, we may consider that regular and semi-regular jobs are those involving monthly rather than daily wage payments. Employees with such jobs usually enjoy a modicum of employment security, and, in most cases, substantially higher earnings than casual labourers. 'Regular' jobs essentially refer to what is locally known as 'service' or naukree, implying secure employment, often in the form of permanent positions in the public sector. The number of adult men with regular or semi-regular wage employment as a primary occupation rose from 5 in 1957–8 to 50 in 1993. Note, however, that there was a significant decline in regular employment outside the village between 1983–4 and 1993, primarily due to the closure of local textile mills.[198]

In Palanpur, wage employment outside the village usually means daily commuting (often by train) to Chandausi, Moradabad, Bilari, and other urban agglomerations within the district. The network of outside jobs has gradually expanded over time, and by the end of the survey period several adult men in Palanpur had found employment outside the district, some of them going as far as Delhi. When the workplace is too distant to permit regular commuting, the whole family may migrate, or it may remain in the village, with the employed member living at the workplace and visiting Palanpur during holidays.

Over the survey period, commuters have found employment in a wide range of establishments, both public and private. Important

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[198] See chapter 3 for further discussion. Seventeen textile-mill employees lost their job between 1983–4 and 1993. Taking all regular and semi-regular jobs (as primary or secondary occupations) together, there was a net loss of 12 jobs. Thus, had the textile mills continued to employ 17 Palanpur villagers, the number of adult men with non-agricultural wage employment would have continued to rise in absolute terms between 1983–4 and 1993, but at a much slower rate than earlier in the survey period. This development is consistent with recent National Sample Survey evidence of some slowdown in the expansion of non-agricultural employment in the late 1980s and early 1990s (see Chadha 1996).

employers include the railways, textile mills, steel-polish workshops, and bakeries (see chapter 3 for a complete list). The jobs in question rarely involve advanced skills. In most cases, they require only physical fitness, some on-the-job training, and possibly some basic schooling.

Work conditions in regular and semi-regular employment vary a great deal. On the whole, they tend to be relatively undemanding in the public sector, but quite strenuous in private-sector establishments. Wage employment in the private sector often involves long hours, night shifts, and a fast pace of work. Having said this, agricultural work itself is quite demanding. Taking into account both the nature of the work and the level of earnings (which is usually a good deal higher in non-agricultural wage employment than in other available occupations), most people in Palanpur consider a regular or semi-regular job outside the village as a highly desirable form of employment. Except for some farmers owning a considerable amount of land, few adult men in Palanpur would turn down an opportunity to work in a factory or an office.[199]

These indications of excess demand for employment in the non-agricultural sector raise the question as to how regular (or semi-regular) jobs are allocated. One obvious hypothesis is that workers who wish to obtain a regular job have to pay an 'entry fee', e.g. in the form of a bribe to the recruitment agents. But the general view among Palanpur employees is that bribes, though undoubtedly necessary, are far from sufficient to obtain a regular job. More important is what they refer to as *sifarish* (literally, 'a recommendation'), i.e. having a good rapport with a person who has the right contacts in the urban sector. Often, that person is a friend or relative who already has a regular job, and has inside knowledge of the recruitment process. This feature of job allocation explains why regular jobs in Palanpur tend to 'cluster' around a small number of establishments (or networks of establishments) where some village resident initially

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[199] There is one major qualification to this assessment of non-agricultural employment opportunities. This concerns health hazards, which are common in many types of regular and semi-regular jobs. For instance, working in textile mills or steel-polish workshops involves inhalation of toxic dust. Many of those who have worked in these establishments over a long period have contracted serious lung diseases. Palanpur villagers are aware of these health hazards, but it is doubtful that they fully understand their consequences. Their general enthusiasm for non-agricultural employment has to be interpreted in that light.

succeeded in making an entry, enabling others to follow him later.[200] The initial entry is often due to the help of relatives outside the village (e.g. in-laws), or to unusual education or skill levels. Those who follow later on frequently belong to the same caste as the initial entrant, or have other bonds with some of those who precede them.

Employment in bakeries provides a good illustration of this process. The first person who ever obtained a job in a bakery was Rajinder, a young Thakur with a relatively good education by Palanpur's standards ('10th class fail'). One day, in the early 1980s, he was introduced by his sister's husband to a Punjabi businessman who owned a bakery in Moradabad, where work was available. Rajinder made a good impression on the man and got a job. Initially, he worked on an extremely low salary (Rs 100 per month plus food). But he turned out to be an able worker, taught himself to repair and maintain the ovens, and was soon promoted to the role of 'mechanic'. After a little while, he was sent to another bakery in Chandausi, owned by the same businessman. There, he was gradually able to secure jobs on night shifts for several young Thakurs from Palanpur. By 1983–4, five of them had obtained a job there, and Rajinder himself was repairing ovens in places as far away as Rajasthan.

The fact that regular and semi-regular employment is 'rationed' on the basis of personal contacts and influence has wide-ranging implications for intersectoral wage differentials, urban-rural migration patterns, the incidence of urban unemployment, and the distribution of employment opportunities. For instance, it helps to explain (1) the large gap between rural and urban wages, (2) the low turnover of regular jobs (these are typically kept for a long period, sometimes for life), and (3) the fact that persons with a low social status seem to be at a disadvantage in the competition for regular jobs, even for given skills and endowments (in Palanpur, Jatabs and Muslims have only a tiny share of regular and semi-regular wage employment). These features of the labour market, in turn, have an important bearing on the allocative and distributional consequences of the expansion of non-agricultural wage employment.

Distribution of Non-Agricultural Wage Employment:

The distribution of non-agricultural employment and earnings is likely to reflect two

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[200] In 1983–4, for instance, three groups of employers (the railways, textile mills, and bakeries) accounted for three-quarters of all regular jobs outside the village.

major influences. First, given the importance of personal contacts and monetary inducements in job search, privileged households are likely to have better employment *opportunities* outside the village. Second, the 'reservation wage' tends to be lower among disadvantaged households, possibly leading to a greater *use* of available opportunities by these households. To illustrate, adult males in households with relatively large amounts of land may find it easier to obtain wage employment outside the village, but may also be reluctant to take up such employment unless it is fairly well-paid. The actual distribution of non-agricultural employment is a matter for empirical investigation.

Some evidence on this is presented in Table 3, with reference to 'regular' non-agricultural employment. The patterns emerging from this table are not simple; an attempt to summarize them is as follows:

(1) At the beginning of the survey period, households with relatively little land (including the landless) had a disproportionate share of non-agricultural employment and earnings. This pattern, however, has become somewhat less sharp over time, as households from all land-ownership classes became involved in non-agricultural employment. In 1993, the distribution of non-agricultural employment and earnings was close to neutral with respect to land ownership, except that the landless continued to have a high share of regular jobs.[201]

(2) To some extent, a similar pattern applies to the distribution of non-agricultural employment and earnings between different castes. In 1957–8, regular jobs outside agriculture were concentrated among the 'other' castes, notably the Passis, who occupy a low position in the local caste hierarchy.[202] Note in particular that Thakurs had no involvement in non-agricultural employment. Over time, however, non-agricultural employment has spread to other castes, with Thakurs having a disproportionate share of it by the end of the survey period. As

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[201] Note that the possible 'endogeneity' of land ownership is not a major issue here, given that the land market is relatively inactive (see section 2.1).

[202] As mentioned in chapter 1, the Passis migrated to Palanpur from eastern Uttar Pradesh. Their migration was initially employment-induced; in particular, Passis with jobs in the railways were among the early migrants. The high Passi share of regular wage employment at the beginning of the survey period partly reflects this initial connection between wage employment and the Passi presence in Palanpur. For further discussion of Passis in Palanpur, see Bliss and Stern (1982: 34–7).

Table 3 : Regular Wage Employment and Household Characteristics

Reference groups	Number of regular jobs per 1,000 persons in the relevant group[a]				
	1957–8	1962–3	1974–5	1983–4	1993
Per capita land ownership groups					
lowest quintile[b]	29 (19)	45 (36)	81 (93)	84 (84)	47
second quintile	28 (17)	24 (19)	47 (29)	86 (78)	25
third quintile	29 (23)	9 (10)	64 (44)	67 (61)	22
fourth quintile	0 (0)	9 (10)	33 (29)	40 (36)	27
top quintile	0 (0)	0 (0)	19 (14)	23 (17)	21
Per capita income groups					
lowest quintile	10 (4)	0 (0)	53 (25)	26 (10)	n/a
second quintile	10 (4)	0 (0)	19 (22)	16 (18)	n/a
third quintile	9 (8)	17 (13)	79 (86)	61 (47)	n/a
fourth quintile	38 (22)	50 (38)	32 (24)	86 (81)	n/a
top quintile	19 (19)	17 (20)	58 (49)	104 (111)	n/a
Caste groups					
Thakur	0 (0)	0 (0)	80 (93)	83 (61)	39
Murao	0 (0)	0 (0)	47 (29)	32 (33)	20
Muslim	0 (0)	0 (0)	64 (44)	34 (39)	21
Jatab	0 (0)	28 (16)	33 (29)	8 (5)	0
Other	49 (33)	41 (38)	19 (14)[c]	93 (93)	42

[a] In brackets, average *earnings* from regular jobs, per capita, in the relevant group (in Rs per year at 1960–1 prices). This information is not available for 1993.

[b] All landless households are in this 'lowest quintile', which also includes some land-owning households.

[c] This is an underestimate, due to the exclusion of six non-agricultural households from the reference population (see Appendix).

Note: Each entry (outside brackets) indicates the number of regular jobs per 1,000 persons in the relevant group; for instance, in 1983–4 the poorest 20 per cent of the population (in terms of per capita income) consisted of 192 individuals who had a total of 5 regular jobs, i.e. 26 jobs per 1,000. The entry inside brackets is an alternative index of involvement in regular jobs, where earnings from regular jobs (rather than number of regular jobs) is taken as the numerator.

with land, therefore, the pattern is basically one of a gradual shift in the distribution of non-agricultural employment and earnings away from concentration among disadvantaged groups.[203] One qualification, in this case, is that Jatabs continue to have extremely limited access to regular employment: starting from a position of complete exclusion from regular employment in 1957–8, Jatabs obtained two or three regular jobs over the survey period, but lost them again by 1993.

(3)   In each survey year, those with regular employment outside agriculture tend to have relatively high ranks in the per capita income scale, reflecting the comparatively high level of wages in the formal sector. This pattern is least pronounced (almost absent) in 1974–5, a year of good harvests when cultivators did relatively well and had a larger weight than usual in the higher deciles of the per capita income scale.

These observations, on their own, do not imply that the expansion of non-agricultural employment opportunities in Palanpur has had a polarizing effect on the distribution of incomes. Rather, it seems that non-agricultural employment and earnings had an *equalizing* effect at the beginning of the survey period, when they were concentrated among the landless and members of disadvantaged castes; and that this equalizing effect has become *less pronounced* over time, but may or may not have turned into a 'disequalizing' effect. Two further qualifications are due. First, the expansion of regular non-agricultural employment has second-round effects (such as preventing the emergence of a major excess supply of labour within the village) that cannot be read from the information presented in Table 3. Second, the growth of other types of non-agricultural wage employment opportunities (such as casual and semi-regular wage employment in urban establishments), which have remained concentrated among disadvantaged households, is likely to have had a sustained equalizing influence. The overall distributional impact of the expansion of non-agricultural wage employment over the survey period is a complex issue, and we shall not venture a judgement on this point. The reader is referred to chapter 5 for further discussion.

On Proletarianization:

Census evidence on recent occupational change in rural India has sometimes been interpreted as indicating a trend

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[203] Wadley and Derr (1989)   observe similar patterns in Karimpur (also in western Uttar Pradesh).

towards 'proletarianization' of the labour force. This term can be interpreted in at least two different ways: (1) a shift away from self-employment (mainly agriculture) towards wage labour, and (2) an assertion that this shift reflects a 'push' effect (e.g. a declining ability to survive from smallholder cultivation) rather than a 'pull' effect (the attraction of better earnings or employment conditions). The first interpretation, which might be called the 'weak version' of the proletarianization thesis, certainly applies in Palanpur. The second one (the 'strong version') is harder to substantiate considering that most forms of non-agricultural wage employment—the driving force behind the shift from self-employment to wage labour—are widely considered as desirable occupations by small farmers and agricultural labourers. Further, the expansion of non-agricultural wage employment has taken place against the background of a broad-based *increase* in real earnings in the agricultural sector; this observation is at variance with the strong version of the proletarianization thesis.[204] This is not to deny, of course, that the supply of non-agricultural labour is higher than it would have been in the absence of a sustained decline in per capita land endowments within the village. It is only in that limited sense that a push effect is involved.

There is some evidence that this assessment is widely applicable, not only in rural Uttar Pradesh but also in many other parts of rural India.[205] One interesting qualification is that, according to census data, the proportion of agricultural labourers in the rural labour force is rising in many states (although not in Uttar Pradesh). This trend, if real, suggests that the proletarianization of the rural labour force in those states is not simply a reflection of the expansion of non-agricultural wage employment. National Sample Survey data, however, do not corroborate this pattern.[206] As things stand, the relevance of the

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[204] The evidence presented in Ranjan (1994, 1996) suggests a similar diagnosis for western Uttar Pradesh as a whole.

[205] See Sharma and Poleman (1993) and Ranjan (1994, 1996) on Uttar Pradesh, and Acharya (1989) and Papola (1992) on other states. These studies provide clear evidence of a gradual shift from self-employment to wage employment in recent decades, along with a rapid expansion of non-agricultural wage employment and some increase in real wages and earnings in agriculture.

[206] Based on a comparison of 1977–8 and 1987–8 National Sample Survey data, Papola (1992: 239) sums up recent occupational trends as follows: 'As a proportion of the total usually employed rural workers: (i) self-employment in agriculture has declined, (ii) self-employment in nonagricultural sectors has increased, (iii) regular wage/salaried employment in the agricultural sector has declined, (iv) regular wage/salaried employment in the nonagricultural sector has increased, (v) casual employment in agriculture has hardly changed; and (vi) casual employment in nonagricultural activities has significantly increased . . . The major shift. . .is observed from self-employment in agriculture to casual work in nonagricultural activities.' These findings at the national level are consistent with our own observations in Palanpur.

strong version of the proletarianization thesis in different regions calls for further empirical investigation.

1.4 Technological Change

Basic Trends: Technological change in agriculture over the survey period can be seen in terms of three related but distinct components: (1) the expansion of irrigation (with the proportion of irrigated land rising from about 50 per cent in 1957–8 to nearly 100 per cent in 1974–5, with further significant qualitative improvements thereafter), (2) the adoption (beginning in the late 1960s) of modern cultivation practices involving new seeds, chemical fertilizers, better irrigation, and higher yields, and (3) some mechanization towards the end of the survey period.[207]

It is worth noting that the accelerated pace of innovation over the survey period, aside from reflecting the availability of new techniques, may also be related to the land reforms that took place in the 1950s. The technology of Persian wheels, for instance, is not new, and it may not be an accident that investment in Persian wheels increased dramatically after the abolition of zamindari. As was mentioned earlier, Palanpur elders report that some zamindars in the area used to prevent their tenants from digging wells for irrigation purposes.

The adoption of new agricultural practices, particularly in the form of land-augmenting technological change, has been quite broad-based in Palanpur. It is now standard for cultivators in all landholding-size groups to practise double-cropping and to use high-yield seed varieties, chemical fertilizers, and energized irrigation devices. While large farmers have often taken the lead in adopting these land-augmenting technologies, they have not monopolized them—small farmers have usually been able to follow the lead within a short period of time. As mentioned in the preceding chapter, one enabling factor in this respect has been the emergence of thriving markets for the services of various

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[207] Some of these changes have already been discussed in chapter 1 (section 4.2) ; see also chapter 3. For a detailed analysis of agricultural technology in Palanpur, see Bliss and Stern (1982).

farm assets including irrigation devices, threshers, bullock-carts, and (most recently) tractors. These markets have made it easier for small farmers to make use of these assets, despite heavily skewed ownership patterns.

The process of technological change is briefly discussed in the next sub-section, and its economic implications receive sustained attention in this book. One aspect of technological change on which we shall have relatively little to say is its environmental impact. The main reason for this is that the information at our disposal does not throw much light on this complex issue. In some respects, the environmental impact of technological change in Palanpur appears to be relatively small. The use of pesticides, for instance, is still very limited; and we find no evidence that cropping patterns are less diversified today than they were at the beginning of the survey period. There is, however, one important symptom of environmental degradation associated with modern technology: the decline of the groundwater table. By the end of the survey period, most of the village wells were dry except during and shortly after the monsoon (handpumps had become the standard source of drinking water), and bores needed to be sunk deeper and deeper. This decline is probably not irreversible, given the high rate of groundwater recharge in this area. Also, the water table in Palanpur is still quite high, and some experts at least argue that it *should* be lower than it used to be. (The argument is that higher extraction rates in the upper region of the Gangetic plain would help to reduce water-logging downstream.) Nevertheless, the decline of the groundwater table in Palanpur is an issue of major importance, not only because of its immediate costs to local residents (e.g. higher irrigation costs), but also because the sustainability of current cultivation practices seems to call for some well-considered action on this front. In contrast with several other Indian states, Uttar Pradesh does not have any serious legislation to regulate the extraction of ground-water, and this lacuna is quite perilous in the long run.

The Process of Technological Diffusion:

Palanpur farmers continue a long tradition of labour-intensive cultivation, which gives importance to every square inch of land.[208] They often work very hard to increase

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[208] This tradition already impressed Dr J.A. Voelcker, the expert appointed by the British administration in the 1890s to review the agricultural situation in India: 'I, at least, have never seen a more perfect picture of careful cultivation, combined with hard labour, perseverance and fertility of resource, than I have seen at many of the halting places in my tour [of India]' (quoted in Ray 1901: 18).

the productivity of the land with the means and the knowledge available to them. Having said this, agronomic standards in Palanpur are quite poor, not only in relation to scientific recommendations but also in comparison with more advanced districts of western Uttar Pradesh such as Meerut and Muzaffarnagar (not to speak of Punjab and Haryana). Palanpur farmers sow late; they usually sow second-rate or adulterated seeds, and are casual about other sowing-related details such as timing, depth, and spacing; they frequently neglect to weed their plots; they apply conservative doses of fertilizer; they irrigate sparingly; and so on. On the whole, agricultural practices in Palanpur leave much to be desired, and the productive potential of modern cultivation methods, in particular, remains vastly underutilized.[209]

This is not to say that Palanpur farmers are ignorant, indifferent, or averse to change. In order to identify the economic causes of unutilized potential in agriculture, it is useful to distinguish between two different aspects of the problem: low investment and slow innovation. Low investment refers not only to long-term investment in durable farm assets, but also to short-term expenditure on inputs like seeds, fertilizer, and irrigation. The levels of these inputs are low in Palanpur, as discussed in detail in Bliss and Stern (1982), who estimated that the marginal product of these inputs was up to three or four times as high as their price. In their analysis of the problem of low investment, the authors highlighted the role played by risk aversion and inadequate insurance opportunities. Another important factor (also noted by Bliss and Stern) is the high cost of credit. The *combination* of high risk and expensive credit can drastically reduce the net benefits of agricultural investment.

The availability of credit in Palanpur is meant to be enhanced by public lending institutions such as the local credit cooperative. As

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[209] For a similar assessment, see Bliss and Stern (1982: chapters 7 and 8), where the causes of Palanpur's 'poor average standard of cultivation' (p. 246) are also discussed in some detail. At a time when agriculture was based on more familiar practices than the new techniques which Palanpur farmers are slowly adopting today, Dr Voelcker arrived at a rather different view: 'To take the ordinary acts of husbandry, nowhere would one find better instances of keeping land scrupulously free of weeds, of ingenuity in device of water-raising appliances, of knowledge of soils and their capabilities, as well as of the exact time to sow and to reap, as one would in Indian agriculture, and this not at its best alone, but at its ordinary level' (also cited in Ray 1901: 18).

discussed in chapter 9, however, the functioning of these institutions leaves much to be desired, and the real cost of borrowing from this source is much higher than the official interest payments. Further, the expansion of institutional credit in Palanpur, far from leading to a moderation of private interest rates, has been accompanied by a sharp *increase* of these interest rates over the survey period. From 1983–4 onwards, it was very hard to obtain a private loan in Palanpur at less than 50 per cent per year in real terms, as compared with a real annual interest rate of 20 per cent or so in 1957–8). It is not surprising that a farmer who has to borrow at that rate, and has few opportunities to insure against crop failure, makes conservative investment decisions. For most farmers in Palanpur, the cost and risk of higher input levels seem to be the chief constraints, rather than any lack of awareness of the returns involved. In fact, one of their most common statements about cultivation practices is '*paidawaar laagaat ke oopar hai*'—'one reaps as one spends'. To this, they usually add that liquidity constraints are the chief reason for their inability to raise input levels.

Turning to the issue of slow innovation, we should first note that the domain of innovation is very wide. It is not just a matter of the inputs or implements that are available for different operations, but also of the way in which these operations are performed. New seeds, for instance, may seem to require no change in the technique of sowing or other operations. In fact, the adoption of a new seed ideally involves some adjustment in a wide range of operations: a different date and depth of sowing, a different number of weedings or irrigations, a different combination of fertilizers, etc. Most farmers in Palanpur are unable to take expert decisions on such matters, and, instead, follow simple rules of thumb. For instance, in 1983–4 it was a standard practice to apply one *dhari* (6 kgs) of urea per bigha on wheat plots at the time of the first post-sowing irrigation. There is enormous scope for improvement in the details of agricultural practices, even without additional financial investment.

Technological innovation in Palanpur is largely based on a process known in the local idiom as 'dekhi-dekha', which might be translated in this context as 'mutual observation'. Dekhi-dekha means that farmers watch each other, and follow the practices that appear to give the best results.[210] When some farmers innovate (perhaps because

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[210] This observation gives some support to the notion that technological diffusion in Indian agriculture can be usefully analysed as a 'social learning' process; on this, see Foster and Rosenzweig (1995) and Munshi (1995), and the literature cited there.

they heard of a new technique from their in-laws in a more progressive district, or because a merchant at a local fair persuaded them to try something new), others observe them, and, if they are convinced that the new method is effective, they gradually adopt it. This procedure is basically sound, and quite reliable in the long run. The process of innovation through dekhi-dekha, however, is often slow, since the relation between output and particular inputs is typically difficult to observe. It can take many years for farmers to recognize, say, that a new maize seed gives good yields, or that the use of fertilizers makes careful weeding essential.

One accelerating factor, so far as one can judge from informal observation, is basic education. Direct observation strongly suggests that better-educated farmers in Palanpur play a crucial role in technological innovation and diffusion.[211] This is understandable, since they have wider opportunities to acquire information and greater confidence to experiment with new techniques. It should also be borne in mind, however, that educated members of the village are often inclined to give up cultivation (if possible) in favour of other occupations.

2. Asset Ownership

2.1 Land

Changes in land ownership at the household level can be seen as the outcome of two distinct types of transfers: (1) land sales and purchases, and (2) the process of inheritance and partition.[212] In Palanpur, land sales have been few and far between during the survey period, so that, in the short term at least, changes in land ownership and distribution

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[211] Bliss and Stern (1982: 321) expressed a similar view.

[212] Strictly speaking, one should also consider other types of transactions, such as gifts, state-led redistribution, and transfers of mortgaged land to moneylenders. But these have played a relatively minor role in Palanpur during the survey period, and can be safely ignored here. Another qualification concerns the land consolidation operation which took place in 1986 (on which see section 4.3). Some households gained or lost several bighas of land in this operation, due either to differences in land quality between their pre- and post-consolidation holdings, or to other reasons such as incorrect or fraudulent assessment of pre-consolidation holdings. This qualification does not affect any of the observations made in this section.

are really driven by the process of inheritance and partition. Over long periods, some changes attributable to land sales and purchases become noticeable, such as the gradual transfer of land from Thakurs to other castes during the survey period. But even over long periods, land sales and purchases have had a secondary influence in comparison with the process of inheritance and partition. In fact, the combined ownership of each 'dynasty' (defined as the union of all households descending from a particular 1957–8 household) has tended to remain fairly constant over the survey period. The land endowment of a particular household has depended far more on the division of land within such a dynasty than on transactions between dynasties.

Sales and Purchases:

Our 1983–4 survey included detailed enquiries about land sales and purchases over the 1957–83 period. As with most other important transactions, we cross-checked the data until there was close agreement between the information reported by buyers and sellers. These enquiries were updated in 1993 for the 1983–93 period. For that period, we had limited opportunities for cross-checking, but the fact that patterns of land sales and purchases are very similar for the pre- and post-1983 periods suggests that the information collected for the second period is reasonably accurate. The main findings emerging from these enquiries are the following.

First, the land market is quite 'inactive' in Palanpur, in the sense that sales and purchases of land are infrequent events. Over the 1957–93 period, Palanpur households sold 568 bighas of land, and purchased 501 bighas (see Table 4).[213] This corresponds to an annual 'turnover' of barely 0.5 per cent, i.e. the amount of land sold each year is about a half of one per cent of the village land.[214] The same turnover rate would apply if, say, each household sold all its land every 200 years.

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[213] About half of the observed transactions consist of internal turnover i.e. land changing hands between different households within the village; the other half consists of transactions with outsiders.

[214] Similar turnover rates emerge from data presented by Saith and Tankha (1995) for village Parhil in western Uttar Pradesh (0.5 per cent), by Walker and Ryan (1990: 158) for the ICRISAT villages (0.7 per cent), and by Beck (1994: 101) for two villages of West Bengal (0.7 per cent). Walker and Ryan (1990: 158) argue that the land market in the ICRISAT villages is quite active, but the force of their argument is somewhat reduced by the fact that they apparently double-count sales and purchases.

Table 4 : Net Land Sales During the Survey Period (1957–93), by Caste

Caste	Amount sold (bighas)	Amount pur-chased (bighas)	Net amount sold (bighas)	Net amount sold per capita[a] (bighas)	Net amount sold as proportion of amount owned in 1957–8 (per-centage)
Thakur	276	160	116	0.41	13
Murao	63	133	− 70	− 0.24	− 7
Muslim[b]	1	70	− 69	− 0.49	− 47
Jatab[c]	30	3	27	0.20	11
Others	198	135	63	0.22	14
All Castes	568	501	67	0.06	2.5

[a] The reference population is the 1993 population; the corresponding figures based on taking the 1957–8 population as the reference population are very similar (except for a scale factor).

[b] A large part of the land acquired by Muslims was purchased by a single in-migrating household, headed by a moneylender (see Nisar in chapter 9).

[c] Most of the land sold by Jatabs was sold by a single household, after 1984.

Note: This table excludes 45 bighas of land owned and sold by Palanpur households in distant villages.

Second, sales and purchases have little effect on the size distribution of land ownership. The propensities to buy and sell (measured as the amount of land bought and sold in 1957–93 as a proportion of land initially owned) are more or less the same in different land ownership classes. Over the 1957–83 period, sales from a larger to a smaller landowner have been marginally less frequent than sales from a smaller to a larger landowner.[215]

Third, as far as the distribution of land between different castes is concerned, land sales and purchases have had a somewhat 'progressive' effect (see Table 4). Half of the land sold during the survey period was sold by Thakurs, and while Thakurs have also bought some land, they rank first in terms of net land sales per capita. The main gainers have

[215] We cannot tell whether the same applied in 1983–93, because the 1993 survey did not include much information on the identity of the persons with whom the respondents transacted.

been Muraos, and one Muslim household (headed by an in-migrant moneylender, Nisar, who sold his land in his village of origin). Other Muslims have avoided selling, and some have purchased small amounts. Jatabs have virtually abstained from either buying or selling throughout the survey period, except for one landowner who sold all his land after 1983–4 to repay debts. That exception apart, the overall pattern is one of gradual redistribution away from the dominant non-labouring caste (Thakurs), with castes that have a strong involvement in cultivation as an occupation (Muraos, Jatabs, and Muslims) either gaining or maintaining their position.

Fourth, migration and acute financial distress are the two predominant motives for selling land. When migration is intra-rural, the sale of land in one village is sometimes combined with purchase in another village. Common causes of distress are unmanageable debts, court cases, and medical expenses. During the survey period, a number of individuals have also courted bankruptcy by dissipating their wealth through gambling, drinking, and similar pastimes. It is worth noting that, except for these cases of dissipation, land has rarely been sold for consumption purposes. Of course, households sometimes accumulate excessive debts through imprudent budget management (e.g. ostentatious marriages), and end up having to sell land to resolve the problem. But it is rare for someone to *plan* on selling land for the purpose of domestic expenditure. The main exception concerns a Thakur landowner, with seven daughters but no son. Having no sons, he had no special interest in holding on to the land. Also, he was a gharjamai, with little personal attachment to the family land, which was formally owned by his wife and widowed mother-in-law. Hence, he sold the family land over the years, to pay for his daughters' marriages and have an easy life. By 1993 this household was virtually landless.

Interestingly, these general observations are quite similar to those of Saith and Tankha (1995) on land transactions in Parhil, another village of western Uttar Pradesh.[216] The specific finding that land transactions are relatively uncommon in rural India, and tend to be linked with some form of financial distress, has also been reported in

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[216] In Parhil, for instance, (1) land purchases and sales are infrequent, with an annual turnover of about 0.5 per cent of total land owned (as in Palanpur), (2) land transactions have little effect on the size distribution of landholdings (and, if anything, have an equalizing effect), (3) there has been some transfer of land from the main non-labouring caste (in this case the Brahmins) to the main cultivating castes.

a number of other studies.[217] The possible reasons for this widely-observed pattern have been discussed by various authors, and will not be reviewed here.[218] In Palanpur, three basic factors are the following.

First, land sales involve large transaction costs. In Palanpur, selling land means going through costly legal and administrative proceedings, taking some risk of becoming the victim of a dispute or fraud, and losing prestige in the village society. Some of these costs are fixed, or disproportionately large for small transactions. This makes sales of small amounts of land particularly costly.

Second, the poor functioning of the credit market is a serious obstacle to widespread land transactions.[219] Consider, for instance, the case where the land market itself is competitive, with no transaction costs. In the absence of credit-market imperfections, we expect the more productive farmers to buy land from the less productive ones.[220] However, if the marginal cost of credit rises sharply with the amount borrowed, and if land can only be bought and sold in discrete quantities, the reservation price of buyers is likely to be lower than that of sellers for most potential transactions (especially if productivity differences are small). Mortgage arrangements are a potential solution, but these too are vulnerable to some of the problems that affect credit transactions in general in a small village economy.[221]

Third, bequest considerations are another plausible reason for the inactive nature of the land market. The fact that strong social stigma are attached to selling land offers some protection to future generations against possible profligacy on the part of the current generation. In the absence of bequest considerations, it would be hard to understand why landowners don't sell their land in their old age (even, in some cases, when they know that their end is near unless they sell land to pay for some expensive medical treatment). In this connection, it is significant to note that many of those who have sold land in Palanpur

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[217] See e.g. Lewis and Barnouw (1958), Swartzberg (1979), Hill (1986), Beck (1994) ; also Sarap (1992) and the literature cited there.

[218] See Bardhan (1984a), Binswanger and Rosenzweig (1984, 1986a), Basu (1986), Sarap (1992), Dasgupta (1993), among others; also Sharma (1992) for a review of the arguments.

[220] It is interesting that land transactions in Palanpur, limited as they are, have to some extent followed that predicted pattern, in the form of a gradual transfer of land from Thakurs to other castes during the survey period.

[221] On this, see also Binswanger and Rosenzweig (1986a).

are individuals to whom the bequest motive does not apply (e.g. because they have no children, or at least no sons), or for whom land is no longer the best vehicle for bequest (e.g. because they have migrated to urban areas). The father of seven daughters mentioned earlier is a prominent example.

We end by noting that none of these inhibiting factors are definitive obstacles against land sales, and nor are they immutable. A more active land market may well develop in some circumstances, e.g. with the growth of rural-urban migration or of non-agricultural investment opportunities in rural areas, as seems to be happening already in some parts of India.[222] Even today, land sales do take place from time to time in Palanpur, and exert a significant influence on land ownership patterns in the long run, as the gradual decline of land ownership among Thakurs over the survey period illustrates.

Inheritance and Partition:

Unlike land sales and purchases, the process of inheritance and partition follows well-defined rules, and has fairly predictable consequences. When a man dies, each of his sons is entitled to an equal share of his land.[223] The actual division of the land may not take place as long as his sons live together, but, as we saw in chapter 1, joint families in Palanpur usually break up soon after (if not before) the death of the patriarch. Division generally takes the form of each plot being divided equally between all sons, as opposed to different sons getting different plots. Although this procedure amounts to foregoing an opportunity for land 'consolidation', it has the advantage of preempting potentially explosive quarrels about who gets which plot (or about the complicated transfers of cash or property that might be required to ensure that each son gets a fair deal overall).[224]

Such is the basic scenario. Special mention must be made, however,

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[222]   For an interesting example, see da Corta (1993). In the south Indian villages surveyed in that study, land sales appear to be quite common, partly due to the migration of many landowners to urban areas. See also Bailey (1957), Rajasekhar (1988), and Walker and Ryan (1990).

[223]   We are referring here to the *actual practice* of land inheritance in Palanpur. The legal position (as per the Hindu Succession Act of 1956) is that, if a man dies without leaving a will, all his 'class-one heirs' have the right to an equal share of his property; a man's class-one heirs consist of his wife and children (sons and daughters), and also his mother if she is alive and widowed.

[224]   For a similar observation in Bihar, and an enlightening discussion of 'the peasant's concern about the fairness of the division of plots', see Swartzberg (1979: 70).

of the situation where household partition takes place *before* the death of the patriarch. It has become quite common, for instance, for an adult son to form a separate household with his wife and children, even though his father is still alive (see section 1.2). In such a situation, formal ownership rights remain vested in the father, but it is often the case that the father concedes the *use* of part of his land to his separated son on a long-term basis.[225] For practical purposes, this arrangement can be regarded as a form of *pre-mortem* inheritance. Accordingly, in our 1983–4 survey, we have considered it as a case of 'virtual ownership' of the relevant plots by the son in question. The figures on land ownership used in this section are based on treating 'virtual ownership' as a form of ownership.[226]

The process of inheritance and partition creates a good deal of household mobility over time in the land ownership scale. To illustrate, consider the cases of Shiv Lal and Ram Chander, two young Murao farmers. Their respective grandfathers were large landowners, with about 100 bighas of land each; both of them were in the top decile of the land ownership scale in 1957–8. Ram Chander is the sole heir of his grandfather's land (he has no brothers or paternal uncles), and is now the largest landowner in Palanpur. Shiv Lal's father had two brothers, and Shiv Lal himself has two brothers, so that his share of the family land is only 11 bighas. This puts him in the third-lowest decile of the land ownership scale in 1993. His own sons (there are two of them) will inherit less than one acre of land each, and will almost certainly need to diversify out of agriculture in order to feed their families.

Another interesting case is that of Charan Singh's seven sons, who have become quasi-landless within one generation. Their father owned 28.5 bighas of land; in 1974–5, this put him in the third-highest decile of the land ownership scale. In 1993, all his sons were living separately, with barely 4 bighas of land each. One of them was reported to be pulling a rickshaw in Chandausi, a profound humiliation for a Thakur.

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[225] Interestingly, there seem to be no agreed norms about the allocation of land in such situations. Some separated sons find themselves completely landless; others manage to obtain the use of a share of their father's land, without rent; still others enter into standard sharecropping contracts with their father. The personal rapport between father and son seems to be one of the crucial determinants of the chosen arrangement.

[226] For the purpose of these figures, the formal owners of land virtually owned by others (e.g. the father of a separated son) are considered *not* to own the land in question; this is to avoid double-counting.

These illustrations are by no means extreme. Given the high levels of fertility and child mortality in Palanpur, the number of surviving sons per couple varies widely, even though most couples report that they regard two surviving sons as the ideal number (see chapter 1). This, in turn, leads to a great deal of household mobility in the land ownership scale.[227]

A different issue is whether the process of inheritance and partition, on its own, leads to increasing or decreasing inequality in land ownership over time. If we ignore the phenomenon of increasing filial separation, the basic answer is that this process is a source of decreasing inequality if there is a positive correlation (across dynasties) between population growth and per capita land ownership. In Palanpur, there is indeed a positive—and statistically significant—correlation between per capita land ownership in 1957–8 and population growth over the survey period.[228] Note that, in Palanpur, the process of inheritance and partition is also likely to work in the direction of reducing land-ownership inequality between different castes, since population growth is substantially faster for Thakurs and Muraos than for other castes (see Table 1, and chapter 3). As far as filial separation is concerned, its rising incidence over the survey period must have had a marginal effect in the direction of increasing inequality, by enlarging the group of adult males who are temporarily landless as a result of (1) living separately from their father, and (2) failing to obtain 'virtual ownership' of a share of the family land.

These and related demographic considerations have to be borne in mind while interpreting the evolution of land ownership over time. At the household level, demographic factors are far more important determinants of changing land endowments than purchases and sales. Even at the village level, the distribution of land

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[227] Similar observations can be found in a number of village studies; see Jayaraman and Lanjouw (1997). Bailey (1957) even found that 'of the five richest men in the village, four were sole heir or have become sole heir by the death of brothers' (p. 90).

[228] See chapter 3. This feature is consistent with earlier studies showing a positive link between land ownership and *fertility* in rural India; see Nagarajan and Krishnamoorty (1992) and the literature cited there (also Säävälä 1996). Some studies, however, find a negative link between land ownership and fertility (e.g. Das Gupta 1994a), which could also lead—depending on mortality patterns—to a negative association between land ownership and population growth.

is affected by demographic factors, to the extent that population growth is not independent of land ownership and that the propensity of sons to live with their father does not remain constant over time.

Trends in Land Ownership:

In examining trends in the distribution of land owned over the survey period, it is helpful to begin by taking the 'dynasty' as the unit of analysis. A dynasty, in any survey year, refers to all the descendants of a particular 1957–8 household (the 'parent household'). Thus, in 1957–8, each household is a dynasty; in other survey years, a dynasty is a collection of households, consisting of the different households into which the parent household has been partitioned. For any dynasty and survey year, we can calculate the values of a wide range of economic and demographic variables (number of members, amount of land owned, income, etc.) by aggregation.[229]

Based on this procedure, the basic finding is that the distribution of land between different dynasties has remained remarkably stable over time.[230] As discussed in greater detail in chapter 5, the Lorenz curves of per capita land ownership in different survey years, taking the dynasty as the unit of analysis, are very close to each other. Correspondingly, the Gini coefficient is quite stable, taking the values 0.46, 0.44, 0.45, 0.43 and 0.43 in the five successive survey years.[231] These results are consistent with our earlier findings about land sales, including the fact that the land market in Palanpur is quite inactive.

Turning to households, Table 5 presents details of the size distribution of landholdings in different survey years. As one expects, the distribution of land ownership 'slides down' over time, as population growth and household partition drive down the average landholding size. Ownership holdings above 100 bighas have completely disappeared over the survey period, and the number of landholdings of 75 bighas and above has declined from 8 to 1. At the other end of the

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[230] Saith and Tankha (1995: 18) report similar findings for Parhil.

[231] These Gini coefficients are calculated by treating each individual as one observation, and considering that each individual within a dynasty is the owner of an equal share of the dynasty's land. Similar results apply if we treat each dynasty as one observation: the Gini coefficients in different survey years are then 0.49, 0.46, 0.47, 0.49 and 0.50.

Table 5 : Distribution of Households by Landholding Size in Different Survey Years

Land-holding size group (bighas)	Number of ownership holdings in different survey years					Number of operational holdings in different survey years				
	1957–8	1962–3	1974–5[a]	1983–4	1993	1957–8	1962–3	1974–5[a]	1983–4	1993
0	14	12	17	27	44	16	17	25	46	62
0.1–5	1	2	12	19	38	1	1	6	13	23
5–10	17	14	9	21	33	14	7	9	9	33
10–15	11	15	15	14	19	10	10	6	9	13
15–20	4	6	10	10	22	5	10	8	9	15
20–30	21	25	31	25	19	25	26	35	18	24
30–40	12	12	5	12	10	12	15	16	22	12
40–50	6	7	4	4	5	6	6	4	8	6
50–75	6	6	12	5	2	8	8	8	4	4
75–100	4	4	3	6	1	3	3	1	3	1
>100	4	3	0	0	0	0	3	0	2	0
All Sizes	100	106	118	143	193	100	106	117	143	193
Average holding size[b] (bighas per capita)	5.20	4.65	3.28	2.70	2.08	4.41	4.76	3.20	2.76	2.12
	Survey years					Survey years				
	1957–8	1962–3	1974–5[a]	1983–4	1993	1957–8	1962–3	1974–5[a]	1983–4	1993
Gini co-efficient[c]	0.49	0.47	0.49	0.50	0.52	0.48	0.45	0.44	0.51	0.52
	(0.43)	(0.42)	(0.42)	(0.43)	(0.43)	(0.40)	(0.37)	(0.33)	(0.37)	(0.36)
Incidence of landlessness (%)										
house-holds	14.0	11.3	14.5	18.9	22.7	—	—	—	—	—
indi-viduals	11.9	8.9	11.7	12.9	16.9	—	—	—	—	—

[a] Including 6 landless households excluded from the Bliss—Stern (1982) household survey.
[b] Total land owned/operated, divided by village population.
[c] The Gini coefficient applies to individuals (with each household member being considered as the owner of an equal share of the household land); the figures in brackets are calculated by excluding landless households (in the first five columns), or households not operating any land (in the last five columns).

scale, there were as many as 38 holdings of less than 5 bighas in 1993(not counting the landless), compared with only one in 1957–8.

If households in different landholding-size groups grow and partition at the same rate, then the process of partition simply leads to a 're-scaling' of the land ownership structure, and does not affect scaleneutral measures of inequality such as the Gini coefficient. As Table 5 indicates, the Gini coefficient of per capita land ownership (taking the household as the unit of analysis) has indeed remained fairly stable over the survey period. It can also be seen that variations in the Gini coefficient between different survey years are overwhelmingly driven by changes in the incidence of landlessness. Indeed, inequality of land ownership among landowners (see figures in brackets in the penultimate row) has remained virtually constant throughout the survey period. We shall return below to the issue of landlessness.

We take this opportunity to comment briefly on the size distribution of operational holdings in different survey years, also shown in Table 5 (right-hand panel). The difference between this distribution and the size distribution of ownership holdings (left-hand panel in the same table) primarily reflects the operation of tenancy. The most consistent feature of tenancy is that it leads to a sharp decline in the proportion of households with marginal holdings (say, below 10 bighas), but also to an increase in the proportion of households with no land at all. The overall impact of tenancy on the level of inequality in land distribution is small: the Gini coefficient of operational holdings is somewhat lower than that of ownership holdings in 1974–5, but the two coefficients are virtually identical for each of the other four survey years.

In terms of the distribution of land between different castes (Table 6), the main development during the survey period is the relative decline of the Thakurs, due partly to land sales, and partly to a relatively high rate of population growth. In 1993, Thakurs owned barely one-fourth as much land as in 1957–8, in per capita terms. Tenancy has the effect of further reducing caste differences in land cultivated: in each survey year, net leased-in area was positive for Jatabs and Muslims, and negative for Thakurs (except in 1962–3). It is quite a remarkable fact that, by 1993, land cultivated per capita was no higher for Thakurs than for Muslims.

Landlessness:

Table 5 suggests an increase in landlessness during the survey period. The proportion of landless households increased from

Table 6 : Land Ownership and Cultivation, by Caste Group

	1957–8	1962–3	1974–5[a]	1983–4	1993[b]
Land owned per capita (*bighas*)					
Thakur	8.7	6.8	4.4	3.5	2.4 (28)
Murao	8.7	7.7	5.5	5.0	3.5 (40)
Muslim	2.8	2.3	1.6	1.0	1.2 (43)
Jatab	3.4	3.4	2.1	1.8	1.3 (38)
Other	2.4	2.4	1.6	1.5	1.1 (46)
All Households	5.2	4.7	3.3	2.7	2.1 (40)
Land cultivated per capita (*bighas*)					
Thakur	6.2	7.3	3.7	2.7	1.9 (31)
Murao	6.9	7.2	4.2	5.1	3.5 (51)
Muslim	3.5	3.3	2.9	2.2	1.9 (54)
Jatab	3.4	4.0	3.1	1.9	1.4 (41)
Other	2.5	2.2	1.8	1.6	1.3 (52)
All Households	4.4	4.8	3.2	2.8	2.1 (51)

[a]   Including 6 landless households excluded from the Bliss—Stern household survey (see Bliss and Stern 1982: Table 2.9).
[b]   In brackets, per capita land owned (or cultivated) in 1993 as a percentage of the corresponding 1957–8 figure.

around 14 per cent for the first three survey years to 19 per cent in 1983–4 and 23 per cent in 1993.[232] This observation is intriguing, since little of what we know about Palanpur's development experience over the survey period leads to the prediction of an increase in landlessness. A closer look at what happened between 1974–5 and 1993 is in order.

Table 7 presents some relevant information. An interesting insight arising from this table is the limited overlap between the landless populations in 1974–5 and 1993. There is a good deal of movement in *and* out of landlessness, and the causes of movement are quite diverse. To think of increasing landlessness as being necessarily the outcome of land sales would be quite misleading.

Indeed, Table 7 clearly indicates that land sales and purchases are not the driving force behind the increase of landlessness between

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[232]   There was a small dip in landlessness in 1962–3, mainly due to the temporary absence of several landless households.

Table 7 : Causes of Change in Land-Ownership Status Between 1974–5 and 1993

	Number of cases
Number of landless households in 1993:	44
Of which:	
already landless in 1974–5	7
in-migrating landless households	13
separated son[a]	20
sold land	4
Number of landless households in 1974–5:	17
Of which:	
still landless in 1993	7
left the village or died	3
received land from the government	1
bought land	6

[a] This refers to an adult son whose father owns land, but who started living separately from his father after 1974–5, without 'virtual ownership' of a share of his father's land.

1974–5 and 1993. Four households did sell land between these two survey years, but six other landless households *bought* land during the same period, so that the net impact of land transactions on the incidence of landlessness has been marginal (and negative). Far more significant factors are (1) in-migration of landless households (13 cases), and (2) separation of adult sons from their father, *without* 'virtual ownership' of a share of the family land (20 cases).

In the light of these findings, the increase of landlessness between 1974–5 and 1993 does not appear to be particularly alarming. Inmigration of landless households would, in principle, be accompanied by a reduction of landlessness in the villages of origin of the migrating households. And separated sons are expected to get their share of the family land in due course. This is not to deny that the livelihood of these new landless households is a serious issue. But at least the increase of landlessness between 1974–5 and 1993 does not reflect the impoverishment of marginal farmers, or economic distress for some other section of the land-owning population.

2.2 Other Assets

Trends in Aggregate Ownership:

As we saw in chapter 1, productive capital in Palanpur consists primarily of farm assets. Table 8 presents summary information on the ownership of such assets (other than land) in 1957–8 and 1993. The table also provides the corresponding details for major consumer durables, many of which have some productive uses. Relatively minor assets such as ploughs, spades, lanterns, and household utensils are omitted from Table 8.[233]

As Table 8 indicates, the ownership of most productive assets and consumer durables has considerably expanded over the survey period, with two exceptions. First, the number of Persian wheels rose steadily between 1957–8 and 1974–5, but declined to zero by 1993 as Persian wheels were rapidly displaced by diesel pumpsets. Second, cattle ownership has declined in per capita terms over the survey period. The absolute number of bullocks and male buffaloes increased marginally between 1957–8 and 1983–4, as one might expect since ploughing requirements also increased somewhat with the expansion of double-cropping. Between 1983–4 and 1993, however, there was a substantial displacement of bullocks and male buffaloes by tractors. In the case of cows and female buffaloes, absolute numbers steadily increased over the survey period, but there has been a decline in per capita terms. This decline may reflect the increased opportunity cost of fodder as land was put to other uses. Given that the displacement of Persian wheels and male cattle is *part* of the accumulation process, the overall picture is unambiguously one of steady and broad-based increase in the ownership of productive assets and consumer durables.

It is not easy to translate the asset-specific data presented in Table 8 into estimates of the aggregate value of assets in different survey years. Some tentative calculations can, however, be presented for 1962–3 and 1983–4 (the details of these calculations are given in the appendix to chapter 3). These calculations refer to 'quantifiable assets', which include land as well as all productive assets and consumer durables for which adequate data (including estimates of current value) are available. The most important non-quantifiable assets are buildings, for which we have no price estimates. Other non-quantifiable assets include jewelry and food stocks; the value of these other non-quantifiable assets, however, is considerably lower

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[233] We have not attempted to collect data on ownership of jewelry and related items, given the sensitive nature of this information.

Table 8 : Change in Ownership of Major Durables, 1957–93

Item	Per capita ownership in 1957–8 (number per 1,000 persons)	Per capita ownership in 1993[a] (number per 1,000 persons)	Share of selected groups in total ownership, 1957–8, divided by share of population[b] (%)				Share of selected groups in total ownership, 1993, divided by share of population[b] (%)			
			Thakurs (20)	Muraos (22)	Muslims (10)	Jatabs (13)	Thakurs (25)	Muraos (26)	Muslims (12)	Jatabs (12)
Productive assets										
Persian wheels	21	0	1.1	3.0	0.0	0.0	—	—	—	—
Pump-sets	0	36	—	—	—	—	1.2	1.5	1.2	0.0
Electric tube-wells	0	1	—	—	—	—	0.0	3.9	0.0	0.0
Thresh-ers	0	6	—	—	—	—	0.6	2.8	0.0	0.0
Tractors	0	8	—	—	—	—	0.4	2.6	0.0	0.0
Flour mills	0	3	—	—	—	—	0.0	1.3	5.3	0.0
Cows and female buffaloes	169	138	1.8	1.3	0.3	0.4	1.3	1.0	1.0	0.7
Bullocks and male buffaloes	235	92	1.5	1.3	1.2	0.8	0.8	1.3	0.8	1.1
Consumer durables[c]										
Pucca building[d]	21	94	2.1	1.5	0.0	0.0	1.2	1.1	0.7	0.3
Bicycles	7	77	3.8	0.0	0.0	0.0	0.9	1.4	0.9	0.3
Radios	0	47	0.0	0.0	0.0	0.0	0.9	1.3	0.3	0.0
Watches	19	99	2.3	0.0	0.0	0.0	0.8	1.3	1.5	0.4
Sewing machines	0	23	—	—	—	—	0.8	0.9	1.0	0.0
Motor-cycles	0	2	—	—	—	—	0.0	3.8	0.0	0.0

| Televi-sions | 0 | 3 | — | — | — | — | 1.3 | 0.0 | 0.0 | 0.0 |
| Guns | n/a | 3 | — | — | — | — | 4.0 | 0.0 | 0.0 | 0.0 |

[a] Since the 1993 village population (1,133 persons) was not very different from 1,000, the numbers in this column can also be interpreted as rough indicators of the *absolute* numbers of the relevant items in 1993.

[b] The percentages in brackets below caste names indicate the population share of the relevant caste in the relevant year. These population shares do *not* add up to 100 per cent, since the 'others' category is omitted.

[c] Data on consumer durables relate to 1962–3 and 1990, instead of 1957–8 and 1993.

[d] A household is counted as owning a *pucca* building if at least *part* of its residential dwelling is made of bricks or other concrete material.

than that of buildings for most households. The items listed in Table 8, other than buildings, account for the bulk (in value terms) of non-land quantifiable assets; other quantifiable assets include smaller animals such as goats, minor farm implements, and various household durables.

The aggregate value of quantifiable assets other than land, at 1960–1 prices, is estimated to have risen from Rs 41,055 in 1962–3 to Rs 87,667 in 1983–4. In real per capita terms, this corresponds to an annual growth rate of 1.25 per cent. This is somewhat lower than we expected based on visual observation of the steadily increasing stock of all kinds of assets and durables that hardly existed in Palanpur at the beginning of the survey period. One plausible reason for this 'optical illusion' is that this accumulation pattern partly reflects changes in relative prices. Many consumer durables, for instance, are now much cheaper relative to (say) cattle than they were in 1957–8; the substitution from the latter to the former can easily give a spurious impression of capital accumulation, because the decline of cattle ownership is much less conspicuous than the accumulation of consumer durables. Note also that the value of buildings (the main non-quantifiable asset) has probably grown faster than that of other assets during the survey period.

To arrive at similar estimates for net wealth, we have to subtract debts to outsiders (mainly credit institutions), and add the value of land. Debts to credit institutions have grown very rapidly over the survey period, e.g. from around Rs 12,000 in 1962–3 to Rs 64,320 in 1983–4 (at 1960–1 prices in both cases). These institutional debts, however, have been primarily geared to land improvement, and have a counterpart in increasing land prices. Rough estimates of the average value of land in 1962–3 were obtained from 1983–4 data on land prices by assuming (1) that the value of irrigated land in 1962–3 was somewhere between one-half and two-thirds of its 1983–4 value (at constant prices), and (2) that the value of non-irrigated land in 1962–3 was about one-third of the value of irrigated land. Both assumptions are 'conservative' in the sense that they are likely to be biased, if at all, towards underestimation of the actual increase in land prices between 1962–3 and 1983–4. Based on these assumptions, we find that the average annual growth rate of net wealth per capita at constant prices during that period was somewhere between 0.8 and 2.0 per cent per year (see Table 9). The true value is likely to be closer to the upper bound of this interval than to the lower bound,

and it would be a little higher still after the inclusion of buildings and other non-quantifiable assets in the calculations.

Table 9 : Wealth Estimates, 1962–3 and 1983–4

| | Estimated value of assets per capita (Rs at 1960–1 prices) | | | Gini coefficient | |
	1962–3	1983–4[a]		1962–3	1983–4
Assets					
(1) Productive assets and consumer durables	70	91	(1.25)	0.43	0.36
(2a) Land (k=1/2)	294	512	(2.6)	0.50	0.49
(2b) Land (k=2/3)	391	512	(1.3)	0.50	0.49
(3) Total assets (1 + 2)					
k=1/2 (1 + 2a)	364	603	(2.4)	0.457	0.47
k=2/3 (1 + 2b)	461	603	(1.3)	0.464	0.47
Liabilities					
(4) Debts to outsiders (mainly formal credit institutions)	22	79	(6.1)	n/a	0.71
Net Wealth (3 − 4)					
k=1/2	342	524	(2.0)	≈ 0.46[b]	n/a[b]
k=2/3	439	524	(0.8)	≈ 0.46[b]	n/a[b]

[a] In brackets, the implied exponential growth rate since 1962–3.

[b] Since liabilities were small in 1962–3, the Gini coefficient of net wealth for that year must have been close to the Gini coefficient for total assets (shown in the same column). On the Gini coefficient for net wealth in 1983–4, see text.

Notes: (1) The parameter k is the value of irrigated land in 1962–3 as a proportion of its 1983–4 value (at constant prices). (2) The calculations also assume that the value of unirrigated land in 1962–3 was one-third of the value of irrigated land. (3) Note that the Gini coefficient of land ownership in 1962–3 is a little higher in this table than in Table 5, where no distinction was made between irrigated and unirrigated land (in 1983–4, the proportion of irrigated land was close to 100 per cent). (4) Strictly speaking, the calculation of the Gini coefficient for liabilities in 1983–4 should take into account debts to village lenders; but these are small relative to outside debts. (5) Buildings and other 'non-quantifiable assets' are excluded from all the calculations. For further details, see text and the appendix to chapter 3.

Distributional Issues:

The right hand side of Table 8 focuses on the distribution of assets between different caste groups in 1957–8 and 1993. It can be seen that Muraos have enjoyed the largest accumulation of household assets over the survey period. In the case of farm assets, this may be partly attributed to their high involvement in cultivation as an occupation; but Muraos also lead in terms of ownership of consumer durables. The share of Thakurs in the aggregate ownership of different assets has substantially declined since 1957–8, and is now little higher (if at all) than their population share for most assets, with the notable exception of guns, which they continue to monopolize. Jatabs and Muslims have obtained

somewhat improved shares of aggregate household assets over the survey period, but they remain severely deprived in absolute terms as well as in comparison with Thakurs and Muraos.[234]

These trends are in agreement with other indications of recent changes in the economic position of different caste groups. The rising prosperity of Muraos, and the relative decline of Thakurs, are prominent aspects of economic change over the survey period, clearly reflected here in asset ownership data. Similarly with the continued marginalization of disadvantaged castes, particularly the Jatabs.

Finally, we briefly consider the household distribution of per capita net wealth, as defined earlier. We continue to take 1962–3 and 1983–4 as the reference years, and to exclude non-quantifiable assets from the initial calculations. Note also that, in the absence of plot-specific estimates of land value, we only distinguish between irrigated and non-irrigated land (the latter being valued, as before, at one-third of the value of irrigated land). For both years, the Gini coefficient for asset ownership is quite close to the Gini coefficient of land ownership, as one would expect since land accounts for a large share of the total value of assets (see Table 9).[235] And since the household distribution of land ownership has remained quite stable, as discussed earlier, the Gini coefficients for asset ownership in 1962–3 and 1983–4 (0.46 and 0.47, respectively) are themselves very close to each other.

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[234] The improvement appears to be quite substantial in the case of Muslims, but this largely reflects the in-migration of a relatively wealthy Muslim moneylender, Nisar (on whom see chapter 9).

[235] In both years, the Gini coefficient for asset ownership is a little *lower* than the Gini coefficient for land ownership. This reflects the fact that assets other than land tend to be somewhat less unequally distributed than land itself; livestock, for instance, is more evenly distributed than land, as has often been observed elsewhere in rural India.

Going from asset ownership to net wealth (by subtracting liabilities) poses an interesting methodological problem, arising from the fact that in 1983–4 sixteen households had *negative* net wealth, due to large institutional debts. With negative observations, the Gini coefficient of per capita net wealth in 1983–4 loses its usual interpretation (as a normalized measure of the area between the Lorenz curve and the diagonal). If we simply replace the negative observations by zeros, we find a Gini coefficient of 0.55, markedly higher than the corresponding value of 0.46 for 1962–3. Since the replacement of negative observations by zeros clearly leads to *underestimation* of wealth inequality, we can conclude with reasonable confidence that wealth inequality has increased between 1962–3 and 1983–4.[236]

Several estimation problems qualify this conclusion. First, the estimate of 0.46 for the Gini coefficient of net wealth in 1962–3 is based on ignoring liabilities, which were comparatively small in that year (see Table 9). The true value is probably a little higher. Second, the inclusion of non-quantifiable assets in the calculations would almost certainly reduce the gap between the 1962–3 and 1983–4 Gini coefficients, by reducing the 'weight' of 1983–4 liabilities (the driving force behind this gap) in the calculations. Third, an unknown proportion of 1983–4 liabilities are more apparent than real, to the extent that institutional debts are liable to cancellation.[237]

Extensive sensitivity analysis, however, suggests that the basic finding of rising inequality of net wealth between 1962–3 and 1983–4 is likely to survive the corrections that might be required to deal with these estimation problems, except under extreme assumptions. The bottom line is that (1) there is qualified evidence of some increase in wealth inequality over the survey period, (2) the magnitude of inequality increase is hard to assess (and may not be large), and (3) the increase of wealth inequality has taken the form of a combination of distributionally-neutral asset accumulation with uneven accumulation of institutional debts. That, at any rate, is our best reading of the available evidence.

It is tempting to assume that the increase in wealth inequality is indicative of a broader trend of rising disparity in economic opportunities

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[236] In her longitudinal study of Gokilapuram in Tamil Nadu, Swaminathan (1988a) also finds some increase in wealth inequality over time, primarily due (unlike in Palanpur) to the polarization of land ownership.

[237] Large-scale cancellation of institutional debts did actually occur in 1990; see section 4.2.

over the survey period. There is, however, little additional evidence of such a trend. As we saw earlier, the distribution of land and other assets has been remarkably stable, contrary to what one might expect in a period of systematically rising disparities. Also, the available evidence suggests that income inequality may have decreased rather than increased over the survey period. These contrasting trends will receive further consideration in section 3.2.

3. Private Incomes

The incomes of all Palanpur households were estimated in each of the first four surveys (1957–8, 1962–3, 1974–5 and 1983–4). No attempt was made to estimate household incomes in 1993. In this section, and unless stated otherwise, the reference period is 1957–84.

3.1 Real Per Capita Income

The growth rate of private incomes over the 1957–84 period is not easy to assess, for three reasons. First, the coverage of income sources and the method used for calculating household incomes were not exactly the same for each survey.[238] For instance, the 1983–4 survey includes detailed information on all important sources of income, while the estimation of 1974–5 incomes involved a certain amount of guesswork for some income sources (see Bliss and Stern 1982, chapter 6). The estimates for 1957–8 and 1962–3, which are based on data collected in a single interview (rather than a series of interviews distributed over the year, as in 1974–5 and 1983–4), also involve approximation for several income sources. Having said this, we should emphasize that income estimates for each survey are based on the same notion of income as net returns to all household assets.[239] Indeed, as far as income estimates are concerned, the 1983–4 survey essentially involved refinements of the earlier work of Bliss and Stern (1982) on the 1974–5 survey; and the income estimates for 1957–8 and 1962–3 were calculated by us, using the information available from the survey questionnaires and applying the same basic formula as in 1974–5 and 1983–4. While substantial margins of error certainly remain in

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[238] For further discussion of the methodological issues relating to the measurement of household incomes, and a comparison of estimation methods in different surveys, see the appendix to chapter 3.

[239] For further discussion of this notion, see Bliss and Stern (1982), chapter 6, and chapter 3 of this book.

individual income estimates, these individual errors do not invalidate broad comparisons of per capita incomes between different years or household groups.

Second, estimates of real income growth can be quite sensitive to the choice of price index used to deflate nominal income figures in different years. Since the broad observations made in this section are, in fact, quite robust with respect to different price indices, we shall not burden the presentation with a detailed examination of alternative price indices. Instead, we shall make consistent use of the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh to deflate nominal income figures.[240] Unless stated otherwise, 'income' in the remainder of this section refers to real income at 1960–1 prices based on that index.

Third, and this is the chief difficulty, private incomes fluctuate a great deal from year to year, mainly due to the varying quality of the harvest. The existence of a 'transient' component in household income makes it difficult to estimate long-term trends on the basis of observations relating to four specific years. The available evidence indicates that the harvest was fair in 1957–8, rather poor in 1962–3, good in 1974–5, and poor in 1983–4. These fluctuations in the quality of the harvest will have to be borne in mind while examining income trends and related economic changes in Palanpur.

A preliminary estimate of trends in per capita income over the 1957–84 period can be obtained from a simple linear regression of the logarithm of average per capita income on time (Table 10 presents the relevant income data). Given what we know about the sequencing of good and poor harvests, we expect this to produce an *underestimate* of the trend growth rate of per capita income. Even then, the time coefficient is positive, and gives a growth rate of per capita income of 1.4 per cent per year in real terms.

As a crude correction for fluctuations in the quality of the harvest, we can take the average of 1957–8 and 1962–3 per capita income for each household as a rough estimate of 'trend income' for the 1957–63 sub-period, construct a similar estimate of trend income

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[240] The CPIAL is often used to estimate trends in the incidence of rural poverty in India. Its use in estimating trends in average income for the whole rural population involves some loss of accuracy (since the consumption patterns of agricultural labourers are not quite representative of the rural population as a whole), but does not affect the basic conclusions presented in this section.

Table 10 : Real Incomes in Palanpur, 1957–84

	1957–8	1962–3	1974–5	1983–4
Per capita income at current prices (Rs/year)	173	149	1,039	1,025
Index of per capita income at current prices (1957–8 = 100)	100	86	602	594
Real per capita income at 1960–1 prices[a]	161	152	275	194
Inequality indices				
Gini coefficient	0.34	0.39	0.25	0.31
Coefficient of variation	0.65	0.87	0.50	0.55
Atkinson index ($\varepsilon = 1$)	0.18	0.25	0.11	n/a
Atkinson index ($\varepsilon = 2$)	0.34	0.49	0.21	0.32
Poverty indices				
Head-count index	0.47	0.54	0.11	0.34
Poverty-gap index	0.18	0.24	0.03	0.12
Squared-poverty-gap index	0.09	0.14	0.02	0.07

[a] Calculated by deflating the nominal per capita income figures by the Consumer Price Index for Agricultural Labourers for Uttar Pradesh, with 1960–1 as the base. CPIAL estimates for the first two survey years (for which no official estimates are available) are based on Lal (1976); the 1957–8 figure is based on interpolation between Lal's 1956–7 and 1958–9 figures; the Wholesale Price Index series suggests that interpolation is plausible, as the inflation rate was fairly constant during this period.

Note: The inequality and poverty indices appearing in this table are based on treating each individual as one observation, with each individual within a household having the same per capita income. The 'head-count ratio' is the proportion of individuals below the poverty line (Rs 140 per person per year at 1960–1 prices); the 'poverty gap index' is the head-count ratio multiplied by the average 'income gap', where a poor person's income gap is defined as the difference between her actual income and the poverty line (expressed as a proportion of the poverty-line level of per capita income); the squared-poverty-gap index is the head-count ratio multiplied by the average *squared* income gap (this index, unlike the other two, is sensitive to the distribution of income below the poverty line). See Ravallion (1994) for further discussion of the definition and interpretation of these alternative poverty measures.

for the 1974–84 sub-period (by averaging 1974–5 and 1983–4 per capita incomes), and compare trend incomes in these two sub-periods. For each sub-period, we have one good harvest and one poor harvest, so we can expect some averaging out of transient income fluctuations. Based on this method, we find that trend per capita income has grown by 50 per cent in real terms between the first and the second sub-period. This corresponds to a growth rate of 2.2 per cent per year between the mid-points of each sub-period. This 'corrected' growth estimate is consistent with the uncorrected estimate of 1.4 per cent per year (since the latter is an underestimate of the true growth rate of per capita income).

A growth rate of real per capita income of the order of 2 per cent per year over the survey period is consistent with several independent observations. First, there is near-unanimous agreement in Palanpur about the fact that the general level of purchasing power has substantially increased during the survey period.[241] Second, this period has witnessed a steady accumulation of household assets, which would be difficult to reconcile with the notion of stagnant private incomes except on the basis of rather implausible assumptions (e.g.—a high initial savings rate). Third, our growth estimates are consistent with economic trends in western Uttar Pradesh in recent decades.[242]

The finding that per capita incomes in Palanpur have grown at a slow but positive rate (of the order of 2 per cent per year) over the 1957–84 period can be interpreted both positively and negatively. On the positive side, there is no evidence of this period having been one of general impoverishment, in contrast with some readings of economic trends in rural India in the post-independence period. On the negative side, economic growth has been quite sluggish in Palanpur, as in most parts of rural India. A growth rate of 2 per cent per year is

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[241] The only ambiguous testimony in this regard came from an agricultural labourer who, despite admitting that wages had risen faster than prices and that employment opportunities had improved, argued that it had become harder to make ends meet, because 'in the old days we could get by with very little, whereas now we have to spend our money on all sorts of things such as soap, school books, train fares, etc.'. This statement does not contradict our assessment of real income trends (on the contrary), but it raises an interesting issue of interpretation, which we leave to the reader to consider.

[242] According to National Sample Survey data, for instance, real per capita expenditure in western Uttar Pradesh has grown at 1.3 per cent per year during the 1972–88 period (Drèze and Srinivasan 1996, Table 2). Note that expenditure is likely to grow a little more slowly than income.

not a strong basis for a rapid reduction of human deprivation, even on the assumption that the gains of economic growth are equally distributed. That assumption is examined in the next section.

3.2 Income Inequality

Basic Trends:

Income inequality, as measured by summary indices such as the Gini coefficient, has not followed a monotonic course over the 1957–84 period. The Gini coefficient of per capita incomes rose between 1957–8 and 1962–3, fell between 1962–3 and 1974–5, and rose again between 1974–5 and 1983–4 (see Table 10 and Figure 1).[243] Of these changes from one survey to the next, the most pronounced is the decline of income inequality between 1962–3 and 1974–5. Despite some increase in the Gini coefficient between 1974–5 and 1983–4, income inequality remained significantly lower in 1983–4 than in either 1957–8 or 1962–3.

The details of changes in income inequality between the different survey years are discussed in chapter 5. At this stage, what is of primary interest is the decline in income inequality between the first two and the last two survey years within the 1957–84 period.[244] This decline is of particular interest in view of the common argument that the 'Green Revolution' technology usually leads to a sharp increase in income inequality. The technology in question (which usually refers to modern irrigation facilities, chemical fertilizers, and new seed varieties) made its first important appearance in Palanpur in the late 1960s, between the second and third survey years, and it may come as a surprise that income inequality was *lower* after than before that event. Some caution is required in interpreting this as evidence of a sustained decline in inequality, given the non-monotonic path of inequality indices and the influence of transient factors such as the quality of the harvest. It is interesting to note, nevertheless, that the available evidence would be hard to reconcile with the notion that the Green Revolution is typically associated with a marked increase in local income inequality.[245]

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[243] As with our earlier analysis of inequality in land ownership, the Lorenz curve of per capita incomes is drawn by considering each individual as one observation, with each individual within a household having the same per capita income.

[244] Sharma and Poleman (1993: 85–9) report a similar finding for village Walidpur in Meerut district (also in western Uttar Pradesh), where the Gini coefficient of income inequality declined between 1963–4 and 1988–9.

[245] Inter-regional inequality is a different issue. Sharma and Poleman (1993) argue that, in Uttar Pradesh, the Green Revolution has led to a 'widening and subsequent narrowing of regional disparities' (p. 38). In India as a whole, there is no evidence of any widening of inter-regional disparities between 1972–3 and 1987–8 (Drèze and Srinivasan 1996).

Figure 1: *Selected Economic Trends in Palanpur, 1957–83*
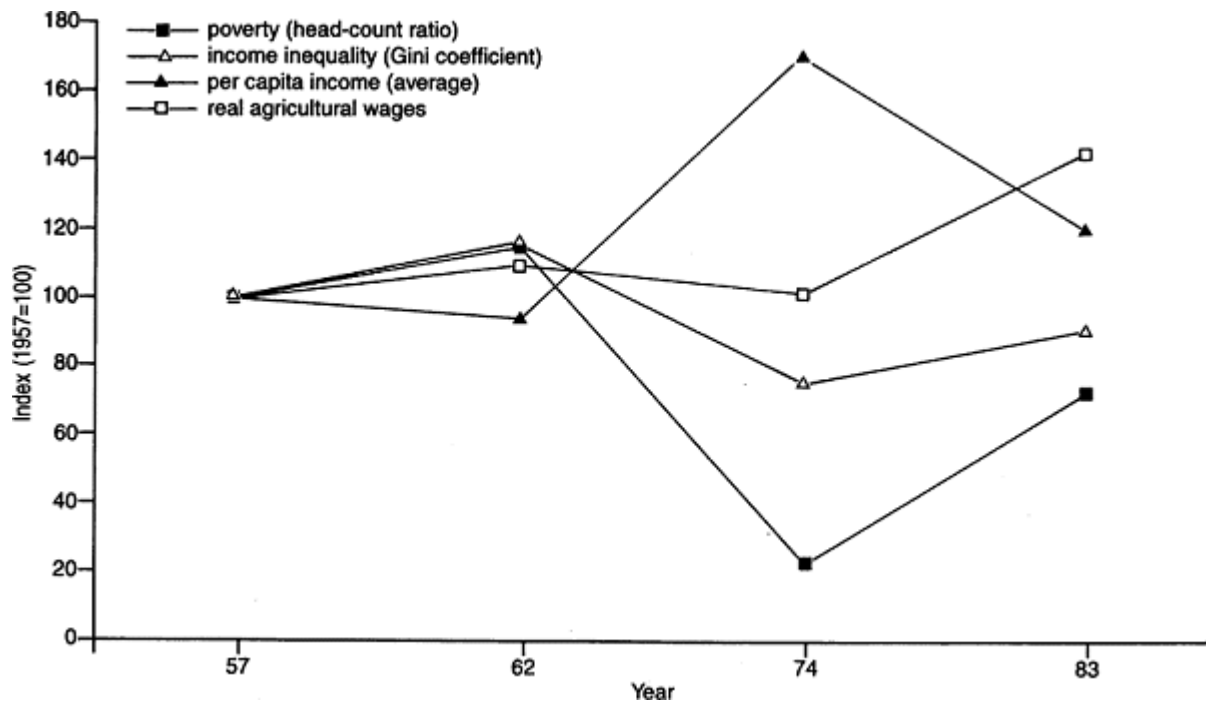
This assessment is consistent with the fact that it is rather difficult to identify any major force of economic polarization in Palanpur over the survey period. A common notion, as far as the Green Revolution is concerned, is that small farmers are unable to latch on to the new technology and are slowly driven out by larger landowners. This scenario, however, does not apply in Palanpur, where technological change has been more or less scale-neutral; indeed, per-acre input and output levels are quite similar in different land-ownership classes in each survey year (see chapters 3 and 5). In itself, this does not establish that technological change has been distributionally neutral; however, it is unlikely that technological change could exert a major polarizing influence without also producing significant contrasts in cultivation practices between large and small farmers.

One qualification to the last statement is that land-augmenting technological change can be expected to lead to some redistribution of income from landless to land-owning households. The fact that the landless population in Palanpur is not very large and has relatively diversified occupations has probably reduced the significance of this polarizing influence.[246] Another qualification is that the Green Revolution has led to some distributionally adverse changes in tenancy relations. Specifically, the sharp rise in input costs, together with the practice of cost-sharing between landlord and tenant, has made it harder for economically disadvantaged households to obtain land on lease.[247] But this effect, again, has been too small to have a major influence on the overall distribution of income. Further, these polarizing influences have to be seen together with other consequences of technological change, some of which actually work in the direction of reduced economic inequality. The expansion of irrigation is a case in point. The proportion of irrigated land in Palanpur increased from about 50 per cent in 1957–8 to 96 per cent from 1974–5 onwards, and it is safe to assume that this development has had an equalizing effect,

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[246] Those among the landless who depend primarily on agricultural labour for their survival, and who have been unable to diversify their income sources over the survey period, have experienced downward income mobility relative to other groups (see section 3.5).

[247] On this, see chapter 8.

given that the ownership of irrigation facilities was initially concentrated among the wealthier farmers. Similarly, the adoption of more labour-intensive cropping patterns may have had a positive distributional impact. Taking into account the positive as well as the negative effects on income distribution, there is no basis for the presumption that the Green Revolution has been a major force of economic polarization in Palanpur.

Similarly, it is unlikely that the expansion of non-agricultural employment has been a major force of growing inequality over the survey period. As things stand, the distribution of non-agricultural employment opportunities seems to broadly replicate existing patterns of inequality: households with better resources and connections tend to get the better-paid jobs, and there is no indication of non-agricultural employment having a major impact on income distribution.[248] And here again, the distributional consequences include positive as well as negative effects. The expansion of employment opportunities outside the village, for instance, has played a crucial role in preventing a decline of agricultural wages in the village itself (despite rapid population growth), and in enabling landless households to diversify their occupations.

These observations illustrate the simple fact that the effects of the Green Revolution and related economic changes on income inequality are hard to predict out of context, and may well be contingent on *other* factors such as the distribution of land and water. In areas of India where the distribution of irrigation facilities is highly unequal, or where a large proportion of the population is landless, it is quite

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[248] As discussed in chapter 5, decomposition analysis of income inequality measures by income source suggests that non-agricultural employment had a somewhat equalizing effect at the margin in 1974–5 (in the sense that a small equiproportionate increase of non-agricultural incomes would have led to a decline in the Gini coefficient of per capita incomes), and a disequalizing effect in 1983–4. The reversal partly reflects the fact that 1983–4 was a year of poor harvests, when households with non-agricultural employment had higher ranks in the per capita income scale than in 1974–5. These decomposition exercises, however, are primarily relevant for marginal effects, and are not particularly informative when it comes to the total distributional effects of a sustained expansion of non-agricultural employment over time. For instance, the effect of employment expansion outside agriculture on agricultural wages has important distributional consequences that are not captured in the decomposition exercises. For some evidence of employment expansion outside agriculture having had an equalizing influence in rural areas of western Uttar Pradesh, see Sharma and Poleman (1993).

plausible that the Green Revolution has had a highly inegalitarian character.[249] Where access to land and irrigation facilities is less uneven, on the other hand, we expect more widespread participation in the benefits of technological change. This, it seems, is what has happened in Palanpur.

Income Inequality and Wealth Inequality:

There is an interesting contrast between the absence of any noticeable increase in income inequality over the survey period and the rising inequality of net wealth, discussed in section 2.2. Assuming that these contrasting trends are real, rather than a reflection of estimation errors, how can they be reconciled? There are at least two possible lines of explanation. The first invokes differences in savings behaviour between different households. For instance, if the savings function is convex at low levels of income (i.e. the *marginal* propensity to save rises with income), an equiproportionate increase in income for all households—with no change in income distribution—could easily lead to some polarization of net wealth.

The second line of explanation builds on our earlier observation that the rising inequality of net wealth is driven by a highly uneven accumulation of institutional liabilities. One interpretation of this pattern is that institutional credit has been disproportionately allocated to poor households; the available data on household debts, however, would be hard to reconcile with this hypothesis (see chapter 9). An alternative view is that borrowing from institutional sources is a risky undertaking, given the somewhat unpredictable procedures of credit institutions and—especially—the pervasive role of corruption in institutional lending.[250] Different households have adopted different strategies in response to these uncertainties. Some have repaid their debts as quickly as possible; others have exposed themselves to massive fraud on the part of government officials (particularly the managers of the local 'credit cooperative'); still others have consistently postponed repayment in the hope that debts would ultimately be cancelled.[251] In

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[249] See e.g. Bhatia (1993) and Breman (1994) on the impact of the Green Revolution in rural Gujarat.

[250] On these issues, see chapter 9. Taking institutional corruption into account, the standard accounting identity $w \equiv s. Y$ (where w is change in wealth, s is the savings rate and Y is income) is better written as $w \equiv s. Y - c$, where c is the increase in liabilities due to fraudulent accounting practices on the part of credit institutions.

[251] As mentioned earlier, large-scale cancellation of institutional debts did take place in 1990. This event, however, was quite unexpected, and in general the strategy of waiting for official cancellation involves substantial risks.

short, the expansion of institutional credit has introduced a major element of uncertainty in portfolio management (particularly for socially disadvantaged borrowers, who tend to be the prime victims of fraud), which can easily translate into rising inequality of net wealth even in the absence of any polarization of the income distribution.[252]

3.3 Real Wages

Trends in real wages are worth examining on their own, separately from income trends: they tell us something about the evolution of the rural economy; they shed light on the condition of casual labourers, who represent an important section of the rural population; and, last but not least, wage estimates tend to be far more reliable than income estimates.

The last point can be illustrated with reference to real wages in agriculture. The main reason why agricultural wages are relatively easy to observe is that, at any point of time, a uniform wage rate applies to all adult male labourers in the village (see chapter 1). Further, this standard wage rate tends to remain the same over relatively long periods of time (typically several months). The wage level is therefore easy to ascertain for someone who lives in the village and has regular contacts with employers as well as labourers.

As far as employment outside the village is concerned, wages do vary between occupations and employers. However, as we saw in section 1.3, outside employment tends to 'cluster' around a relatively small number of occupations and employers; here again, reliable wage information can be secured without much difficulty using elementary cross-checking procedures.

It follows that we have a good deal of confidence in our estimates of nominal wages for each of the survey years (including 1993). This leaves the problem of price indices, mentioned earlier in connection with the estimation of real incomes. As it happens, the basic observations presented below are not very sensitive to the choice of price index; for specificity, we continue to make use of the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh.

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[252] Interestingly, the literature on rural credit has given great prominence to the issue of 'lender's risk' (e.g. the risk of default on the part of the borrower), but somewhat neglected the problem of 'borrower's risk' (e.g. the risk of being cheated by the lender) and its economic implications.

Table 11 : Real Wages for Casual Agricultural Labour, 1957–93

	1957–8	1962–3	Dec 74[a]	Dec 83	Dec 84	Dec 85	Dec 86	Dec 87	Dec 88	Dec 91	Dec 92	Dec 93
Money wage (Rs per day)[b]	1.0	1.0	3.5	6.0	8.0	8.0	8.0	10.0	10.0	20.0	25.0	25.0
'Wheat wage'[c] (kg/day)	2.5	2.2	2.7	4.6	6.2	n/a	n/a	n/a	n/a	8.0	8.3	8.3
Real wage[d] (Rs/day at 1960–1 prices)	0.93	1.02	0.93	1.14	1.48	1.35	1.35	1.42	1.25	1.79	2.24	1.91

[a] The 'standard wage' fell from Rs 4 + meal to Rs 3 + meal during the month of December 1974; we have averaged this to Rs 3.5 + meal.
[b] Not including the imputed value of the meal (routinely provided in each survey year).
[c] Money wage divided by post-harvest wheat price in Palanpur.
[d] Calculated by deflating the money wage rate by the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh, with 1960–1 as the base. The CPIAL figures (yearly index for the relevant 'agricultural year') are taken from the *Reserve Bank of India Bulletin* (Table 29), various issues, for 1974 onwards (on the 1957–8 and 1962–3 CPIAL figures, see Table 10). Very similar results are obtained when the yearly index is replaced by the relevant monthly index.

In Table 11, we also provide estimates of the 'wheat wage' in different survey years, i.e. the going wage expressed in terms of kilograms of wheat. Given that wheat is Palanpur's staple foodgrain, the wheat wage may be interpreted as an indication of an agricultural labourer's purchasing power over food per day of employment. Based on Table 11 (and further information on real wages in outside employment), the following can be said about recent trends in real wages:

(1) Real wages for regular jobs outside the village have increased at about 2 per cent per year between 1957–8 and 1983–4. After 1983–4, the growth rate of real wages for regular jobs has probably accelerated in the public sector, but may have slowed down in the private sector.[253]

(2) As far as casual agricultural labour is concerned, the 'wheat wage' has clearly increased since 1957–8. One day of agricultural labour fetched more than 8 kgs of wheat in 1993, compared to less than 3 kgs at the beginning of the survey period. This is a major development. It has been helped by a decline in the relative price of wheat, itself reflecting a large increase in all-India wheat production over the survey period.

(3) The evolution of real wages for casual agricultural labour is a little less clear-cut. For much of the survey period, real agricultural wages have not followed a monotonic course, and their relative levels in different survey years are not always independent of the choice of price index. Nevertheless, we can say with some confidence that, since 1974–5, real wages have displayed a rising (if not monotonic) trend, and have consistently remained well above the levels that prevailed in the earlier half of the survey period. By the end of the survey period, real wages in agriculture were about twice as high as at the beginning of that period (see Figure 2).

The time path of real agricultural wages (including the wheat wage) over the survey period is quite interesting. Particularly striking is the

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[253] The estimate for the pre-1984 period has been calculated by dividing total earnings from regular jobs, at 1960–1 prices, by the number of regular jobs, in each survey year, and taking this ratio as an index of real wages (the figures are given in the Appendix). The second statement is based on an informal assessment of the available information on wages and earnings in 1993.

Figure 2: *Real Agricultural Wages (Rs/day at 1960–1 prices)*
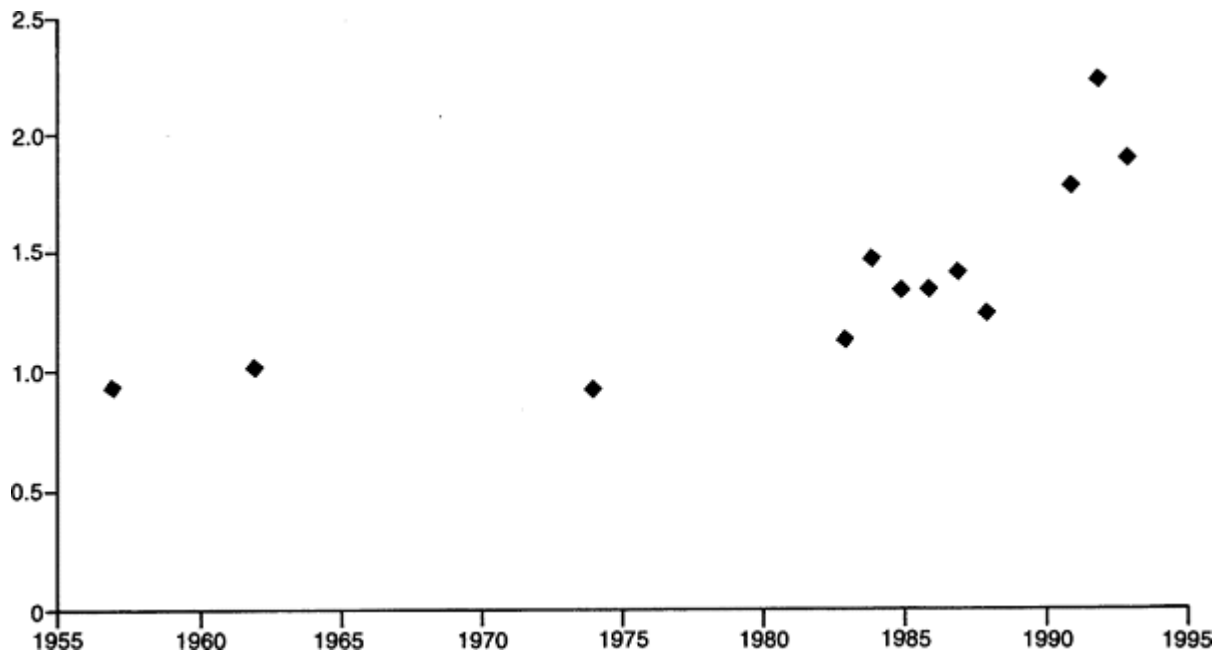
fact that real wages stagnated until as late as 1974–5, when a good deal of land-augmenting technological change had already taken place in agriculture. Inflation was high in both 1973–4 and 1974–5, possibly resulting in a temporary depression of real wages in 1974–5. But secondary data indicate that real wages of agricultural labourers in western Uttar Pradesh were stagnating or declining throughout the first half of the 1970s, and started rising only after 1975 (Acharya 1989, Table I). The increase of real wages does seem to have had to wait until the transformation of agriculture had reached a fairly advanced stage.

Everything considered, these trends in real wages can be regarded as mildly encouraging. Until recently, it was a widely-accepted fact that real wages in rural India showed no significant upward trend.[254] Recent analyses indicate that an upward trend has, in fact, emerged in the 1970s and 1980s in most regions of India.[255] What has happened in Palanpur is consistent with that general pattern.

Labour earnings, of course, depend not only on real wages but also on the number of days of employment. In the case of regular jobs outside agriculture, the growth rate of total real earnings was of the order of 9 per cent per year in the 1957–84 period. This primarily reflects the rapid growth of outside employment over that period. Unfortunately, similar calculations cannot be made for agricultural labour, in the absence of reliable information on the number of days of agricultural employment for the early survey years.

3.4 Poverty

As we saw earlier in this section, the 1957–84 period has witnessed (1) an increase in real per capita income for the village as a whole, (2) some decline (or at least no marked increase) in income inequality, and (3)

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[254] See e.g. Lipton (1983), Bardhan (1984a), Parthasarathy (1987), Lipton and Longhurst (1989), Walker and Ryan (1990: 126), Jha (1995), and the literature cited in these studies.

[255] On this, see particularly Acharya (1989). For India as a whole, real agricultural wages have grown at about 3 per cent per year during the 1970s and 1980s (see Drèze and Sen 1995, Statistical Appendix, Table A.4).

an increase in real wages. Based on these observations, one expects the incidence of poverty to have declined over the same period.[256]

A direct examination of poverty indicators in different survey years suggests that such a decline has indeed taken place. For instance, the proportion of the population below any reasonable 'poverty line' (defined in terms of real per capita income) has significantly declined between 1957–8 and 1983–4.[257] If we take, say, a poverty line of Rs 140 per capita per year at 1960–1 prices (roughly corresponding to the widely-used poverty line initially proposed by Dandekar and Rath, 1971), the head-count index of poverty has declined from 47 per cent in 1957–8 to 34 per cent in 1983–4. More refined poverty indices, such as the 'poverty-gap index' and the 'squared-poverty-gap index', also indicate a substantial decline in poverty between 1957–8 and 1983–4 (see Table 10 above). Further, these comparisons understate the decline of poverty in the intervening period, since, as we saw earlier, 1983–4 was a year of poor harvests and depressed incomes. If we compare the average of 1957–8 and 1962–3 head-count indices with the average of 1974–5 and 1983–4 head-count indices (each average covering a good and a poor agricultural year, as in our earlier discussion of trends in per capita income), we find that the latter is less than half as high as the former.

These findings for Palanpur are consistent with the corresponding patterns for western Uttar Pradesh as a whole. According to National Sample Survey data, for instance, the head-count index of rural poverty in western Uttar Pradesh declined from 41 per cent in 1972–3 to 26 per cent in 1987–8.[258]

Informal evidence based on our visits to the village since 1983–4, and indirect evidence based on the 1993 data (e.g. relating to household assets), strongly suggest that the incidence of poverty in Palanpur has continued to decline — at a slow pace — since 1983–4. We know, for instance, that real wages have maintained their upward trend, that agricultural productivity has steadily increased, and that

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[256] The reference here is to 'poverty' in the conventional sense of failure to reach a pre-specified level of real per capita income (the 'poverty line'). Other bases of improvement in living standards, such as education and public amenities, will be considered later on in this chapter. For further discussion of the methodology of poverty comparisons, and of poverty estimates in different survey years, see chapter 4.

[257] The same statement does not quite hold for *any* poverty line: one cultivating household had a negative income in 1983–4, due to crop failures, so that the poorest household in that year (in terms of current per capita income) was poorer than the poorest household in 1957–8.

[258] See Drèze and Srinivasan (1996), Tables 1 and 2. Note that the *absolute* values of the head-count indices obtained from NSS data are not directly comparable with those we have presented for Palanpur (for one thing, the former are based on expenditure data and the latter on income data). The focus here is on the consistency of *trends*.

household assets have continued to accumulate. There has, of course, been some downward mobility for particular households (notably among those formed since 1983–4 through partition of erstwhile joint families), but there is no sign of any general increase in the incidence of poverty.

As with the growth of per capita incomes, the declining incidence of poverty over the survey period lends itself to diverse interpretations. On the positive side, it can be seen as an indication that Palanpur is slowly winning the battle against population pressure and declining land endowments. But the reduction of poverty is desperately slow, and absolute deprivation remains widespread. To illustrate, consider the predicament of a landless agricultural labour household consisting of a married couple and three children, in 1993. The husband is likely to be the only earning member (except perhaps at harvest time), and, if he obtains 200 days of employment over the year and gets an average wage of 8 kgs of wheat per day, household earnings will amount to less than 900 grams of wheat per person per day. This is barely enough to satisfy basic nutritional requirements, even if resources are equally distributed within the household and if nothing is spent on non-food items. As this simple example suggests, undernutrition and related forms of elementary deprivation are still common in Palanpur.[259]

3.5 Economic Mobility

We have already observed, in our discussion of land ownership, that stability over time in the size distribution of land owned is quite compatible with considerable mobility of particular households in the land ownership scale. A similar observation applies to per capita income, wealth, and other indicators of economic status: there is considerable household mobility over time along the Lorenz curve, both upward and downward, in addition to the changes that are captured in shifts of the Lorenz curve. In this section, our concern is with patterns of economic mobility, in the sense of changes over time in the *relative* economic position of different households or types of households.

One way of approaching this subject is to look at survey data on per capita incomes, and examine whether downward or upward movements can be related to specific household characteristics. Some findings based on that approach are presented in chapter 4, and will

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[259] On the poor nutritional status of Palanpur children, see chapter 6.

be used in the present discussion. The income-based analysis, however, has important limitations. In particular, given the small size of our sample, it is often difficult to tell whether changes in per capita income between different survey years are due to (1) sustained economic mobility, (2) transient income shocks, or (3) measurement errors. In this section, we supplement that analysis with an informal discussion of mobility patterns, based not only on the income data but also on qualitative data, direct observation, case studies, and extensive discussions with Palanpur villagers. Given the informal nature of the evidence, we present these observations as useful directions of further investigation rather than as definitive findings.

Perhaps the most significant pattern emerging from the available evidence is the critical importance of *demographic events* as determinants of household economic mobility. The relevant demographic factors are of several types. First, there are differences in population growth between different households. High fertility acts as a factor of downward mobility, by raising the dependency ratio and/or reducing land endowments per person. As we saw in section 2.1 with reference to land ownership, the inter-generational effects of differential fertility rates can be quite large. Another aspect of the consequences of high fertility is that having many daughters entails high marriage costs.

Second, as noted in chapter 1, household partitioning is widely perceived in Palanpur as a factor of economic decline. This is predominantly due to economies of scale in production and consumption.[260] Joint-family households, by virtue of their large size and total resources, also seem to have greater social influence and political power than smaller households with similar per capita resources, possibly leading to a further economic advantage.

Third, another major factor of economic decline is the loss of an earning member through death, illness, or disability. One specific example is widowhood, which is strongly associated with downward economic mobility. To illustrate, Table 12 shows the per capita incomes of seven widows who (1) lost their husband between 1974–5 and 1983–4, and (2) did not live with any adult male (e.g. son or brother-in-law) in 1983–4. The sample is small, but the pattern of downward mobility is nevertheless too striking to be dismissed as a

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[260] For similar observations elsewhere in rural India, see Swartzberg (1979: 140–1) and particularly Maclachlan (1983). For some econometric evidence on the link between household partitioning and economic decline in Palanpur, see chapter 4.

coincidence. The economic disadvantages of widows in Palanpur are not difficult to understand, given the restricted property rights and income-earning opportunities of adult women.[261]

Table 12 : Widows Living Without an Adult Male (1983–4): Per Capita Income in 1983–4 Compared With Earlier Years

Name of the widow	Per capita income of the household to which the widow belonged in different survey years (Rs/year at 1960–1 prices)					1983–4 as percentage of 1957–75 average
	1957–8	1962–3	1974–5	1957–75 average[a]	1983–4	
Champa	189	387	273	283	314	111
Mayawati	125	215	227	189	129	68
Lakshmi	250	200	184	211	109	52
Bindu	221	335	396	317	117	37
Ramraji	197	48	399	215	80	37
Bina	199	652	251	367	133	36
Ramkali	278	219	n/a	248	39	16
Average for Seven Widows	208	294	288	261	132	51
All Palanpur Households	161	152	275	196	194	99

[a] Unweighted average of the first three survey years.

Note: Each of these seven widows lived either with her husband or (in one case) with a married son at the time of the pre-1983–4 surveys.

Fourth, there are also some life-cycle effects. For instance, a household with several sons may experience some economic hardship when the sons are still young, due to a high dependency ratio, enjoy a considerable increase in per capita income when they grow up (especially if some of them obtain good jobs outside agriculture), and decline again after the death of the patriarch due to household

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[261] For further discussion of the economic condition of widows in Palanpur, see Drèze (1990a). On widowhood as a cause of downward economic mobility, see also Cain (1986).

partitioning. Another common pattern is upward mobility associated with the transition from a nuclear to a stem household as a son grows up; often, the son is able to obtain a better job than his father, especially if he is well-educated.

Aside from demographic events, we can mention a few specific factors that appear to play a major role in economic mobility. The most important basis of upward economic mobility seems to be wage employment outside the village. There are numerous examples of households that have enjoyed a major improvement in living standard as a result of obtaining a relatively well-paid job outside agriculture. Employment opportunities, in turn, are positively influenced — though far from entirely determined — by educational achievements (see chapters 3 and 7). Many poor parents look with hope to the education of their sons as their only significant chance of improved earning opportunities and upward economic mobility.[262] It is, indeed, hard to think of many other events that have a similar potential to enhance the economic condition of an agricultural labourer or small farmer (crime is a possible though unlikely example). This is not to say, of course, that every type of employment outside agriculture is conducive to better living standards, or that every educated person can expect to find a good job outside the village.

As far as downward mobility is concerned, the demographic factors mentioned earlier do appear to be the major influences.[263] Two additional patterns emerge from a relatively small number of cases. First, some households have experienced considerable downward mobility due to drinking, gambling, quarrels leading to expensive court cases, and similar forms of personal intemperance. This phenomenon is particularly common in the Thakur caste, where it has produced at least five well-known cases of spiralling economic decline. One striking example is the household formerly headed by Gabbar Singh, the largest landowner in the village at the beginning of the survey period. Gabbar

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[262] There is much evidence of similar parental attitudes elsewhere in rural India; see Bhatty (1997) and the literature cited there.

[263] Interestingly, a similar observation is made by Ravi Srivastava (1996: 12) in an informal study of economic change in rural eastern Uttar Pradesh: 'Among those who experienced some [economic] decline, demographic reasons predominate'. Much as in Palanpur, the author also notes the importance of non-agricultural employment for upward economic mobility: 'among respondents who experienced an improvement, the main reason is an improvement in employment condition, mainly as a result of out-migration'.

Singh was a man of considerable wealth in 1957–8, owning more than 180 bighas of land (about 7 per cent of the total village land) as well as a residence of imposing design and proportions by local standards. A compulsive drinker and gambler, he accumulated large debts and ended up selling a large portion of his land and other assets to pay them off. Gabbar Singh was also known to keep violent company and, in 1976, he and one of his two sons were murdered (the other died of illness). His eight grandsons, who own less than 12 bighas of land each, and have been raised on the understanding that manual work is a humiliation for a respectable Thakur, have great difficulties in coping with this economic downfall. They still live in the imposing house built by their grandfather, but their lifestyle is frugal and the spacious rooms are little more than a cruel reminder of their earlier prestige. One of them steals coal from passing trains to make ends meet. Another one committed a murder in 1994 and is currently in jail.

Second, at the other end of the scale, there is some evidence of relative economic decline among households of landless labourers who have been unable to diversify their activities beyond agricultural labour. There are few such households (about half a dozen in 1983–4), but their economic condition is markedly worse than that of most other households, and appears to have declined over time in relative terms. The reasons why these labourers have been unable to take advantage of expanding employment opportunities outside agriculture, even in the form of casual labour in Chandausi or Moradabad, are not entirely clear. Their own explanation, in most cases, is that casual labour in nearby towns is physically strenuous, and that they are too weak to compete with the younger or stronger labourers. This is a plausible statement, in the light of what we know about working conditions in the urban labour market, and of the uneven physical abilities of Palanpur labourers. Some also point out that many of those who did succeed in diversifying out of agricultural labour have some useful skill (if only physical strength), which they lack. The diversity of personal contacts with potential employers may also be a factor of uneven success in entering the casual labour market in Chandausi or Moradabad, even though the recruitment procedures are far more impersonal for casual labour than for regular employment.

This informal account of the determinants of economic mobility in Palanpur gives relatively little importance to several individual characteristics that would be crucial according to the view of economic mobility as a matter of 'individual enterprise'. Examples of

such characteristics are work attitudes, farming skills, and the propensity to save. The influence of these individual attributes is certainly less visible and probably less pronounced than that of demographic events, educational achievements, or personal connections in the urban economy.[264] However, even the former influence can be observed in some cases. For instance, the growing economic prosperity of the Muraos over the survey period (on which more in section 5.1) cannot be easily explained in terms of the factors of upward mobility discussed earlier. The fact that Muraos, by all accounts, are excellent farmers, work very hard, and allocate much of their income to productive investment in agriculture, seems to have played an important role in this case. This conclusion is also consistent with the downward mobility of the Thakurs, who started off with equally good endowments but tend to be rather less enterprising.

The contrast between Thakurs and Muraos also draws our attention to the possibility of a 'caste factor' in economic mobility. The caste factor could take two distinct forms. First, there may be *interpersonal effects* that operate with particular force within a caste. These could relate, for instance, to the importance of personal contacts in job search or to the externalities of educational advancement. Second, even in the absence of interpersonal effects, caste may be one of the *personal attributes* that affect one's economic opportunities (independently of other relevant characteristics). This may apply, for instance, if there is caste-based discrimination in the job market. In Palanpur, the most telling indication of the possible relevance of the caste factor is the relative economic decline of the Jatabs, which is not adequately explained by other household characteristics (see chapter 4). We will return to this collective disadvantage further in this chapter.

4. Public Services

The standard of living is not just a question of per capita income or purchasing power. Among other relevant bases of improvement in human well-being, the role of public services and amenities can be particularly important. Some of the most crucial means of achieving a

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[264] We are astonished to read that, in the ICRISAT villages, there are several cases where 'the father started as a permanent [farm] servant, accumulated some land or wealth, and the son, building on that base, became one of the richest persons in the village' (Walker and Ryan 1990: 99).

better quality of life, e.g. elementary education and health care, are often made available through public provision, and the effectiveness of government activities in these fields can be a significant determinant of living conditions.[265]

Unfortunately, the experience of public provisioning in Palanpur since 1957–8 is nothing short of disastrous. It is not that the state has entirely ignored the need to expand available facilities. In Palanpur as in most other Indian villages, people now have easier access to a whole range of public services and programmes: government schools, credit institutions, social security schemes, a 'fair price shop', electricity supply, land consolidation, employment programmes, immunization campaigns, family planning services, etc. The problem is that, with few exceptions, these services and programmes suffer from extremely low standards of operation, when they are functional at all.

In the following pages, we briefly review the experience of public services and programmes in Palanpur. Unless stated otherwise, the focus is on the state of public provisioning around the end of the survey period, as we have been able to observe it on the basis of the 1983–4 and 1993 surveys as well as of our regular visits in the intervening period. We should stress that there is no 'selection bias' in this review — all the major public services and programmes are covered. We begin with a case study of the failure of schooling facilities, an issue of major importance, and then move on to a broad-brush treatment of other public services. Further details on some of these services can be found in other parts of the book.[266]

4.1 Case Study: Schooling Facilities

The Village School: Like a majority of Indian villages, Palanpur has a primary school financed and managed by the government. This school was set up at the beginning of the survey period. At one stage, it had as many as five teachers, in addition to the headmaster, but the teaching staff was later reduced, apparently due to the adoption of a policy of spreading teaching posts more evenly between villages. Starting sometime between 1974–5 and 1983–4, and until 1992, the village school had a single teacher.[267] The number of

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[266] See also Drèze (1990a, 1990b), Drèze and Saran (1995), Drèze and Gazdar (1997).

[267] This is a frequent feature of primary schools in India. In 1986, the proportion of recognized primary schools with a single teacher varied from less than one per cent in Kerala to nearly 60 per cent in Jammu and Kashmir, with an all-India figure as high as 29 per cent (Tyagi 1993: 88).

children aged 6–10, on the other hand, was 158 in 1983–4 and 141 in 1993. Clearly, the supply of schooling facilities in Palanpur is completely out of line with the constitutional goal of free and universal education until the age of 14, which was supposed to be reached by 1960.[268]

The most notable feature of the village school is that it has more or less ceased to function. The root of the problem is fairly obvious. The single teacher (an influential Thakur, son of the 1983–4 village headman) has a 'permanent' post, and his salary, which is quite high by local standards, is effectively unrelated to his performance. In the absence of other accountability mechanisms, he has little incentive to exert himself.

In 1983–4, the village teacher was taking full advantage of these circumstances. More often than not, he did not even take the trouble of coming to the school at all. When he did, he would be accompanied by ten or twelve children at most, mainly sons and daughters of his own close relatives.[269] Even when the school was nominally 'open', very little active teaching took place; the teacher confined himself to maintaining a semblance of order among the children, and giving them exercises from time to time. It should be added that, even with the best of intentions and skills, the village teacher would have great difficulty in achieving anything like acceptable schooling standards, given the fact that he has to deal simultaneously with children belonging to five different grades.

This situation prevailed, largely unchanged, until late 1992, when a new development occurred. Following a new directive of the state government, village teachers in Uttar Pradesh were no longer allowed

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[268] This inconsistency between official pronouncements and practical action is a characteristic feature of education policy in India; see Drèze and Sen (1995), chapter 6, for further discussion. In Uttar Pradesh as a whole, the pupil-teacher ratio in primary schools is as high as 58 according to official statistics (Tyagi 1993: 84).

[269] This did not prevent him from cheerfully entering 135 names in the school enrolment register (while 30 children were reported by Palanpur parents as attending the village school). On the long-standing problem of distorted school enrolment data in rural India, and its policy significance, see Sen (1970), Dhingra (1991), Drèze and Gazdar (1997), and particularly Kingdon (1994, 1996).

to teach in their own village. As a result, the earlier Palanpur teacher was transferred to another school, and replaced by two teachers from nearby villages. So far as we can judge from our short visits to Palanpur in 1993 and 1994, this development led to a marginal improvement in the functioning of the village school. The number of children attending school rose significantly: about 20–30 pupils were actually present each time we visited the school. Further, a modicum of teaching activity was observed during some (not all) of these visits. Overall, however, the functioning of the village school remained extremely poor. For instance, one of the two teachers was invariably absent when we visited the school. The general view among Palanpur residents is that the village school does function a little better than in the past, but is still barely worth attending.

Other Schooling Facilities:

Given the dysfunctional state of the village school, many parents in Palanpur have explored alternative means of providing some education to their children. The two main alternatives are (1) government schools in other villages, and (2) private schools.

Most nearby villages have government schools. Many of them are just as bad as the village school in Palanpur. However, the government school in Akroli (about 2 kms away from Palanpur) functions relatively well. Akroli is a large village and this school has as many as 8 grades and 10 teachers; it also has a headmaster who has specific responsibility for supervisory and managerial tasks. The size of the school, its public visibility, and the fact that the headmaster, on the whole, has an interest in ensuring that the teachers do their job, probably help to reduce the problem of teacher absenteeism and shirking. Be that as it may, the fact is that the school functions and is considered to provide satisfactory education. Many parents in Palanpur send their young sons to Akroli. Girls, however, rarely go to school in Akroli, as most parents in Palanpur do not allow their daughters to travel outside the village on their own or in the company of other young children. In 1983–4, only three Palanpur girls in the 5–14 age group were attending school outside the village, compared with 29 boys. All three were Kayasth.[270]

Educational facilities, in other words, are not really gender-neutral,

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[270] The exceptional motivation and achievements of Kayasth households in matters of education were discussed in chapter 1. As mentioned there, Kayasth households sometimes organize private tuitions in their own homes, aside from sending children to study in other villages.

even though government schools are freely accessible to boys and girls alike. In any particular village, boys have potential access not only to the local school but also to the schools of surrounding villages. For most girls, however, it is the village school or nothing.

Private educational institutions spring up from time to time in Palanpur and the surrounding villages. This usually takes the form of a well-educated member of the village offering to teach village children under a tree or in some unused public building in return for school fees, or of frustrated parents cooperating to find a suitable teacher and asking him or her to set up an informal 'school' for their children (again, of course, in return for fees). In 1974–5, Palanpur had a private school of some importance, launched and supervised by the main village doctor, a well-educated Kayasth who came from a nearby town. This school closed down after three years, reopened with different teachers in the mid-1980s, and closed down again after a couple of years, for unknown reasons. One version of the story is that parents 'did not cooperate' (i.e. they used to be slack in paying the fees); another is that all the children failed the Board examination.[271]

Private schools have the advantage of being 'incentive compatible', in the sense that it is in the interest of parents to monitor the teachers and in the interest of teachers to be responsive to parental demands (unlike in the government primary school, where the teacher is paid irrespective of his or her performance). Whenever we have visited a private school in Palanpur or other villages, we have found that the teachers were doing their work.[272] The drawback of private schools (aside from the fact that they do not always last very long) is that they charge substantial fees. Poor parents rarely send their children to

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[271] One serious problem faced by private schools in this area is that, unless they succeed in obtaining official recognition, they are not entitled to issue certificates. Many private schools deal with this problem by 'associating' themselves with a government school, where the private-school pupils are also formally registered, and sent for examination in their final year. In effect, this amounts to 'sub-contracting' of education by the public sector to the private sector. Another form of sub-contracting which prevails in the area (e.g. in the government school in Akroli) consists of government teachers hiring private teachers to mind the children.

[272] The quality of private teachers, however, is doubtful. In the smaller schools at least, they often have no training and very low qualifications. Their salaries are extremely low (less than Rs 500 per month in 1993, compared with Rs 2,700 for the government teacher in Palanpur), suggesting that the school managers are not particular about the quality of their staff.

these schools. And here again, the limitations of alternative educational arrangements are particularly important for girls, since even relatively well-off parents in Palanpur would hesitate to pay substantial school fees for the education of a daughter.

Time Utilization of Children:

Child labour is often regarded as the main reason why many Indian children do not attend school. Poor parents, so goes the argument, rely on child labour as an essential income-generating activity, and cannot afford to send their children to school. Whatever its merits in other contexts, this argument does not apply in Palanpur.

Many young children in Palanpur spend little time in economically productive activities. Others do help their parents (at home or in the fields) on a regular basis, but even then the work hours involved tend to be relatively short and flexible. Further, the direction of causation does not necessarily run from child labour to non-attendance. In many cases, it is the other way round: non-attending children do some work because they happen to be free, and because their parents cannot afford to let them 'waste' their time playing or roaming around the whole day. Even among children whose income-earning activities are essential for the family, the time spent in these activities is seldom so large as to clash with regular school attendance. Bearing in mind that school hours are short and that local schools are closed for more than half of the year, the proportion of children whose work priorities are incompatible with schooling is likely to be very small.[273]

Child labour, in short, is much less of an issue than the low availability and quality of schooling facilities. Sending a child to school requires substantial effort on the part of the parents, not only due to the significant costs involved but also in terms of the time and attention required to ensure the child's sustained attendance and progress. The willingness of parents to make that effort, particularly among economically and socially disadvantaged households, depends crucially on what they can expect from the schooling system.

Basic Education as a Political Issue:

Palanpur's low educational achievements have already been discussed in chapter 1, taking 1993 as the reference year. In Table 13, we present literacy rates in different survey years, for each caste group.

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[273] There is growing evidence that this assessment also applies elsewhere in rural India (with some regional variations). On this, see Bhatty (1997).

Table 13 : Literacy Rates in Different Survey Years, by Caste

Caste group	Male literacy rate, age 7 and above (percentage)					Female literacy rate, age 7 and above (percentage)				
	1957–8	1962–3	1974–5	1983–4	1993	1957–8	1962–3	1974–5	1983–4	1993
Thakur	41	59	62	48	56	0	8	11	8	19
Murao	11	29	42	37	39	0	0	3	1	2
Muslim	5	20	10	23	20	0	0	0	2	2
Jatab	3	12	3	4	12	0	0	3	0	0
Kayasth	100	100	100	100	100	67	50	67	100	100
Other	14	33	26	23	38	0	3	4	4	8
All Castes	18	34	34	30	37	0.5	3	6	6	9

As this table indicates, at the beginning of the survey period literacy was overwhelmingly concentrated among Thakur males and Kayasths. At that time, the female literacy rate was zero among non-Kayasths, and even among men of castes other than Thakur and Kayasth, it ranged between 3 and 15 per cent. The literacy rates have increased over the survey period, and there has also been some reduction of educational disparities based on gender and caste, although these disparities remain extremely large in absolute terms.[274]

An astonishing observation emerging from Table 13 is that literacy rates in Palanpur have stagnated during the last 20 years.[275] This contrasts with a relatively rapid expansion of literacy during the early years of the survey period. This phenomenon is a direct reflection of the virtual breakdown of the village school during the second half of

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[274] Similar patterns are observed by Sengupta and Gazdar (1997) in a longitudinal analysis of literacy rates in six villages of West Bengal. In these villages, upper-caste males have been almost fully literate for several generations, while tribal women were almost entirely illiterate to start with, and have negligible levels of literacy even today. These patterns bring out the overwhelming concentration of literacy among high-caste men in earlier days, and the resilience of caste- and gender-based inequalities despite some reduction of educational disparities over time.

[275] In the case of males, the stagnation appears to go back even further: the 1962–3 literacy rate is almost the same as the 1993 literacy rate. However, the 1962–3 figure is subject to a comparatively large margin of error, and may be an over-estimate.

the survey period, just about compensated by better access to private schooling facilities, and to government schools outside Palanpur.

It is not our intention, of course, to suggest that Palanpur's experience of stagnating literacy levels is representative of the general situation in Uttar Pradesh, or even in Moradabad district. We do know, from census data and related sources, that literacy rates in Uttar Pradesh have expanded, slowly but steadily, in recent decades. The point is that there are many villages in Uttar Pradesh where the expansion of literacy is negligible, or even non-existent over particular time periods (as in Palanpur), leading to an exceedingly slow pace of literacy expansion for the state as a whole.[276] Over the last fifteen years or so, Palanpur has been an extreme case of failure in this field, but its experience is symptomatic of the educational situation in a state where the corruption of the schooling system is endemic.[277]

The most striking feature of the schooling situation in Palanpur during this period is not so much the behaviour of the village teacher (that, in fact, is relatively easy to understand), but rather the absence of any organized attempt to challenge that behaviour on the part of the village community. As was briefly discussed in chapter 1, the breakdown of the village school has been widely resented, but rather passively accepted. There has been no collective effort to discipline the teacher, or to submit a complaint to government authorities, or to focus on the state of the village school as an electoral issue at the time of panchayat elections. The roots of educational backwardness in Palanpur include not only the inadequacy of state provisions, and the half-hearted motivation of some parents to send their children (particularly girls) to schools, but also the low importance of basic education in local politics.

4.2 Public Services Examined

Adult Literacy:

An adult literacy scheme was initiated in Palanpur in early 1984. A relatively well-educated member of the village (related, like the school teacher, to the village headman) was chosen as the instructor and given a small monthly stipend. He also received three

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[276] On the phenomenon of declining literacy in specific villages, see also Vaidyanathan (1995: 7).

[277] The last point is discussed in Drèze and Gazdar (1997). On the deplorable condition of government schools in Uttar Pradesh, see also Middleton *et al.* (1993), Kingdon (1994), Bashir *et al.* (1993), Sinha (1995a), Sinha and Sinha (1995).

kerosene lamps (quickly appropriated by various individuals including the village headman), instruction material, and related supplies. The teaching programme, however, did not last very long. Five or six men (no women) were initially attending the classes, but they dropped out one after another and the classes ground to a halt within a few months. According to the instructor, the reason for this failure is that 'nobody was taking interest in this programme'. It is not clear whether the underlying problem was lack of motivation on the part of illiterate adults or lack of commitment on the part of the instructor. The fact remains that the instructor earned his stipend without doing any teaching for several years, until the programme was eventually discontinued.

Integrated Child Development Scheme:

The Integrated Child Development Scheme of the Government of India is described as follows in an expert evaluation:

> ICDS is a country-wide program for child development. It adopts a holistic approach to improve both pre-natal and post-natal environment of the child. The program aims to achieve four objectives: (i) to improve the nutritional status of children 0–6 years via supplementary feeding to 'selected' beneficiaries; (ii) to encourage school enrollment via an early pre-school stimulation program for children 3–6 years old; (iii) to enhance the mother's awareness via health and nutrition education, and (iv) to coordinate with health departments to ensure delivery of the required health inputs including immunization to children and mothers, so that both morbidity and mortality rates decline over time. A package of six services are thus delivered through ICDS: (i) health check-up, (ii) immunization, (iii) referral services, (iv) supplementary nutrition, (v) non-formal education, (vi) nutrition and health education to mothers.[278]

In Palanpur and the surrounding villages, the Integrated Child Development Scheme concentrates exclusively on setting up *anganwadis* (pre-primary child care centres). The story of Palanpur's anganwadi is very similar to that of the adult education scheme.

Sometime in 1991 a young, educated, unmarried Kayasth woman (Urmila) was selected to manage the anganwadi.[279] Like the adult

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[278] Subbarao (1988: 38).

[279] In this case, the person in question was not related to the headman (at that time Lakshman, a Murao). A plausible reason is that it would have been difficult to find an unmarried, well-educated Murao woman of a suitable age. It was natural to look for a candidate among the Kayasth, the only caste in Palanpur with high levels of female literacy.

education instructor, she was given a monthly stipend and basic supplies. The function of the anganwadi, as she sees it, is essentially that of a creche. It is located in her own house, where the children are encouraged to come at specific times of the day. None of the six services mentioned above are actually supplied at the anganwadi, except sporadic doses of nutritional support. In 1993, many Palanpur residents were not even aware of the fact that an anganwadi had been set up in one of the Kayasth houses.

We visited the anganwadi on five occasions in July–August 1993. Each time, the manager (Urmila) was there, but only two or three children were present, if any. This did not prevent Urmila from entering a long list of names in the official attendance register (e.g. 18 children on 23 July 1993, as opposed to 4 actually attending, and 35 children on 26 July 1993, as opposed to none actually attending). There is strong pressure on her to do this, since the continuation of the programme — and of her stipend — depends on adequate attendance.[280]

On the question of low actual attendance, we were told (by Urmila as well as by other villagers) that 'children go only when there is something to eat'. This is rare, even though one of the major objectives of the Integrated Child Development Scheme is to combat undernutrition by providing nutritious food to young children on a regular basis. The rumour is that Urmila gets regular supplies of food (rice, pulses, biscuits, etc.), but uses it to feed her own family rather than the anganwadi children. It is also possible that the food supplies are, in fact, highly erratic, and that Urmila is being unfairly blamed for a failure which lies higher up in the administrative chain.

Health Care:

There are no public health care services in Palanpur itself. A government health centre officially exists in Akroli, 2 kms away; there is also a small government hospital in Chandausi, and a larger district hospital in Moradabad. These public facilities, however, are rarely used by Palanpur villagers. The main reasons for this seem to be that they have little faith in the quality of the services provided,

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[280] There is growing evidence that this picture of the local anganwadi is not untypical for rural Uttar Pradesh. A recent survey of primary education in 62 randomly selected villages of Uttar Pradesh, initiated by the Centre for Development Economics at the Delhi School of Economics, found that anganwadis were non-functional in most villages (personal communication from the field investigators).

resent the brusque behaviour of the health staff, and expect to be asked to pay for services that are supposed to be free.[281] It is worth noting that some of these facilities, notably the district hospital in Moradabad, deliver useful (though far from exemplary) services, and that those who have enough clout to obtain these services according to the rules do benefit from the public health system. But few people in Palanpur, if any, fall in that category.

Government functionaries make occasional appearances in Palanpur to provide specific health services such as malaria control, family planning, and child immunization. But these services are erratic, of poor quality, and their scope seems to have diminished rather than increased over time. To take the example of immunization, we were told in 1993 that 'they [immunization teams] used to come, now they don't come anymore'.[282] According to the village teachers, the teams actually do come from time to time, but they just sit in the house of the headman and depart after filling a few forms there. A similar lack of seriousness characterizes family planning and maternal health services, which are also, for practical purposes, non-functional.

Health care in Palanpur is overwhelmingly provided by private practitioners, and based on allopathic medicine. There are three 'doctors' in the village itself, none with any formal training. In the case of a minor illness, a sick person is usually brought to one of these village doctors. The standard treatment is an antibiotic injection, which cost five rupees in 1983–4. These injections have become very popular, as their short-term effects are often quite dramatic. It is difficult to avoid the impression that they are, in fact, over-used. Using antibiotic injections to cure a simple cold or a minor spell of flu brings immediate comfort to the patient, but widespread use of these remedies reduces their long-term effectiveness. The village doctors have no interest whatsoever in preventive health care, since they thrive on curative services.

For serious illnesses, treatment is usually sought in Chandausi (the nearest town), where numerous private doctors and clinics are available. Their services vary widely in price and quality. The consultations

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[281] Similar observations can be found in many studies of health-care utilization in north India; see e.g. Khan, Prasad, and Majumdar (1980), Indian Institute of Management (1985), Khan *et al.* (1988), and Jeffery *et al.* (1989).

[282] It is quite likely that these reported visits of immunization teams refer to smallpox eradication programmes, which were noted in 1974–5 by Bliss and Stern.

are short and the emphasis, here again, is on extensive use of antibiotics and other powerful remedies.

Private medicine tends to be expensive, and those who cannot afford it sometimes seek alternative solutions. Poor patients often take a chance with various kinds of folk medicine (*deshi dawa*). A far more common strategy is simply to put up with the illness in question, even if it is very painful, and hope that it will go away. This can go on for weeks or even months, with varying effects. If the patient's condition deteriorates critically, a belated effort is often made to seek effective treatment, if necessary by borrowing at high interest or even selling land. By then, however, it is often too late to avoid irreparable damage to the patient's health, or even a fatal outcome.

Land Redistribution:

Since the nation-wide abolition of zamindari and other intermediary land rights in the early 1950s, successive governments in Uttar Pradesh have shown little interest in land redistribution (Kohli 1987). The lack of official commitment to land redistribution is evident in Palanpur, where the amount of land redistributed during the survey period has been negligible. The only relevant event we can report is the following.

In 1976, six households in Palanpur were allotted one acre of land each by the government. This land was not obtained through confiscation of land from large landowners, indeed all landholdings in Palanpur are below the official land ceilings. According to the recipients, the land was acquired during the first land consolidation operation (completed in 1956–7), and may also include a portion of the earlier village commons. The land is of poor quality, in some cases barely cultivable.

The intended beneficiaries of this programme were landless, scheduled-caste persons. In fact, only three of the six beneficiaries satisfied these criteria; and, of the three eligible beneficiaries, two had a landowning father (and lived with him at that time). There were no women among the beneficiaries, and only one agricultural labourer. One of the three eligible beneficiaries explained that he had obtained land in return for getting sterilized (he did not mind being sterilized since he already had three sons and his wife was well beyond the reproductive period). According to a close relative of the then village headman, each beneficiary had to bribe the *lekhpal,* the *kanungo,* and the *tehsildar*; this may help to explain why the poorest households in Palanpur did not benefit from this programme.

In 1985–6, a second land consolidation operation took place in Palanpur (see section 4.3 below). In the process, the government acquired a small amount of land for distribution to the landless as well as for collective purposes. The amount of land involved, however, was extremely small (about 20 bighas, or less than one per cent of the total village land). Further, ten years after land consolidation has been completed, the landless are still waiting for the land in question to be distributed; meanwhile, it is used for private storage of straw and cow-dung.

In December 1988, we paid a visit to the tehsildar in Bilari with four landless labourers from Palanpur, whom we knew to be extremely poor, to enquire about the distribution of this land. The tehsildar, obviously embarrassed by our visit, was evasive. Eventually, he told us that distribution could easily be done if we brought him a few 'cases' from Palanpur. He was referring to cases of sterilization. This is only one of several indications we have of the tacit link between land distribution and sterilization in the area.[283]

It is often assumed, or argued, that land redistribution in rural India is 'not politically feasible'. This may well be the case, but the political infeasibility certainly does not arise at the village level, at least in Palanpur.[284] Indeed, land consolidation seems to provide a realistic opportunity to achieve some redistribution in a widely-acceptable framework. Current policy already includes the appropriation of a certain portion (about 5 per cent) of the land for approach roads, village commons, and related purposes. There is no active resistance to this policy, which involves an equitable sharing of the burden of appropriation. Nor is it likely that effective resistance would take place if the proportion of appropriated land were raised to a level that made it possible, say, to provide an acre of land to each landless agricultural labourer (in Palanpur, this would require additional appropriation of less than 2 per cent of the village land). Redistribution on such a scale would achieve little in terms of egalitarian objectives, but it would nevertheless be a significant step towards the provision of social security. If this step is 'infeasible', it is not because landowners would

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[283] The use of sterilization as an effective — though unofficial — eligibility condition for involvement in government 'anti-poverty programmes' is a common practice in Uttar Pradesh (personal observations; see also Singh 1993, p. 35).

[284] The same statement may not apply in areas where large landowners are a well-organized political force.

successfully resist it, but because the political leadership in Uttar Pradesh has little commitment to land redistribution.

Public Distribution System:

In 1983–4, Palanpur had a 'fair price shop', which served a number of surrounding villages as well as Palanpur itself. At that time, the manager of the fair price shop was a Thakur from a nearby village who had good connections with the Palanpur headman (he later strengthened these connections by marrying his sister to the headman's grand-nephew). Most residents of Palanpur and other villages had a ration card, enabling them to purchase specific commodities from the fair price shop at subsidized prices.

The only commodities available from the fair price shop, when something was available at all, were kerosene and sugar. Why these two particular commodities, and no other, should be supplied through subsidized public distribution defies logic.[285] In practice, these commodities essentially serve as vehicles of implicit income transfers: people pay a little less for these purchases than they would pay on the open market. The total transfer implicit in the public distribution system is equal to the difference between the value of 'rations' at market prices and at subsidized prices.[286] This implicit transfer is tiny: in 1983–4, it was of the order of one rupee per person per month (about one per cent of average per capita income in Palanpur). In fact, this is an overestimate, since the calculation assumes that the manager charges the official prices and delivers the official rations. This has never been the case. In 1983–4, the manager made no secret of the fact that he charged unofficial 'commissions' on all transactions. He also routinely sold some supplies on the market for his own profit, after telling his official customers that he had not received the full monthly quota of sugar or kerosene.[287]

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[285] The rhetoric of public policy is that both kerosene and sugar are 'essential commodities for the common man', and that their distribution cannot be left to market forces. However, many commodities are far more 'essential' to the rural poor than kerosene or (especially) sugar. Besides, it is far from clear that the public distribution system, in its present form, offers a credible basis for equitable and efficient distribution. On the political economy of India's public distribution system, see Mooij (1994, 1996), and the literature cited there.

[286] This reasoning assumes that rations available from the public distribution system are smaller than what people wish to consume, *or* that 'resale' is possible. This is a reasonable assumption in this context.

[287] To balance the books, the manager had to ensure that some of his customers acknowledged receipt of larger quantities of kerosene or sugar than they had actually received. This additional act of deception posed little difficulty, given the high levels of illiteracy among his customers and his own position of authority.

Even this tiny income transfer is obtained at the cost of considerable inconvenience, especially for customers living in relatively distant villages. Indeed, the opening days and hours of the fair price shop in 1983–4 were completely unpredictable. When the word spread that the shop had suddenly opened, there would be a great rush to the spot from the surrounding villages, and people would have to queue for long hours to collect their meagre rations.

From this account, we can see that two basic problems undermined the proper functioning of the public distribution system in Palanpur in 1983–4. First, the decentralized distribution of specific commodities in rural areas has demanding logistic requirements. Second, the system as designed at that time gave the manager ample scope to cheat his customers. These problems could, perhaps, have been significantly alleviated with a suitable reform of administrative arrangements (e.g. through the introduction of a coupons system). Be that as it may, the public distribution system in Palanpur has not followed the path of reform. After 1983–4, the fair price shop further deteriorated in the hands of successive managers and was ultimately closed down altogether (in 1991). No one in the village seems to miss it very much.

The condition of the public distribution system in Palanpur is quite symptomatic of the corresponding situation in rural Uttar Pradesh as a whole. According to the National Sample Survey, the proportion of the rural population receiving subsidized foodgrains from the public distribution system is only 2 per cent in Uttar Pradesh, compared with 27 per cent in India as a whole, 63 per cent in south India and 88 per cent in Kerala.[288] In terms of the per capita supply of foodgrains through the public distribution system, Uttar Pradesh has the lowest figure among all major states: less than 3 kgs per year, compared with 18 kgs in India as a whole and 60 kgs in Kerala. This is one indication, among others, of the low priority that has been given to public services in general, and to the public distribution system in particular, in this part of the country.

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[288] See Drèze and Sen (1995), Statistical Appendix, Table A.3. The reference year is 1986–7.

Public Employment Programmes:

Until 1989, there were no public employment programmes in Palanpur or the surrounding area. In 1989, the Government of India introduced a new centrally–sponsored employment programme, Jawahar Rozgar Yojana (JRY for short). The distinctive feature of JRY is 'decentralization': this scheme is meant to be implemented by village panchayats, and to be geared to the creation of durable community assets. This is in contrast with earlier employment schemes such as the National Rural Employment Programme, which used to be organized (where operative) around common work-sites, where large numbers of labourers would be engaged in activities such as road-building or tank excavation.

In June 1990, we collected a good deal of information on the functioning of JRY, not only in Palanpur itself but also in four nearby villages. Interestingly, we found that the works taken up under JRY were the same in all the villages: laying bricks on village lanes and planting trees.[289] Contrary to the JRY guidelines, these activities had not been chosen by the village panchayats, and were based, instead, on standard instructions from the Block headquarters. The tree-planting component was a uniform disaster: in all the villages visited, the trees either had not been planted at all or had dried up due to lack of proper care. On the other hand, the paving of village lanes (on which the larger part of the JRY money had been spent) was widely considered as a useful activity. This view is probably well-founded: muddy, squalid, uneven village lanes cause great inconvenience to the residents, provide difficult passage to bullock-carts, and represent a serious health hazard. When we revisited the area in 1993, we found that JRY remained primarily geared to the construction of brick lanes within villages.

In assessing JRY, it is important to distinguish between the *asset creation* objective and the *employment generation* objective. As far as the former is concerned, it seems that this scheme is reasonably successful, except for the tree-planting component. On the other hand, the achievements of JRY in terms of employment generation for *unskilled* labourers are extremely limited. The main reason is that village headmen are interested in creating durable assets, not in generating employment. As a result, they tend to spend most of the

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[289]   A small proportion of the JRY budget had also been spent, in each village, on building houses for scheduled-caste families. This activity was based on combining JRY with another rural development scheme.

money on materials and skilled labour.[290] According to independent and consistent JRY accounts shown to us by two village headmen, the share of unskilled labour in the total cost of constructing brick lanes is well below 5 per cent. In absolute terms, this implies that JRY annually generates a *total* of less than 100 person-days of employment for unskilled labourers in Palanpur.

These findings suggest that JRY, which is officially presented first and foremost as an employment generation or poverty alleviation scheme (Government of India 1992: 1), is really an asset creation scheme. Its employment generation potential is very limited under present arrangements.

Widow Pensions:

Like most other Indian states, Uttar Pradesh has a 'scheme' to provide small monthly pensions to certain categories of widows. In order to be eligible, a widow has to satisfy some basic conditions: mainly, being aged below 60, having no adult male children, and earning a monthly income below a specified level.[291] The total number of pensions actually sanctioned in a particular district depends on available funds.

In 1983–4, most Palanpur widows were not even aware of the existence of a pension scheme. One widow, however, had been able to obtain a pension. This widow, Gulabo, did not satisfy the eligibility conditions: she had two adult sons (both living with her), and her household had the reputation of being one of the wealthiest in Palanpur. Gulabo herself was the leading moneylender in the village (see chapter 9). Her success in obtaining a pension, in spite of being ineligible, probably reflects special connections — she was a close relative of the headman.

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[290] According to the official JRY guidelines, labour costs should account for at least 50 per cent of total expenditure (Government of India 1989: 15). This stipulation, however, makes no distinction between skilled and unskilled labour. If skilled labourers make up half of the JRY labour force, and if their wages are three times as high as those of unskilled labourers (reasonable assumptions for the works we have observed), the wages of unskilled labourers may add up to as little as 12.5 per cent of total expenditure *even* if the official guidelines are followed. In practice, the guidelines are routinely violated, in Palanpur as in the surrounding villages. Similarly, in a study of JRY in 39 villages of Uttar Pradesh, Shankar (1994) finds that the actual share of (skilled and unskilled) labour costs in total expenditure is as low as 33 per cent. On these and related shortcomings of JRY, see also Das Gupta *et al.* (1989).

[291] The official motivation for the age limit is that women above 60 can be considered under a separate pension scheme for elderly destitutes. No one in Palanpur (man or woman) has ever received a pension under the latter scheme.

By the end of the 1980s, there was much greater general awareness of the pension scheme. Many widows frequently talked of their desire or hope to obtain a pension. This improved awareness partly reflected the fact that pensions for widows had been mentioned in recent electoral promises by local politicians; it also reflected earlier discussions about the plight of widows which our own field work had generated within the village. The actual ability of Palanpur widows to obtain a pension, however, had not improved. While several had applied, or tried to apply (often spending considerable sums of money in the process), none had been able to overcome the numerous bureaucratic hurdles that stand in the way of a successful application.[292] In late 1989, we found conclusive evidence of the emergence of a local racket connected with the pension scheme: an influential teacher in a nearby village (Safilpur) had started acting as a self-appointed intermediary between the widows of the area and the administration, and charging substantial fees in return for 'promoting' the applications of his clients. When we mentioned him to one Palanpur widow, she said that he was a dangerous crook and that she did not want to have anything to do with him.

Given the nature of the local government bureaucracy, the implementation of pension schemes in their present form is inherently problematic. A poor widow has little hope of winning the application battle unless she can count on the active support of at least one well-educated, resourceful, close male relative (e.g. her brother).[293] Few of them are in that situation.

Electricity Supply:

On two occasions, Palanpur was electrified. In both cases, the connecting wires were stolen. This did not prevent one Palanpur household from receiving a massive electricity bill in 1984, several years after the supply had been disconnected. At the time of writing, the village is still without electricity.[294]

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[292] On the Kafkaesque application procedures involved in applying for a pension, see Prasad (1994) and Bhatia (1995). Based on field work in north Gujarat, the last author found that widows applying for a pension had to produce 11 different certificates confirming their age, income, marital status, ownership of land, etc.

[293] There are exceptions. In a nearby village, for instance, we heard of one poor widow who had succeeded in obtaining a pension with the support of a female MLA (Member of Legislative Assembly), who lives in Bilari.

[294] According to the 1991 census, only 11 per cent of rural households in Uttar Pradesh have electricity connections. The only state with a lower figure is Bihar (6 per cent). See Drèze and Sen (1995), Statistical Appendix.

There is widespread agreement in Palanpur that the availability of electricity would lead to a major surge in agricultural productivity, e.g. by making it possible to replace diesel-powered pumpsets by electrified tubewells. Partly for this reason, and partly because of the benefits attached to domestic uses of electricity (including improved possibilities for children to study in the evening), Palanpur villagers privately clamour for a reliable electricity supply. However, they have made no serious collective effort to obtain a new connection.

Cooperative Credit:

Most cultivators in Palanpur are members of the local credit cooperative, the Farmers' Service Society (FSS). As explained in chapter 9, there is nothing 'cooperative' about the functioning of this organization. On the contrary, its management is entirely in the hands of urban-based functionaries, many of whom consider it primarily as a lucrative instrument of extortion.

The main extortion procedure, described in chapter 9, is a carefully-devised system for collecting illicit administrative charges from the customers. This system, known locally as *laut badal* or 'transfer entry', essentially consists of 'rolling over' the unpaid loans at the end of the year (most loans are meant to be repaid within 12 months), and of collecting a bribe equal to 10 per cent of the amount outstanding from each of the concerned debtors. The accounting procedures imply that borrowers who do not repay within a year effectively pay compound interest rates of the order of 25 per cent per year (about 15 per cent per year in real terms), instead of a simple interest rate of 12 to 18 per cent as suggested by the society's official policy and account books. Superimposed over the transfer-entry system are a number of other corrupt practices of a more ad hoc nature, such as issuing fake loans in the name of village residents without their knowledge (see chapter 9).

The system does not give impartial treatment to different classes of borrowers. For those who are confident of being able to repay within a year, and who have sufficient clout to avoid inordinate extortion, the terms and conditions of the FSS are quite advantageous compared with the cost of borrowing from private lenders. The same does not apply to poor, illiterate, or low-caste borrowers, who are the primary victims of corrupt management practices. Their own experience as clients of the Farmers' Service Society has been so bitter that, over time, they have largely withdrawn from the system (see chapter 9).[295]

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[295] We have no record, for instance, of any Jatab having borrowed from Farmers' Service Society during the five years preceding our 1983–4 survey (except for one young man who took a loan and then left the village).

Some of them have had to sell land in order to repay large debts generated by fraudulent accounting.

By 1983–4, the 'transfer entry' system had led to a situation where many Palanpur households were caught in a vicious circle of spiralling indebtedness and low repayment. It is important to stress that corrupt management has probably played a more important role in generating this situation than any deliberate intention to default on the part of borrowers. Indeed, in 1983–4, the overwhelming preoccupation of most borrowers was to repay as soon as possible, the general view being that 'there is no such thing as default or cancellation of government debts'.

As it happens, later developments have belied these expectations. In 1990, the government announced massive cancellation of debts to rural banks and credit cooperatives.[296] The basic measure was the cancellation of all debts below Rs 10,000. The details of this operation, as described to us by the FSS manager in Palanpur, had some intriguing features. For instance, borrowers falling under the Integrated Rural Development Programme (on which more below) were not eligible for cancellation; this is a regressive policy, since IRDP loans are supposed to be targeted to poor households. Also interesting is the fact that only 'defaulters' were entitled to cancellation; those who were repaying according to the rules were excluded.[297]

The wholesale cancellation of debts in 1990 went a long way towards solving the short-term problem of mounting arrears, in Palanpur and elsewhere in rural India. This 'solution', however, is an expensive way of helping poor borrowers, given that privileged farmers have a large share of institutional credit in rural India (see chapter 9). The debt cancellation operation has also dealt a serious blow to the credibility of the rural banking system, and it may have further reduced the long-term ability of the system to operate effectively.

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[296] This policy was partly an electoral manoeuvre, and partly a crude response to the problem of mounting overdues in the rural banking system. For a description of the scheme, see Government of India (1991: 136–7).

[297] Officially, the scheme was supposed to exclude 'wilful defaulters', by focusing on 'borrowers who did not repay loans and experienced two or more bad crop years, not necessarily consecutive ones, one of which was the year in which the default occurred' (Government of India 1991: 137). In Palanpur, no attempt was made to apply these opaque guidelines; instead, loans were cancelled across the board.

By 1993, the activities of the Farmers' Service Society had considerably shrunk. Cash loans were rare, possibly because the society had exhausted its capital. The managers concentrated their efforts on small seasonal loans in kind (seeds and fertilizer), which, as explained in chapter 9, have a somewhat better record than cash loans.

Integrated Rural Development Programme:

By the end of the 1980s, the so-called Integrated Rural Development Programme (hereafter IRDP) had become the most important 'poverty alleviation programme' of the Government of India.[298] According to the official IRDP guidelines, the basic features of the programme are as follows:

> The objective of the programme is to assist selected families of target groups in rural areas to cross the poverty line by taking up self-employment ventures. . . . The Programme aims to achieve the stated objective by providing income-generating assets including working capital where necessary to the target group families through a package of assistance including subsidy and institutional credit. . . . Poverty line has been defined in terms of annual income of a family. . . . The target group of the programme consists of small farmers, marginal farmers, agricultural labourers, rural artisans and others whose annual family income is below the cut-off line.[299]

In practice, IRDP is essentially a subsidized credit programme; the initial aim of providing a complementary 'package of assistance' has never been seriously pursued.[300] Compared with other subsidized credit programmes, IRDP has two distinguishing features: (1) credit is *tied* to the acquisition of specific productive assets such as milch animals and bullock-carts, and (2) credit is *targeted* to households below the 'poverty line'. We shall not go into the question of whether loan-tying is a good idea, although field observations give grounds for serious doubt on this point.[301] The issue of targeting is more central.

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[298] This section is largely based on Drèze (1990b), where the reader can find a more detailed discussion of the Integrated Rural Development Programme in Palanpur, an assessment of the performance of the programme elsewhere in India, and an introduction to the literature on IRDP. More recent contributions to this literature are reviewed in Byrd (1993) and Copestake (1995).

[299] Government of India (1988b: 1).

[300] On this point, see particularly Rath (1985).

[301] This is mainly because the implicit assumption that a bank manager knows better than his clients what they ought to do with their money is ill-founded. A frequent result of this policy is that borrowers re-sell the assets they have acquired through IRDP in order to use the money for some other purpose (many IRDP beneficiaries in Palanpur have done precisely that). The resulting transaction costs can be quite substantial. On these and related issues, see also Seabright (1989b).

The key targeting criterion is 'family income'. In 1985, when IRDP was initiated in Palanpur, a family had to earn an annual income below Rs 3,500 (irrespective of family size) in order to be eligible for a loan. The *gram vikas adhikari* (village development officer, or VDO, earlier known as *gram sevak*) was in charge of drawing up a list of eligible households (the 'Block list'), based on a survey of all households in the village, and of recommending particular households for inclusion in the programme. The loans were disbursed by Prathma Bank, the local implementing agency, based on these recommendations and the approval of the bank manager.[302]

One basic flaw in this selection procedure is that household income is extremely hard to measure or verify. This makes it possible for the VDO to recommend virtually anyone he wishes, if necessary by entering a fake income figure in the Block list. In 1985, the VDO was making liberal use of these discretionary powers, and collected a bribe of about Rs 200 per recommended household.[303]

Using the information we collected in 1983–4, it is possible to examine the economic characteristics of IRDP beneficiaries immediately before their inclusion in the programme (i.e. around the time when the VDO was supposedly conducting his own survey). In Table 14, we compare their economic characteristics with the corresponding village averages. It turns out that the average per capita income of IRDP beneficiaries prior to their inclusion in the programme was very close to the village average. Similarly, the incidence of poverty was not very different among IRDP beneficiaries and other households.

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[302] A major source of ambiguity in the Integrated Rural Development Programme is whether the target group consists of households or individuals. Following the IRDP guidelines, we take the household as the unit of analysis in this section, but it should be remembered that banks lend to *individuals,* not households. This ambiguity opens the door to arbitrary applications of the eligibility conditions (what is 'family income' for an adult member of a joint family?), which add to the implementation problems discussed here.

[303] According to the IRDP guidelines, the selection of beneficiaries is supposed to involve the gram sabha, or at least the village panchayat. In Palanpur, both institutions are non-functional (see chapter 1), and the VDO makes his own recommendations, in agreement with the village headman.

Table 14 : Profile of IRDP Beneficiaries

Household characteristic	Average value of the stated characteristic in 1983–4		
	IRDP beneficiaries[a]		All households
Per capita income (Rs/year at 1960–1 prices)	183	(67.4)	194
Percentage of households below the poverty line[b]			
current income per capita	43	(100)	40
'trend income' per capita	33	(−)	40
'observed means'	52	(−)	40
Percentage of households eligible for IRDP loans:[c]			
household income below Rs 3,500	33	(100)	38
per capita income below Rs 700	43	(100)	38
Number of adult males	2.0		2.0
Per capita land ownership (bighas)	2.0		2.7
Percentage of landless households	4.8	(56.3)	19.6

[a]   In brackets, the corresponding figure (for the same households) according to the 'Block list' prepared by the gram vikas adhikari (VDO).

[b]   Current income refers to annual income during the 1983–4 survey year; per capita 'trend income' refers to the average of 1974–5 and 1983–4 per capita income; 'observed means' is an informal indicator of economic status based on the overall assessment of field investigators (see chapter 4 for details). For each criterion, the poverty line has been set at a level such that 40 per cent of all households are below it.

[c]   According to the IRDP guidelines, the main eligibility criterion is that annual household income should be below Rs 3,500. There is no adjustment for family size, and the practice of bank managers and the VDO is to work in terms of household income rather than per capita income. But the guidelines vaguely indicate that the figure of Rs 3,500 is based on a household size of 5, so we have also provided the relevant figures corresponding to an income eligibility criterion of Rs 700 per capita.

Note: The Integrated Rural Development Programme began in Palanpur in 1985; this table compares some household characteristics of IRDP beneficiaries with the corresponding village averages just *before* the inception of the programme. This table is based on the full list of 21 IRDP beneficiaries, compiled from bank records and village survey information.

Overall, the economic characteristics of IRDP beneficiaries were strikingly similar to those of other households.

There is one qualification to this statement: among 21 IRDP beneficiaries, only one was landless.[304] We conjecture that this observation reflects the reluctance of bank managers to lend to landless persons in an area where there is a good deal of labour mobility. Our experience is that bank managers generally consider lending to landless persons as a risky venture, because they cannot be threatened with land confiscation and find it relatively easy to abscond. We also note that, aside from the landless, another group of households which is notably absent from the list of IRDP beneficiaries is that of households without adult men. In fact, in 1985 not a single woman in Palanpur obtained a loan under the Integrated Rural Development Programme.[305]

Table 14 also provides a basis of comparison between the 'Block list' prepared by the VDO and our own survey data. Compared with our own estimates, the income figures appearing in the Block list are systematically biased downwards, by a large margin. In fact, according to our estimates, only 33 per cent of households selected for IRDP loans in 1985 had incomes below the eligibility threshold of Rs 3,500 in 1983–4, even though household incomes in that year were somewhat *lower* than normal due to poor harvests. This is consistent with the well-known fact that the VDO frequently recommends ineligible households for IRDP loans, and enters fake income figures in the Block list. The unreliable nature of the VDO's figures is confirmed by an examination of land ownership data: according to these figures, more than half of the IRDP beneficiaries in Palanpur are landless, but we have solid evidence that all but one of them do own land.

A final observation on the question of targeting is that, in Palanpur, destitute households have very little involvement in IRDP.[306] Discussions in the village as well as with the VDO and bank managers suggest that there are three important reasons for this. First, destitute

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[304] This landless household, owner of the main grocery shop in Palanpur, was in the *top* decile of the per capita income scale in 1983–4.

[305] The IRDP guidelines now stipulate that 30 per cent of all loans should be given to women. We have not had an opportunity to observe whether and how this new rule has been applied in Palanpur.

[306] See Drèze (1990b) for the evidence, and for a more detailed discussion of the causes of exclusion. For another case study of the implementation of IRDP in Uttar Pradesh, see Shankar (1991b), whose observations and conclusions are quite similar to those reported here for Palanpur.

households cannot afford to bribe the VDO, and to meet other application costs. Second, bank managers are not interested in lending to the poor, whom they regard as 'bad risks'. Third, most destitute persons in Palanpur consider IRDP loans to be far too risky for them. Their apprehension often finds expression in the laconic remark '*lenge to kahaan se denge?*' ('if I take a loan, how will I repay it?').[307]

To conclude, the selection of IRDP beneficiaries in Palanpur has the following features: (1) ineligible households are liberally included in the programme, (2) some of the most disadvantaged groups (notably landless labourers, widows with young children, and other destitute households) have virtually no involvement in IRDP, and (3) overall, there is no positive discrimination of any kind in favour of poor households. In terms of its own objectives and guidelines, the programme has failed. This is not to say that the Integrated Rural Development Programme is necessarily useless. Like other untargeted programmes of subsidized credit, it *may* have contributed — despite all its flaws — to the expansion of productive capacity and private incomes that has taken place in Palanpur over the survey period. But it cannot claim the status of a programme of direct action to alleviate poverty.

4.3 Some Positive Achievements

Not all government programmes in Palanpur have failed. Before concluding this section, we should mention two initiatives that have been at least moderately successful: land consolidation and the provision of public handpumps.

Land Consolidation:

The government succeeded in implementing an impressive land consolidation operation in 1985–6.[308] The basic principle of this operation is that each landowner's post-consolidation holding should be equal in value to his or her initial holding but divided into a smaller number of plots (typically two, exceptionally three). Often this is achieved by giving landowners more land near

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[307]   This seems to be a common attitude among very poor households; see e.g. Krishnan (1990: 51), Srivastava (1996) and A. Sinha (1996) for similar observations. The last study also suggests that, contrary to common perceptions, the level of indebtedness among the poorest of the poor is very low in rural India.

[308]   A similar land consolidation operation was completed just before the survey period, in 1956–7; on this, see Ansari (1964).

their largest plot, or near the plot(s) where they have installed a bore or Persian wheel. Everyone is supposed to benefit, in so far as fragmentation is reduced without anyone suffering a loss of land, at least in value terms.[309]

Most farmers in Palanpur acknowledge that the aggregate benefits of land consolidation are substantial. In 1983–4, many households owned highly fragmented holdings (e.g. 8 or 9 plots with a combined area of less than two acres). Consolidation facilitates a wide range of agricultural activities such as irrigation and keeping a watch on ripening crops. There are no major losses in terms of risk-spreading, since owning two plots in different parts of the village land provides reasonable insurance against area-specific crop failures.

It is, however, also a widely-shared view that consolidation has a regressive impact on the distribution of land. Influential farmers, especially those who have close connections with the headman, usually succeed in using land consolidation as an opportunity to obtain an improved holding (in quantitative or qualitative terms). Most small farmers, on the other hand, complain that they have lost some land in the process. As several respondents commented, 'the rich are happy, the poor are angry'. These adverse distributional effects have to be considered together with the aggregate benefits deriving from reduced fragmentation.[310]

Land consolidation in Palanpur was a major operation, extending over several years (although the actual re-shuffling of plots takes place over a single season). We have had only limited opportunities to observe its diverse effects on the economic, social, and political life of the village. Two side effects, however, are quite conspicuous. One is a spate of court cases. According to one of the better-informed Palanpur farmers, land consolidation triggered about 75 court cases, of which about 25 were still pending in December 1988 (when we

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[309] In fact, the land consolidation operation also involves the appropriation of a small fraction (about 5 per cent) of the village land by the government, partly to lay out approach roads that connect every field to the village, partly for collective utilization, and partly for redistribution to the landless. This component of the land consolidation programme does not necessarily benefit everyone.

[310] A positive distributional aspect of land consolidation is that part of the land appropriated by the government is reserved for distribution to the landless. As mentioned earlier, however, the amount of land made available for distribution is very small (about 20 bighas), aside from the fact that actual distribution is still awaited ten years after land consolidation.

discussed this issue with him). An interesting comment, from the same person, is that the most acrimonious quarrels triggered by land consolidation (not necessarily leading to court cases) were those involving brothers or other close relatives rather than unrelated households.

The second effect, which may be related to the first, is a wave of partitioning of joint families. This may be a consequence of quarrels relating to consolidation. But it is also possible that land consolidation simply advanced the date of partitioning for a number of joint families, by providing a natural opportunity to deal with the relevant land-related matters. Whether this particular consequence of land consolidation should be considered as positive or negative is a moot point.[311]

Everything considered, the land consolidation operation seems to have been at best a moderate success. The principle is certainly a good one, and, given that consolidation cannot be expected to occur spontaneously either through market transactions or through community initiative, the intervention of the state in this matter certainly makes sense. The practice of land consolidation, however, leaves much to be desired, and its regressive distributional effects imply that the net benefits (if any) to small landowners are quite limited.

Water Supply:

Our second 'success story' concerns water supply. As with land consolidation, there is much scope for positive government involvement in this field. At the beginning of the survey period, in 1957–8, wells were the exclusive source of water for domestic use. Since then, many households have installed a handpump in their courtyard. But this is a somewhat wasteful arrangement, since a handpump is expensive to install and can be utilized largely as a public good. The proliferation of private handpumps also poses serious problems of drainage, as large quantities of used water now flow uncontrolled from private courtyards to public spaces. Further, poor households cannot afford a private handpump. There is, thus, a strong case for collective provision of handpumps, together with adequate drainage arrangements.

In the late 1970s, the government installed two public handpumps in Palanpur. These handpumps are robustly built, and ingeniously designed to reduce the physical strain involved in drawing water. One of them is situated just outside the Jatab quarters, and the other one

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[311] On various aspects of joint-family living and nuclearization, see chapter 1, section 2.

near the Passi quarters (probably because this water-supply scheme was intended for the scheduled castes). These handpumps are extensively used, and the availability of a public handpump near their homes is of particular value to Jatabs, most of whom cannot afford a handpump of their own. The provision of public handpumps seems to be a positive development in every respect.

4.4 Concluding Comments

We end this section with five general remarks on public services and amenities in Palanpur.

First, the sobering message of this review is that the availability of public services and amenities in Palanpur is, for practical purposes, only marginally better now than it was at the beginning of the survey period. On paper, Palanpur has everything: an 'integrated rural development programme', a public employment programme, free schooling, free basic health care, immunization services, maternal health services, adult education, integrated care for pre-school children, family planning services, widows' pensions, old-age pensions, a fair price shop, agricultural extension, a farmers' cooperative, electricity, subsidized credit, collective water supply, land consolidation, etc. In practice, however, positive government intervention in Palanpur amounts to very little. Among these 18 types of programmes, we have noted a modicum of effectiveness for the last three, and at least some benefits (if not the intended ones) for the first two. The remaining 13 are, for practical purposes, non-functional.

Second, there is a particularly striking failure to do anything tangible for the disadvantaged classes or castes. Among the programmes listed in the preceding paragraph, all those that have a significant redistributive component, or that are 'targeted' at disadvantaged groups, have failed (or at least the redistributive or targeted component has failed), with the possible exception of water supply. This failure reflects two political realities: (1) redistribution has not been on the political agenda of any of the ruling parties or coalitions in Uttar Pradesh since independence, and (2) at the village level, collective institutions and public programmes are comprehensively dominated by privileged groups.[312]

Third, it would be a mistake to think of Palanpur as an isolated failure. The general record of public services and government

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[312] On these issues, see Kohli (1987), Hasan (1989), Drèze and Gazdar (1997).

programmes is similar (sometimes worse) in most of the surrounding villages.[313] And, as we saw in chapter 1, indicators of well-being such as literacy and mortality rates are not very different in Palanpur and Moradabad district. Further, there is much independent evidence (from secondary data, village studies, and related sources) of the widespread failure of development-oriented government intervention in Uttar Pradesh, and of the link between that failure and the persistence of endemic deprivation in this region. There are, as always, local variations, but what is far more striking is how the poor record of public action in Uttar Pradesh (especially in essential fields such as primary education, health care, land reform, poverty alleviation, and social security) has been diagnosed again and again as a leading cause of persistent deprivation and inequality in that state.[314]

Fourth, it would also be a mistake to think that Uttar Pradesh is no different from the rest of India in this respect, and that the record of government activity and public action is equally poor elsewhere. It is true that a certain amount of government inertia, corruption, and inefficiency can be found everywhere in the country. But many states in India have a record of sustained improvement in the availability of public services since independence. To illustrate this point, it is useful to compare available evidence on some essential public services in Uttar Pradesh and, say, south India (see Tables 15a and 15b). Note that south India is a heterogeneous entity, which includes one state with an outstanding record of early social development (Kerala, with a population of 29 million in 1991), but also some lagging regions, such as most of Andhra Pradesh (with a population more than twice as large as Kerala's). For this reason, we also include Kerala separately in the table, to give an idea of where Uttar Pradesh stands in relation to the state that lies at the opposite end of the spectrum in terms of the record of state involvement in the promotion of basic entitlements. Whether we compare Uttar Pradesh with south India or with Kerala, Uttar Pradesh's dismal record is plainly evident from the table.

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[313] A recent compendium of field reports on eight villages of Uttar Pradesh (Sinha 1995a) also paints a grim picture of the functioning of public services and development programmes in different parts of the state. The patterns of failure identified in these reports are, in many cases, strikingly similar to what we observe in Palanpur.

[314] For further discussion, see Drèze and Gazdar (1997), where some of the social and political roots of 'public inertia' in Uttar Pradesh are also investigated.

Nor can this contrast be plausibly attributed to the low level of average per capita income in Uttar Pradesh (see Drèze and Gazdar 1997).

Table 15a : Uttar Pradesh, South India and Kerala: Selected Indicators Relating to Public Services

	Uttar Pradesh	South India	Kerala
Health			
Proportion of recent births (1992–3) preceded by antenatal checkup (%)	30	73	97
Proportion of births taking place in medical institutions, 1991 (%)	4	50	92
Proportion of children aged 12–23 months who have never received any vaccination, 1992–3 (%)	43	13	11
Education			
Proportion of primary schools held in 'open space', 1986[a] (%)	17.2	3.4	0.0
Proportion of primary schools with only one or two teachers, 1986 (%)	41	66	1.3
Proportion of rural female children aged 12–14 who have never been enrolled in a school, 1986–7 (%)	68	28	1.8
Other services			
Proportion of the rural population receiving subsidized foodgrains from the public distribution system, 1986–7	2	63	88
Per capita supply of foodgrains through the public distribution system, 1986–7 (kg/year)	3	28	60
Proportion of rural households with electricity connection, 1991	11	41	42

[a]   *Not* including schools held in 'tents', 'thatched huts', or 'kachcha buildings'.
   Source: Drèze and Gazdar (1997); see also Drèze and Sen (1995), Statistical Appendix.

Table 15b : Public Amenities and Institutions in Comparative Perspective

	Percentage of villages with the specified amenities and institutions, 1992–3			Status of the specified amenities and institutions in Palanpur, 1993
	Kerala	South India	Uttar Pradesh	
Health facilities				
Any health facility	98	43	23	Non-existent
Primary health centre or sub-centre	96	38	20	Non-existent
Trained birth attendant	46	61	33	Non-existent
Mobile health unit	27	15	0.4	Non-existent
Other institutions				
Anganwadi	99.5	55	19	Virtually non-functional
Fair price shop	97	65	38	Non-functional
Cooperative society	87	32	14	Virtually non-functional
Mahila mandal	89	28	5	Non-existent
Youth club	96	33	14	Defunct

Sources: Drèze and Gazdar (1997), based on the 1992–3 National Family Health Survey (International Institute for Population Sciences, 1994a, 1994b, 1994c); Palanpur survey data.

Finally, the Palanpur case study brings out that the failures of government intervention at the village level are overwhelmingly of a political rather than financial or administrative nature. Policies that have had a strong backing from politically influential groups (such as affluent landowners) have fared much better than others, even when their administrative requirements have been quite exacting. Land consolidation — an extremely intricate operation — is a good example. Similarly, the functioning of public lending institutions has been primarily oriented to the needs of large farmers.[315] At the other

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[315] Similar patterns apply in terms of state-level policies. For instance, agricultural price policy (not covered in this section) has been strongly influenced by the demands of farmers' organizations, with little regard for wider social objectives. State promotion of the production and consumption of sugar (a 'luxury good' in rural India) is another prime example of massive subsidies to the rich dressed up as public support 'for the common man'.

extreme, the basic needs of politically disadvantaged groups, such as primary education and health care, have been consistently neglected, and redistributive programmes have been systematically undermined by privileged groups. There is little prospect of major improvement in the orientation and achievements of government intervention without a significant change in the balance of political power, both at the state and at the local level. Democratic institutions provide a potential basis for such a change, but their actual impact has remained quite limited so far.

5. Social Inequality

Earlier in this chapter, we have discussed changes in economic inequality in Palanpur, in terms of variables such as household income, land ownership, and net wealth. Somewhat disconcertingly, we have found some evidence of (1) stable distribution of land and other assets (section 2), and (2) rising inequality of net wealth, reflecting the uneven accumulation of institutional debts (section 2.2), and (3) non-increasing (and possibly decreasing) income inequality (section 3.2). These contrasting trends are not inconsistent, but nor do they point to any clear-cut diagnosis about the recent evolution of economic inequality, particularly in view of the tentative nature of the wealth and income estimates. One reasonable conclusion, however, is that there is no evidence of sustained economic polarization over the survey period.[316] It is arguable that the main issue, as far as economic inequality is concerned, is not the possibility of a marginal reduction

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[316] Other village studies have found very diverse patterns of change in local economic inequality (perhaps partly due to differences of methodology and focal variables, and partly due to real contrasts in the relevant trends). For instance, Epstein (1973), Gough (1981) and Swaminathan (1988b, 1991) find evidence of polarization in the villages studied by them, while Attwood (1979), Athreya, Djurfeldt, and Lindberg (1990) and Sharma and Poleman (1993) find equalizing tendencies. For further cases on both sides, and also mixed patterns, see also Rao (1972), Rajasekhar (1988), Wadley and Derr (1989), Walker and Ryan (1990), Hazell and Ramasamy (1991), Saith and Tankha (1992, 1995), Beck (1994), among others. These diverse findings are consistent with the fact that, in the 1970s and 1980s, economic inequality in rural India seems to have risen in some regions and declined in others, with little change on average (see Drèze and Srinivasan 1996, and also Ravallion and Datt 1995).

or intensification of inequality due to technological change or some other recent development. Rather, it is the high level of extant inequalities relating to basic initial disparities in land ownership and other endowments.

Inter-household inequalities of income and wealth, of course, are only one form of social inequality. At least two other bases of social inequality call for further comment: caste and gender.

5.1 Caste

Perceptions of Change:

In discussions with men and women of different castes, we found that most people considered caste-based social distinctions to have become less important in recent decades. In particular, the self-respect (ijjat) of the lower castes is said to have considerably improved. Examples that were commonly used to illustrate this trend include the following: restrictions of association and commensality have become less stringent (e.g. Thakurs and Dhimars now visit each other's houses and accept food from each other); Thakurs can no longer beat up Jatabs arbitrarily, or ask them to perform small chores without wages; people of all castes can now sit together on the same *charpai,* etc. Untouchability (*chhuachhoot*) is regarded as something of the past, even though some remnants of that practice certainly linger on.

Altogether, the changes in caste relations that have taken place over the survey period are considered to be quite profound. Some went so far as to say that 'now we are all equal'. However, this euphemism has to be taken with a pinch of salt, as it partly reflects a limited vision of the scope for social change. The notion that the village headman could be a Jatab, for instance, or even that a Jatab could be a serious election candidate, does not seem to enter anyone's mind.[317]

Except for a number of Thakur men and women, most people welcome the recent improvement in the status of the lower castes. Interestingly, many respondents felt that the government had played a major part in this development, by taking the side of the lower castes. A commonly-given illustration of the support received by the lower castes from the government is the availability of special

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[317] Uttar Pradesh did have a (female) Jatab chief minister for a short while, in 1995 (and again in 1997). However, the electoral base of her party (the Bahujan Samaj Party) is largely concentrated in eastern Uttar Pradesh, where social movements for the emancipation of disadvantaged castes have been significantly more active than in western Uttar Pradesh.

credit subsidies for members of the scheduled castes. The practice of job reservation was also mentioned as another form of government support. This assessment is particularly striking in view of the fact that, objectively, the government has done little for the scheduled castes in Palanpur itself, and that government officials often take part in their oppression. Perhaps the official rhetoric of state support to the disadvantaged castes has an effect of its own, independently of concrete action. It is also possible that even isolated cases of positive discrimination have an important social influence. For instance, there is only one case of a scheduled-caste person benefiting from job reservation in Palanpur, but his own experience of upward mobility has been quite conspicuous and may have had a strong demonstration effect.[318] In our interviews, we did notice that people often gave disproportionate weight to special cases or striking events in their assessment of a particular situation.

Two particular aspects of recent developments in caste relations deserve further exploration: the emerging rivalry between Thakurs and Muraos, and the changing condition of the scheduled castes.

The Murao Ascent:

At the beginning of the 1983–4 survey, when we were still trying to familiarize ourselves with Palanpur's economy and society, we asked Man Singh, a well-educated Murao, to tell us something about how he felt that the village had changed during the preceding 10 years. Man Singh, then head of a 35-member joint family owning 74 bighas of land, is an intelligent and enterprising farmer, who has often been at the forefront of technological innovation in the village. He is also, generally, a talented man with a sharp understanding of the rural society.[319]

Man Singh, who knows some English, decided to help us by putting some of his thoughts in writing. Here is what he wrote under the heading of 'social change':[320]

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[318] This man was one of the village sweepers, who obtained a well-paid job in the railways through job reservation, aside from being provided with a free cemented well, credit subsidies and other facilities.

[319] Man Singh makes a number of appearances in Bliss and Stern (1982), under the same pseudonym.

[320] The relevant paragraphs are reproduced here with only minor editing. The other parts of the document deal mainly with changes in agricultural practices and living standards.

1. Lower castes are passing better life than upper castes. So there has been a great jealousy and hatefulness for lower castes in the hearts of upper caste people.
2. Ratio of education is increasing in low castes very rapidly.
3. On the whole, we can say that low castes are going up and upper castes are coming down; this is because the economic condition of lower castes seems better than higher castes people in the modern society.

Note that, when Man Singh talks about the 'low castes', he is referring to the Muraos. This is the only way to reconcile his testimony with what we know about Palanpur. A reference to Muraos as a 'low caste' is, in any case, fully consistent with this caste's traditional status. It is interesting that Man Singh continues to refer to it as a low caste despite all the upward economic mobility experienced by the Muraos in recent years.

Once we understand that 'low caste' here means Muraos (and, of course, that 'upper castes' means Thakurs), Man Singh's statement closely agrees with our survey data and personal observations.[321] Indeed, we have already had several opportunities (in this chapter and the preceding one) to note the rising economic status of Muraos in Palanpur, and the decline in the relative economic position of the Thakur caste. Whether one looks at income or ownership, the Muraos have clearly overtaken the Thakurs during the survey period (see Table 16). They are also rapidly catching up in terms of male education.

The precise timing of the Muraos' economic success is a question of some interest. The 1957–8 survey indicates that, at the beginning of the survey period, Muraos already had as much land per person as Thakurs, and somewhat higher incomes. On the other hand, the Thakurs were still far ahead in terms of ownership of non-land assets and consumer durables. This suggests that the Murao ascent had already begun, but was still at an early stage. A plausible hypothesis is that it began with the abolition of zamindari in the early 1950s, and the changes in tenurial status that followed. The Murao advantage was decisively consolidated later on, largely based on a skilful use of technological change in agriculture. The increase of real wages has also

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[321] In the light of that information, however, Man Singh's testimony seems to be a slightly exaggerated and simplified version of recent changes in caste relations. This illustrates the point made earlier in this section about respondents often giving disproportionate weight to strongly-felt events: what Man Singh presents as a general contrast between Thakurs and Muraos is over-influenced by his personal experience as a well-educated and upwardly-mobile Murao.

Table 16 : Caste and Socio-Economic Change, 1957–93

	1957–8					1993				
	Thakur	Murao	Muslim	Jatab	Other	Thakur	Murao	Muslim	Jatab	Other
Population	104	117	53	71	183	283	294	140	133	283
Number of households	17	21	10	16	36	48	44	25	24	52
Female-male ratio (females per 100 males)	79	95	89	92	83	78	93	82	75	89
Literacy rate, age 7[+]										
male	41	11	5	3	15	56	39	20	12	39
female	0	0	0	0	1	19	2	2	0	12
Land owned per capita (bighas)	8.7	8.7	2.8	3.4	2.4	2.4	3.5	1.2	1.3	1.1
Land cultivated per capita (bighas)	6.2	6.9	3.5	3.4	2.5	1.9	3.5	1.9	1.4	1.3
Real per capita income[a] (Rs/ year at 1960–1 prices)	178	221	122	120	141	212	240	155	83	210
Proportion below the poverty line[a] (%)	0.30	0.22	0.64	0.73	0.56	0.21	0.15	0.33	0.89	0.35
Index of ownership of productive assets[b]	1.36	1.54	0.80	0.75	0.56	1.15	2.15	0.61	0.39	0.43
Index of ownership of consumer durables[b]	2.15	0.43	0.22	0.17	1.19	0.96	1.15	0.98	0.60	1.08

[a] Figures on income and poverty in the 1993 columns refer to 1983–4 (we have no data on incomes for 1993). 'Proportion below the poverty line' refers to the proportion of individuals belonging to households with per capita income below Rs 140 per year at 1960–1 prices.

[b] Share in the total value of productive assets (or consumer durables), divided by population share. The reference years for productive assets are 1962–3 and 1983–4, respectively; the reference years for consumer durables are 1962–3 and 1990, respectively.

enhanced the economic position of Muraos *vis-à-vis* Thakurs, who used to rely extensively on hired labour.

One interesting aspect of the economic success of the Muraos is that the Thakurs have been unable to prevent it. In the old days, when the Thakurs were the unchallenged village leaders, it is likely that they would have used non-economic means to keep the Muraos in their place. Even during the survey period, there are some signs of sporadic attempts at obstruction. It is widely believed, for instance, that the *dacoits* who raided affluent Murao households on several occasions were tipped off, perhaps even positively encouraged, by jealous Thakurs. The cattleshed of the first Murao headman was destroyed in a fire (leading to the death of 18 cows and buffaloes), following an act of arson attributed, in this case, to the earlier Thakur headman. Thakurs are known to have rigged the following election, to ensure their return to power (reversed again later on). When a young Murao decided to open an informal school in 1991, he did it in the nearby village of Pipli, rather than in Palanpur, to avoid — he said — having to face objections from Palanpur Thakurs. Some of these allegations may well be exaggerated, but there is no doubt that many Thakurs in Palanpur have resented the economic success of the Muraos, and made occasional attempts to obstruct it. Having said this, the means at their disposal have been limited (all the more so because of factional rivalries among the Thakurs themselves), and rather ineffective in the long run.

The rising economic prosperity of the Muraos has had several important social implications. It has strongly contributed, in particular, to (1) an improvement in the social status of the Muraos as a caste, (2) an escalating political rivalry between Thakurs and Muraos, (3) a general erosion of the earlier caste hierarchy, and (4) a growing dissonance between social rankings based on economic condition and ritual status.

The last point is particularly significant. Before the survey period, economic condition and ritual status tended to act as mutually reinforcing bases of social stratification: Thakurs, Muraos, and Jatabs appeared in that order *both* in the economic scale and in the caste hierarchy. This close association between economic and ritual status has now been disrupted, with Thakurs falling behind Muraos in economic terms.[322]

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[322] Another aspect of the same phenomenon is the marked decline in the relative economic position of Dhimars. As noted in chapter 1, Dhimars traditionally rank above Muraos in the local caste hierarchy. However, many of them have experienced downward economic mobility over the survey period; a number of Dhimar households, in particular, have sold much of their land and/or accumulated large debts.

If we highlight this observation, it is partly because it may have some generality. Indeed, several other village studies have noted a growing dissonance between economic and ritual status in rural India, and also how the failure of the 'high', non-labouring castes (e.g. Thakurs and Brahmins) to maintain a dominant economic position *vis-à-vis* the labouring castes (particularly the land-owning, cultivating castes) has played a major role in this process.[323] There may well be a reporting bias here: an emerging dissonance between ritual and economic status is likely to attract more attention from the field worker than a *continuation* (or accentuation) of traditional patterns of social stratification.[324] These consistent findings, however, do point to the possibility of an increasing mismatch between economic and ritual status in much of rural India, particularly in the form of a relative economic decline of the privileged castes.

This issue deserves further empirical investigation, especially since the impact of economic development on the relative economic position of different caste groups is hard to predict on the basis of *a priori* reasoning. Indeed, different caste groups can be seen to have different advantages in responding to new economic opportunities. On the one hand, privileged castes such as Thakurs and Brahmins tend to start

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[323] An early version of this theme can be found in André Béteille's classic study of 'caste, class, and power' (Béteille 1965), as well as in Bailey's (1957) study of 'caste and the economic frontier'. Kapadia (1993a: 303) notes that, in the Tamil Nadu village of Aruloor, 'caste and class coincide less and less today', a reference to the declining economic power of Brahmins and the upward mobility of the Chettiars and Muthurajahs (personal communication). Wadley and Derr (1989), in a re-survey of Karimpur (Uttar Pradesh), argue that 'any correlations that existed between jati and economic status in the 1920s were largely gone by the 1980s' (p. 95); they also note a deterioration in the relative economic position of the Brahmins. Similarly, in Sunari (Uttar Pradesh), Fuhs (1988) finds that 'the formerly important Brahmins are losing ground' (p. 22), to the extent that many of them even work as labourers for Jat farmers. Similar patterns are also noted in Cohn (1959) for eastern Uttar Pradesh, Das (1987) and Jha (1995) for rural Bihar and da Corta (1993) for rural Andhra Pradesh.

[324] Also, the population one is looking at usually consists of individuals who have *stayed* in the villages. This fails to capture the possible role of rural-urban migration as an avenue of upward economic mobility for the privileged castes. No such process has taken place in Palanpur over the survey period, but things may be different in areas where migration is more common.

with higher levels of education, better connections with the government bureaucracy and the urban elite, easier access to credit, and also good endowments of productive assets. On the other hand, the labouring castes have more freedom to take up new activities without compromising their social status, and greater readiness to complement new technological or occupational opportunities with their own labour. A plausible outcome is that the higher castes achieve an overall advantage in the urban economy (where factors such as education are crucial), but not necessarily in the rural economy. In the rural economy, the gainers may be those who begin with a relatively low caste status and *good* land endowments — a feature of many cultivating castes.[325]

Finally, we note that the recently-achieved economic leadership of the Muraos in Palanpur has a somewhat uncertain future, due to declining per capita land endowments. It may not be very long until agricultural technology ceases to improve rapidly enough to sustain per capita earnings (despite population growth) among those who have no other occupation than farming. The continued economic success of the Muraos may depend quite crucially on their ability to diversify their occupations in the relatively near future.

The Scheduled Castes:

So far in this section, we have noted two forms of progressive change in caste relations in Palanpur: a general erosion of caste hierarchies and prejudices, and a sharp decline in the relative economic position of Thakurs. It would be a mistake, however, to jump to the conclusion that the survey period has witnessed a decisive improvement in the economic and social status of the most disadvantaged castes. This point is best illustrated with reference to the Jatabs, Palanpur's main 'scheduled caste', although much of what follows also applies to the Muslims.

Despite some improvement in their social status in recent years, there is no sign of a real transformation in the position of Jatabs in the Palanpur society. As we saw in chapter 1, they still strike the observer as a 'caste apart', living in conditions of acute deprivation on the margin of society. Our surveys also provide several complementary

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[325] The growing political power of farmers' movements in different parts of India (particularly the 'Green Revolution' areas of Uttar Pradesh, Punjab, Gujarat, and Maharashtra) can be seen as one symptom of the upward mobility of the cultivating castes. On this aspect of U.P. politics, see Hasan (1989), Drèze and Gazdar (1997).

indications of the continuing — and in some ways even growing — social and economic disadvantages experienced by Jatabs in Palanpur.

To start with, there is little sign of growth in per capita income for the Jatabs (see Table 16). In fact, the average per capita income of Jatab households was lower in 1983–4 (when the proportion of Jatabs below the poverty line was as high as 89 per cent) than in any earlier survey year. It is plausible, of course, that incomes of Jatabs were particularly depressed in 1983–4, given that Jatabs depend primarily on cultivation and agricultural labour for their livelihood and that 1983–4 was a year of poor harvests. If we compare their real per capita income averaged over 1974–5 and 1983–4 with the average over 1957–8 and 1962–3 (as in section 3.1 of this chapter), we find an increase of 21 per cent between the first and the second part of the survey period, roughly corresponding to an annual growth rate of one per cent. In relative terms, the per capita incomes of Jatabs have sharply declined between these two sub-periods, from 70 per cent of Palanpur's per capita income (averaged over the two relevant survey years) to barely 50 per cent. The proportion of Jatabs among the poorest 25 households rose from 25 per cent in 1957–8 to 38 per cent in 1962–3, 43 per cent in 1974–5, and 47 per cent in 1983–4.

Second, Jatabs have only just begun participating in Palanpur's educational advancement. In 1957–8, all Jatab women were illiterate, and only one Jatab man was able to read and write. As recently as 1983–4, Jatab women remained completely illiterate, and only two male Jatabs (both adolescents) were literate; given that the Jatab population increased from 71 to 118 over the same period, literacy rates for this caste effectively show *no improvement* until 1983–4. For males, there was some progress by 1993, when seven young Jatabs were able to read and write; all females remained illiterate. This corresponds to a literacy rate (for persons aged 7 and above) of 12 per cent for males and 0 per cent for females. The persistence of near-universal illiteracy among Jatabs, and among Jatab women in particular, is one of the most serious obstacles to their economic, social, and political advancement. It may also be an important cause of backwardness in the society as a whole, in so far as it hinders the growth of truly participatory politics at the village level.

Third, Jatabs have had little involvement in the expansion of outside employment opportunities that has taken place during the survey period. They have had some success in gaining entry into the urban casual labour market, and this represents an important expansion of

economic opportunity compared with what agricultural labour alone can offer. However, Jatabs have been almost completely left out as far as regular wage employment is concerned (see section 1.3). In 1983–4, only one Jatab had a job of this type, and by 1993 even that single regular job had been lost.

Fourth, land transactions data also suggest economic stagnation among the Jatabs. Even though the Jatabs are as involved in cultivation as the Muraos and the Muslims, unlike those two groups they have not succeeded in increasing their land endowments over the survey period (see section 2.1). Until 1983–4, they had virtually abstained from either buying or selling. Between 1983–4 and 1993, the Jatabs lost 10 per cent of their land, mainly due to one household selling most of its land to repay mounting debts.

A final symptom of the continued marginalization of the Jatabs is their low involvement in most government programmes and initiatives, despite the fact that some of these are meant to be of particular benefit to the scheduled castes. An obvious example is the village school, which has failed to attract Jatab children in significant numbers, even though primary-school fees are waived for scheduled-caste children. Similarly, Jatabs do not send their children to the village anganwadi (in fact, most of them are not even aware of its existence), and they have not played an active role in the village panchayat. In some cases, mismanaged government programmes have even been a cause of further hardship for the Jatabs. We have mentioned, for instance, how Jatabs have withdrawn from the credit cooperative after a number of them were victims of merciless extortion by the society's managers. Many Jatabs also complain of having lost a substantial part of their land as a result of the land consolidation operation in 1985–6. With few exceptions, Jatabs have remained outside the scope of constructive government intervention in Palanpur.[326]

Outlook:

At the beginning of this section, we noted that the relations between different castes in Palanpur had lost some of their rigidity over the survey period. Caste prejudices have become less entrenched,

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[326] The main exception concerns subsidized credit from rural banks under the Integrated Rural Development Programme, initiated in 1985. The real economic benefits of this programme are unclear, but we have seen that special credit subsidies for the scheduled castes have contributed to the notion that Jatabs are protected by the government.

the association between caste and occupation has lost much of its force, and so has the link between ritual and economic status.

It would be a serious mistake, however, to conclude that caste has ceased to exert a significant influence on Palanpur's economy and society. The caste system is alive in Palanpur, and continues to have a strong influence on individual attitudes and the social order. The nature of caste-based inequalities has changed (as can be seen most clearly in the new relationship between Thakurs and Muraos), but these inequalities have not disappeared.[327]

The most tenacious of these inequalities concerns the economic and social marginalization of Jatabs. Their low participation in the process of economic expansion that has taken place during the survey period is a sobering feature of Palanpur's development experience. An early transformation in the condition of the Jatabs would have required a kind of social change that has simply not occurred in Palanpur. In the last few years, there have been some signs of positive change in this respect, including what looks like the beginning of an improvement in educational achievements among Jatabs. But there is still a long way to go.

5.2 Gender

There are few signs of any profound change in gender relations over the survey period. It is not that women's lives have failed to improve. Women have shared in the general amelioration of living conditions, and, in informal discussions, they often point to specific ways in which their well-being as women has increased and even to some forms of decline in gender inequality. For instance, the near-complete displacement of hand-grinding by energized flour mills has liberated them from one of the most strenuous forms of domestic work. Other commonly-cited examples are the rising age at marriage, the increasing tendency to form nuclear families, and the declining incidence of wife-beating. On the whole, most women seem to feel that their general status in society has improved. Interestingly, many

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[327] For a similar diagnosis in Karimpur (also in Western Uttar Pradesh), see Wadley and Derr (1989). Interestingly, Béteille (1965) and Cohn (1959) observe changes in caste relations that are strikingly similar to those found in Palanpur (including a relative decline of the dominant caste, upward mobility of the main farming caste, and absence of notable improvement for the most disadvantaged castes), in very different settings — Tamil Nadu and eastern Uttar Pradesh respectively.

also reported (on a positive note) that the bonds between husband and wife are closer than they used to be — perhaps a reflection of the declining hold of the joint-family ideology.[328]

These perceived changes in gender relations, however, are small in relation to the persistent inequalities. And the basic framework has remained remarkably stable over the survey period. For instance, as discussed in chapter 1, boy preference continues unabated, and the female-male ratio in the population has hovered around 0.86 throughout the survey period (with the exception of a small upward blip in 1983–4).[329] Similarly, there has been no basic change in women's roles in the family and society, or in their freedom of movement and action. The view that wife-beating has become 'less frequent' goes hand in hand with a complacent acceptance of wife-beating as a common feature of conjugal relations. And the participation of women in public life and village politics remains negligible. In the sphere of gender relations, nothing has happened in Palanpur that remotely compares, in terms of social significance, to the decline of the Thakurs in the field of caste relations.[330]

One crucial reason for this pattern of resilience is that the material basis of gender inequality (discussed in chapter 1) has not significantly changed. In the sphere of caste relations, it is the upward economic mobility of the Muraos, in the wake of zamindari abolition and the Green Revolution, that has undermined the earlier supremacy of the Thakurs. There is no comparable economic force in the direction of greater gender equality. And the economic institutions that put women in a situation of dependence show little sign of weakening. In particular, the norms of patrilineal inheritance and patrilocal exogamy continue unchallenged.[331] Similarly, the gender division of

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[328] The joint-family ideology in north India tends to devalue the husband-wife relationship, and to emphasize submission to the wider interests of the joint family; see e.g. Kakar (1981) and Mandelbaum (1970). The last author also notes (p. 654) that 'the direction of change [in family relations] is toward greater emphasis on the conjugal bond'.

[329] The female-male ratio in the village population is affected by migration patterns. But even the female-male ratio in the 0–14 age group, which is likely to be much less sensitive to migration, has not risen.

[330] For similar assessments of the slow pace of change in gender relations in western Uttar Pradesh, see Ansari (1964), Wiser and Wiser (1971), U. Sharma (1980), M. Sharma (1985), among others. For a case of significant change (in a quasi-urban agglomeration, partly under the influence of rising educational levels), see Minturn and Kapoor (1993).

[331] The Hindu Succession Act of 1956 gives men and women virtually equal inheritance rights (with some qualifications). It seems, however, that in Uttar Pradesh this act is effectively superseded, in the case of agricultural land, by state laws that continue to follow the patrilineal pattern (Aggarwal 1994). In Palanpur, at any rate, strictly patrilineal inheritance patterns have been followed throughout the survey period.

labour remains the same; as we saw in chapter 1, even in 1993 the involvement of Palanpur women in economic activities outside the household was minimal. To the extent that these social practices are linked to the organization of agricultural production in this region, it is understandable that they have undergone little spontaneous change during a period when agriculture has remained the basis of the village economy.[332]

Some economic trends may even have made it harder to achieve more equal patterns of gender relations. It is widely reported, for instance, that dowry levels in Palanpur have sharply increased over the survey period, even in relation to the general standard of living, and there is also some direct evidence of this phenomenon.[333] In so far as there is a link between dowry and the neglect of female children, as Palanpur parents consistently argue, this development may have reinforced other factors of gender discrimination in child care.

Another relevant influence is the so-called 'Sanskritization' effect, which refers to the emulation of high-caste practices (including, in many cases, those relating to women's lifestyle) by other castes aspiring to upward social mobility.[334] This effect, where real, is often detrimental to gender equality, given the conservative norms of female behaviour among the privileged castes. In Uttar Pradesh, one indication of the possible influence of Sanskritization in recent decades is the sharp decline in the female-male ratio among scheduled castes, from around 0.94 in 1901 (well above the state average of 0.91) to 0.88 in

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[332] Some of the relevant links were discussed in chapter 1; on this, see also Kishwar (1995), and Drèze and Gazdar (1997).

[333] On dowry in Palanpur, see van Bastelaer (1986). There is also much evidence of a sustained rise in dowry levels elsewhere in India, and of the recent spread of dowry among many communities that used to practice bride-price; on this, see Epstein (1973), Government of India (1974), U. Sharma (1980, 1984), Rajaraman (1983), Randeria and Visaria (1984), M. Sharma (1985), Wadley and Derr (1989), Billig (1991, 1992), Heyer (1992), Rao (1993), Deolalikar and Rao (1996).

[334] The notion is originally due to Srinivas (1962, 1966, 1989). The term 'Sanskritization' is somewhat unfortunate, at least for Uttar Pradesh, where the castes being emulated often belong to the Kshatriya varna, not known for any particular proficiency in Sanskrit.

1991 (the same value as the state average). Interestingly, a similar development has occurred in Palanpur, where the female-male ratio among Jatabs has declined from values well above 0.9 in both 1957–8 and 1962–3 to 0.76 in 1983–4 and 0.75 in 1993.[335] Direct evidence of the Sanskritization effect, however, is hard to find in Palanpur on the basis of available information. Nevertheless, it is possible that the *absence of change* in some aspects of gender relations (particularly the absence of any expansion in female labour force participation) partly reflects a growing identification of disadvantaged castes with the patriarchal norms of privileged castes — in this case the Thakurs. There are, indeed, some symptoms of related types of emulation behaviour in Palanpur, such as the recent adoption of the Thakur surname 'Singh' by some Muraos and even Jatabs.

6. Palanpur and Beyond

The View from Delhi:

The first report on Palanpur was written by Nasim Ansari, a researcher at Delhi University's Agricultural Economics Research Centre, based on the 1957–8 survey data.[336] This initial study was largely aimed at finding out how public policy could facilitate economic development in villages like Palanpur. Ansari ended his very perceptive and enlightening report with a clear-cut recommendation on this subject: state investment in public tubewells. After identifying 'the inadequacy of irrigation facilities in the village' as the chief constraint on Palanpur's economic development, he argued that 'the scope for private effort in this direction [is] limited, especially because of the fact that the village [is] entirely a small-holder's village', and stressed that 'the need for State tube-wells was greatly emphasized by the villagers as a major condition for agricultural development' (Ansari 1964: 105–6). He also argued that 'being a village generally small-holders [sic], Palanpur may prove to be

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[335] Wadley and Derr (1989) also find a declining female-male ratio among the lower castes in Karimpur, and link this development to the shift from bride-price to dowry as well as to the decline of female employment opportunities (both of which may be related to Sanskritization). For further discussion of the female-male ratio decline in Uttar Pradesh, see Drèze and Sen (1995: chapter 7).

[336] See Ansari (1964). The Ansari report on Palanpur, unfortunately, does not incorporate the findings of the 1962–3 survey, which were not available at that time.

more suitable than many other villages for efforts at introduction of cooperative forms of cultivation' (p. 108).

Ansari's assessment reflected the general mood of early development efforts in independent India, when public investment was regarded (by Nehru and Mahalanobis among others) as the key to rapid economic development. Thirty years later, the mood has radically changed. The tendency, at this time, is to be suspicious of public investment, to denounce excessive government regulation, and to advocate greater reliance on market incentives as the key to faster economic development. The context of this argument usually involves the industrial sector more than agriculture, but even agricultural policy in India now includes an overriding concern for 'liberalization'.[337]

Viewed from Palanpur, something seems to be deeply lacking in these summary assessments of the requirements of economic development. Ansari certainly had a point when he identified irrigation facilities as a potential catalyst of economic growth in Palanpur. But his emphasis on irrigation as the key to Palanpur's development went hand in hand with a serious neglect of other important fields of public action. For instance, while Ansari noted in passing that in 1957–8 Palanpur had no school, and that 'educational and cultural standards in the village' were 'quite low' (p. 3), he did not feel motivated to come back to that issue in his concluding recommendations.

As it turns out, irrigation is precisely one field in which Palanpur farmers have done quite well for themselves without much help from the government. Less than twenty years after Ansari wrote his report, the village had achieved full irrigation through private investment, and most farmers even had access to modern irrigation devices. If Ansari failed to anticipate this development, it is partly because he did not foresee the emergence of dynamic markets for the *services* of irrigation devices. These markets have raised the profitability of investment in modern irrigation devices, and made the services of these assets accessible (at a price, of course) to those who could not afford — or had no reason — to buy them.[338] On the other hand, market incentives and private initiative have done very little in Palanpur to

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[337] For a useful overview of the issues, see Pursell and Gulati (1995).

[338] The expansion of institutional credit has perhaps played a supportive role as well (despite endemic corruption and mismanagement). Institutional credit was already available at the beginning of the survey period, but Ansari did not think that it would resolve the problem of landholdings in Palanpur being too small to support large investments in irrigation devices.

expand literacy levels, to improve health care facilities, to keep the village lanes tidy, to provide some form of social security, to eradicate caste inequalities, to promote more equal gender relations, to protect the villagers from extortion and harassment, or to improve the quality of local democracy. And these tasks are no less important than to raise income levels.

There is a similar lacuna in the diagnosis that 'liberalization' is the primary requirement of accelerated development. India has certainly paid a heavy price for its over-bureaucratic system of economic governance, and in some respects this applies even to the rural economy. On the whole, however, it is hard to think of important examples where economic development in Palanpur has been seriously slowed down by over-regulation. There are, of course, plenty of official rules purporting to regulate labour transactions, tenancy agreements, credit contracts, marketing arrangements, and even food trade. For better or worse, however, most of these official rules have little force in practice. In fact, it can be argued that Palanpur is already a highly liberalized economy, a kind of Chicago economist's paradise where an effectively unregulated market exists for almost everything — from cow-dung and fodder to the services of most important assets. Even a day's labour can be bought much like a bar of chocolate without the impediments of collective bargaining, safety regulations, wage legislation, social security and the like. The notion that *further* liberalization is the key to rapid and equitable development is wishful thinking.

In this connection, it is worth mentioning that regular visits to the village between 1991 and 1997 failed to reveal any important effects of recent market-oriented 'reforms' on Palanpur's economy. Palanpur residents would be astonished to hear that the last six years have been a period of fundamental reform in the Indian economy. A recent study (Ravi Srivastava 1996) arrives at similar conclusions based on a survey carried out in eight villages of eastern Uttar Pradesh in 1996. Among 116 respondents, only 12 had any awareness that there had been changes in economic policies since 1991 (p. 13). Only five were able to say anything about the content of these reforms. And, among those five, some thought that the reforms were concerned with the introduction of cooperative farming![339]

This is not to deny that some sectors of the Indian economy are

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[339] For similar findings in other states, see also Olsen (1996), World Bank (1996a), and Yadav (1996).

in urgent need of liberalization, or that some of the needed reforms may have important second-round effects on the rural economy (e.g. by further expanding employment opportunities outside agriculture). The main issue, here again, is the need to recognize the deep-rooted and wide-ranging nature of the economic and social failures that blight living conditions in a village like Palanpur. In so far as it overlooks many of these failures, the liberalization-focused strategy perpetuates rather than rectifies the earlier biases of public policy.

The Green Revolution and All That:

The 'Green Revolution' debate has done little to clarify these matters. In fact, by capturing so much attention and energy from the critics of government policy, and by narrowing the focus of public discussion on rural development, this debate has contributed to the continued neglect of other essential issues.

To illustrate, consider the controversy about the distributional impact of recent technological change in Indian agriculture, which has probably received more attention than any other aspect of this debate.[340] Since much of this controversy has a fragile factual basis, it may be helpful to reexamine the issue with reference to Palanpur, in the light of our earlier findings. For this village, we submit that the relationship between technological change and economic inequality is, for practical purposes, a minor issue. By this we do not mean that recent technological change has had no significant effect on economic inequality. It may well have had such an effect — positive or negative. The point is that whatever change has taken place in the distribution of income or wealth has negligible social significance compared with the *persistent* inequalities relating to ownership, caste, gender, and education. An expansion of educational levels among disadvantaged castes, for instance, could do far more to promote greater equity in the village society than some uninformed tinkering with agricultural technology. Similarly, while some authors have seen an important relationship between the Green Revolution and the position of women in society, our findings suggest otherwise. Gender inequality in Palanpur has little to do with the Green Revolution; it reflects deeper-rooted practices and institutions (such as patrilineal ownership, patrilocal residence, and the exclusion

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[340] Recent reviews of the literature on this subject include Lipton and Longhurst (1989), Freebairn (1995), Jayaraman and Lanjouw (1997), Osmani (forthcoming).

of women from the public domain) that have been largely unaffected by recent technological change in agriculture.

The Green Revolution does, of course, have important effects of different kinds, which call for careful investigation. Among the relevant effects identified in Palanpur (there are others) are a substantial increase in agricultural productivity and incomes (see section 3 above), a shift in the balance of political power in favour of the cultivating castes (section 5), important changes in tenancy relations (chapter 8), and an alarming depletion of the groundwater table towards the end of the survey period (section 1.4). These and related findings have an important bearing on any evaluation of the economic and social impact of the Green Revolution. What needs to be borne in mind, however, is that (1) the consequences of the Green Revolution have to be evaluated in context, (2) a broad view has to be taken of the relevant changes, and (3) rural development in India cannot be sensibly interpreted through the narrow prism of the Green Revolution.[341] The debate on the Green Revolution has not always done justice to these elementary considerations.

Economic Development and Public Action:

Palanpur has been reasonably successful, over the survey period, in averting the threat of impoverishment posed by rapid population growth on a small area of land. This has been achieved primarily through a combination of agricultural growth and expansion of non-agricultural employment. In both cases, private initiative and market forces have been the prime movers, even though certain forms of government intervention (such as institutional credit and public-sector employment) have played a role as well.

In contrast, there has been a distinct failure to supplement these positive developments with skilful public action. The agenda of state policy has been dominated by the demands of privileged classes. The village panchayat is virtually non-functional, and the successive headmen have used their position to further their own interests more than those of the community. The reach of informal collective action at the village level has also been very limited, partly due to the fragmented nature of the village society (see chapter 1). One consequence of these

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[341] As mentioned in chapter 1, it may also be important to distinguish between different aspects, or phases, of the 'Green Revolution' (on this, see also Chandrasekhar 1993). The term itself is somewhat misleading, and we use it here for convenience only.

failures is the dismal state of public services in Palanpur, and the mediocre performance of most development-oriented programmes.

The virtual breakdown of the village school from the early 1980s onwards is a prime example of these problems. The state government is primarily responsible for the failure to provide satisfactory schooling facilities (starting with an adequate number of teachers), and to devise effective accountability mechanisms. This failure, in turn, reflects the weak commitment of the state to the promotion of primary education, and the elitist biases of educational policy.[342] At the village level, the formal institutions of governance (mainly the panchayat and the headman) have done little to promote the effective functioning of available facilities, and in particular to prevent teacher absenteeism. In fact, one headman conspicuously abstained from using his influence on the village teacher, his own son, to persuade him to do his duty. Finally, parents have failed to organize and demand remedial action from the government, the panchayat, or the teachers. Palanpur has lost a great deal from this pervasive inertia, bearing in mind the wide-ranging personal and social roles of basic education.

These considerations shed a rather different light on the requirements of 'reform' in the rural economy from the various analyses discussed earlier in this section. In particular, they lend little support to the notion that the main constraint is excessive bureaucratic interference, and that greater reliance on market incentives is the cornerstone of accelerated development. In fact, market incentives have worked reasonably well in Palanpur, while the potential contribution of various types of public action seems to remain vastly underutilized.[343]

Social Change and Local Politics:

Better use of that potential depends partly on a major change in government priorities and state politics. It is well beyond the scope of this book to explore how such a change might come about.[344] The success of public intervention also requires

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[342] On the political economy of primary education in Uttar Pradesh, see Kingdon (1994) and Drèze and Gazdar (1997).

[343] This diagnosis, while somewhat different from the mainstream view of economic reform in India, is consistent with recent studies that highlight the role of public action and collective institutions in economic development, not only in India (Drèze and Sen 1995), but also in other countries, from Italy (Putnam 1993) to Tanzania (Pritchett and Narayan 1997).

[344] On state politics in Uttar Pradesh, see Brass (1965, 1980, 1985), Kohli (1987), Hasan (1989, 1995), Srivastava (1991).

major changes at the local level. Indeed, state initiatives do not operate in a social vacuum, and it is easy for their implementation to be derailed by unaccountable or predatory actors at the village level, as the review of public services earlier in this chapter illustrates. Further, as discussed in chapter 1, much can be achieved through local collective action even in the absence of profound change in current patterns of state intervention.

Interestingly, the first wave of village studies after India's independence in 1947 showed much awareness of these issues. In those days, much hope was placed on 'community development' as a means of realizing the development potential of collective action at the local level. A number of sociologists and anthropologists specifically discussed the scope for community development in the light of their field observations on social organization.[345] Not surprisingly, those who had done their field work in Uttar Pradesh (outside the hill districts) consistently stressed the fragmented nature of the village society as well as the factionalist, elitist, and opportunistic character of village politics — much as we have done in the case of Palanpur. In the light of these findings, the high initial expectations of 'community development' were toned down, rightly as it turned out, without being really replaced by anything else.

In retrospect, these high expectations were based on a somewhat romantic view of the village society. A more realistic approach, perhaps, focuses on *local politics* as the stage where cooperation and conflict play themselves out, and where there is scope for positive change.

The introduction of universal adult franchise at the time of independence was supposed to ensure that local politics had a participatory character, and was responsive to popular concerns. In Palanpur, the fact that Thakurs have ceased to monopolize the position of village headman (and political power in general) is a significant example of this process.[346] Nevertheless, local politics continues to be dominated

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[345] See e.g. Dube (1958) and various contributions in Srinivas (1960) ; and, on Uttar Pradesh specifically, Marriott (1960a), Berreman (1963), Wiser and Wiser (1971), Danda (1987). For case studies of village politics in Uttar Pradesh, see also Khare (1962), Retzlaff (1962), Park and Tinker (1963), Rastogi (1964, 1965, 1966), Dubey (1965), Kantowsky (1968), Sahay (1969), Y. Singh (1970), Sharma (1978), Madan and Madan (1983), Zamora (1990), Fukunaga (1993), Lieten (1994).

[346] On the positive effects of universal adult franchise on village politics in rural India, see Srinivas (1992).

by factional rivalries between the main landowning families, and disadvantaged sections of the population (including women) are still effectively marginalized from the political process. This is one major reason why crucial social issues, such as the functioning of the village school, receive so little attention in local politics. But the gains that have already been made can be consolidated, and participatory politics continues to have a strong potential as a basis for social change. That, at any rate, seems to be the only way to go.

7. Postscript, January 1997

We returned to Palanpur in January 1997, after the completion of this book. The general impression we retain from that brief revisit is that the village looks much the same now as in 1993, and even 1983–4. There is little sign of any major change in activity patterns, agricultural technology, living standards, village politics, or social life. Rather, what seems to have happened is a sluggish continuation of the growth patterns observed during the survey period.

This picture of sluggish change contrasts with the renewed dynamism of India's urban economy since market-oriented reforms were initiated in 1991. As we noted earlier, there is no sign of these reforms having had much impact (positive or negative) in Palanpur, where *status quo* is a better description of current trends than 'economic reform'.[347] It is quite possible that the effects of economic reform will ultimately make themselves felt, for instance in the form of a further expansion of employment opportunities outside the village. But these effects are likely to be slow, uneven, and also less extensive than either the supporters or the detractors of India's economic reforms tend to claim.

At a personal level, we were struck by the signs of rapid aging among many of the villagers we had interacted with earlier. That people should grow older with the passage of time is no great surprise. What shocked us was the rapid deterioration of health among many people who used to be quite vigorous in 1983–4. Even within our own age group (mid- to late-thirties), some had died and many others already suffered from various types of physical impairment. This was a telling reminder of the precariousness of life in

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[347] Note in particular that there is no sign of significant increase in real agricultural wages in Palanpur since 1991. This seems to be a general feature of recent economic trends in rural India (see e.g. Unni 1996).

Palanpur, and also of the pathetic state of health services, which has perhaps been insufficiently highlighted in this book.

The shortage of health facilities in Palanpur is part of the general pattern of failure of public services, explored earlier in this chapter. In that respect, things were much the same in January 1997 as in 1993 or 1983–4. Most of what has been said in section 4 still applies today (with one notable exception, on which more below). One minor development is that the land acquired in 1986 for redistribution to the landless has finally been allocated. The beneficiaries, however, are not among the poorest households in Palanpur. The main eligibility criteria were landlessness and willingness to undergo sterilization. As we noted in chapter 1, landless households are a highly heterogeneous category in Palanpur, which includes acutely deprived as well as relatively privileged households. Much the same applies to those who are willing to undergo sterilization. Within this heterogeneous target group, the actual beneficiaries were those who had good connections with the village headman, a better ability to bribe the relevant officials, or other means of getting ahead of other eligible households.

On a more positive note, we saw long-awaited signs of a possible take-off in the field of primary education. The government school now has three teachers, and the number of children officially enrolled has risen to 135 (some of these children come from neighbouring Pipli, where there is no government school). More significantly, about 55 children were actually present when we visited the school — many more than we had ever seen before. By all accounts, teaching standards remained abysmally low, but at least a semblance of learning activity did take place, and this represented something of an improvement compared with the virtual breakdown of the village school in 1983–4 and 1993.

In addition, Palanpur has a new private school, set up in mid-1996 under the leadership of a colourful man locally known (like Gandhi) as '*mahatma*'. It is not clear whether his title is a mark of genuine veneration, or a witty nickname, or a self-awarded title. Our own encounter with mahatma gave us the impression that his lofty ideals were mixed with a solid dose of enlightened self-interest. Be that as it may, it was clear that he had won the respect of many villagers. Soon after his arrival in Palanpur in mid-1996, he started working for the renovation of the village *dharmasala,* and then for the creation of a school on the same premises. For the latter initiative, he obtained

some support from a non-government organization based in Nagalia, a village situated a few kilometres away from Palanpur. In January 1997, the new school had three teachers and about 120 pupils. When we visited the school, about two-thirds of the enrolled children were present, and there was a lively atmosphere, even though the teaching methods left much to be desired.

The sustainability of this initiative (not the first one of its kind in Palanpur) remains to be seen, but meanwhile the improvement of schooling facilities — public and private — in Palanpur seems to have ushered in an important change in social norms relating to education. Palanpur parents are delighted with the new dharmasala school, and many even consider it as a model school, despite its objectively rudimentary character. As the above-mentioned enrolment figures indicate, school attendance has shot up (we note in passing that this recent development lends support to the view, put forward in chapter 1, that the main obstacle to the spread of primary education in Palanpur is not so much parental conservatism as the poor functioning of schooling facilities). Further, discussions with parents suggest that, much in contrast with the earlier situation, schooling has become the norm rather than the exception as far as child upbringing is concerned. The social demand for education, which seems to be greater than the sum of individual demands, has received a strong boost, and it is unlikely that in the future Palanpur parents will tolerate the kind of breakdown of schooling facilities that has been so harmful in the past. These hopeful signs of an 'educational transition' are by far the most positive development we noticed in the village during this brief revisit.

Finally, we were curious to hear the villagers' accounts of the 1995 panchayat election, the first one since the 73rd constitutional amendment (known as the '*panchayati raj*' amendment).[348] And more generally, we were keen to find out whether the new legislation had led to any significant change in village politics. But here again, despite what are seen as relatively sweeping policy changes, *status quo* seems to be the dominant feature of the current situation. The new sarpanch, Nemchand, belongs to the Gadaria caste (officially classified as one of

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[348] The 73rd amendment requires all the state governments to introduce certain legislative measures geared to the revitalization of village panchayats. These measures include mandatory panchayat elections at regular intervals, reservation of panchayat seats for women and members of scheduled castes or tribes, and some devolution of government responsibilities to the village level.

the 'backward' castes), and this might be taken as a significant political development were it not for the fact that Nemchand is also a notorious thug, who won the election through intimidation and fraud. Already unpopular before the election, he is now a veritable *bête noire* in the village. Among other things, he is widely accused of blatant swindling of panchayat funds. As one panchayat member dryly commented, 'if the headman simply "ate" 30 per cent of the panchayat money and used the other 70 per cent as he is supposed to do, it would be alright, but this one eats 100 per cent of the money'. Nor has the reservation of panchayat seats for women, or other features of the new legislation, had any practical effect. For one thing, the new panchayat has not met once since it was formed in 1995. The headman continues to call the shots.

This does not mean that the panchayati raj reforms are useless. Rather, it suggests that the impact of legislative reforms is highly contingent on social conditions. That also seems to be the message of recent studies of panchayati raj in different states. The constitutional amendment has provided new opportunities, which have been seized with varying success depending on local patterns of social division and political mobilization. In Palanpur, their impact has been negligible so far, highlighting once again the shortcomings of current patterns of collective action in the village. The future progress of the village depends a great deal on overcoming this syndrome.

Appendix : Palanpur 1957–93: Selected Indicators

	1957–8	1962–3	1974–5[a]	1983–4	1993
Population					
Village population	528	585	790[*]	960	1,133
Number of households	100	106	117[*]	143	193
Average household size	5.3	5.5	6.8[*]	6.7	5.9
Sex ratio (females per 100 males)	87	87	85	93	85
Juvenile sex ratio (age 0–14)	85	78	82	102	78
Proportion of married women in the 15–19 age group	90	89	74	59	34
Estimated infant mortality rate (deaths per 1,000 live births)	n/a	n/a	n/a	160	n/a
Age distribution of the population (percentage in each age group)					
0–4	17.4	16.4	16.5	14.6	15
5–14	21.2	21.9	29.5	29.7	26
15–24	20.6	18.8	15.4	19.5	21
25–44	23.3	24.5	24.5	23.4	22
45–64	14.1	13.5	12.3	9.9	12
65+	3.4	4.8	1.9	2.9	4
Household Structure[b]					
Percentage distribution of households, by type:					
Single-person	6	6	3	3	3
Nuclear	45	44	41	44	54
Stem	28	28	29	33	31
Joint	21	22	28	20	12
Land[b]					
Land owned per capita (bighas)	5.2	4.7	3.3[*]	2.7	2.1
Land cultivated per capita[c] (bighas)	4.1	4.8	3.2	2.8	2.1
Proportion of leased-in land to cultivated land (%)	10	12	22	28	26

Proportion of irrigated land to owned land (%)	52	46	96	96	96
Gini coefficient: land owned per capita	0.49	0.47	0.49	0.50	0.52
Gini coefficient: land cultivated per capita	0.48	0.45	0.44	0.51	0.52
Occupations					
Percentage distribution of adult males by reported primary occupation					
Cultivation and livestock	81	72	65	49	54
Casual wage employment	13	9	n/a	8	9
Regular or semi-regular wage employment	3	9	21	26	14
Self-employment (non-farm)	3	5	n/a	6	5
Study	0	0	3	3	9
Other (including 'none' and 'unknown')	1	5	n/a	8	8
Agricultural Production					
Actual yields (kg/bigha)					
Wheat	40	41	114	101	n/a
Paddy	11	38	103	130	n/a
Bajra	35	31	59	48	n/a
Sugarcane (value, Rs/bigha)	34	34	72	43	n/a
Estimated 'normal' wheat yields (kg/bigha)	40–50	50	100	150–60	200
Index of agricultural productivity (value of agricultural production at 1960–1 prices divided by land cultivated)[c]	25.1	24.6	57.3	34.6	n/a

Prices and Wages[b]					
Price index (CPIAL for Uttar Pradesh, 1960–1 = 100)	107	98	378	528	1311
Index of real wages for casual agricultural labour (Rs per day at 1960–1 prices)	0.93	1.02	0.93	1.14	1.91
Index of real wages for regular wage employment (Rs per month at 1960–1 prices)	48	51	69	77	n/a
Index of total real earnings from regular wage employment (1960–1 = 100)	100	159	454	910	n/a
Income[b]					
Real per capita income (Rs/year at 1960–1 prices)	161	152	275	194	n/a
Incidence of poverty:					
Head-count index	0.47	0.54	0.10	0.34	n/a
Poverty-gap index	0.18	0.24	0.03	0.12	n/a
Squared poverty gap index	0.09	0.14	0.01	0.07	n/a
Index of inequality in per capita income:					
Gini coefficient	0.34	0.39	0.25	0.31	n/a
Coefficient of variation	0.65	0.87	0.50	0.55	n/a
Atkinson index ($\varepsilon = 1$)	0.18	0.25	0.11	n/a	n/a
Atkinson index ($\varepsilon = 2$)	0.34	0.49	0.21	0.32	n/a
Ownership of Productive Assets					
Ownership of selected productive assets (number per 1,000 persons)					
Persian wheels	21	29	28	28	0
Pumpsets	0	0	9	28	36
Threshers	0	0	n/a	8	6

Tractors	0	0	0	1	8
Flour mills	0	0	0	1	3
Cows and fe-male buffaloes	169	135	137	124	138
Bullocks and male buffaloes	235	240	197	147	92
Ownership of Consumer Durables[d]					
Number of items owned per 1,000 persons					
Pucca buildings	n/a	21	n/a	n/a	94
Bicycles	n/a	7	50	n/a	77
Radios	n/a	0	66	n/a	47
Watches	n/a	19	97	n/a	99
Sewing ma-chines	n/a	0	29	n/a	23
Literacy and Education					
Literacy rates (%)					
male, age 7[+]	18	34	34	30	37
female, age 7[+]	1	3	6	6	9
male, age 10–14	31	64	51	33	34
female, age 10–14	5	10	8	8	12

[a]   The 1974–5 reference population excludes 6 households discarded by Bliss and Stern (1982), who restricted their sample to households with at least some involvement in cultivation; figures with an asterisk include these 6 households.

[b]   See corresponding tables in the text for further discussion of definitions and related methodological issues.

[c]   'Land cultivated' is calculated as (land owned) + (land leased in) − (land leased out). The figures for leased area are based on the rabi season; this is a harmless simplification, since most leases in Palanpur last for a whole year.

[d]   Data on consumer durables in the 1993 column apply to 1990. *Note*: Most of the 1957–8 figures are calculated from the original household questionnaires, but some are taken from Ansari (1964). The 1962–3 figures are calculated from the original questionnaires, and involve a relatively large margin of error in some cases.

Part II The Economics of Change

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II-A The Forces of Change

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Chapter 3 Population Growth, Employment Expansion and Technological Change

Christopher Bliss, Peter Lanjouw and Nicholas Stern

Introduction

The analysis of economic development in Palanpur over the survey period, in the previous chapter, emphasized the role played by three fundamental forces: population growth; the expansion of employment opportunities outside the village; and the intensification of agriculture.[349] The purpose of this chapter is to provide a more detailed understanding of the nature of each of these three sources of change in Palanpur. Some specific aspects of the impact of these changes, notably on poverty and inequality, and the working of the land, labour, and credit markets, are examined further in subsequent chapters.

While they are clearly distinct from one another, the three major sources of change identified in chapter 2 are also inter-related. In particular, the relationship between population density and agricultural growth is a complex one. Boserup (1965), for example, has argued that increasing population density can itself be seen, over extended periods of time, as a prime determinant of agricultural intensification and associated technological change. On the other hand, it can also be argued that sustained growth in income (a consequence of rising productivity in agriculture as well as growth in other sectors of the economy) is an important determinant in the demographic transition from high rates to lower rates for birth, fertility, and mortality. Our observations from Palanpur do not offer unequivocal support to either of these hypotheses.

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[349] As in chapters 1 and 2, the term 'survey period' refers here to the time interval spanned by the five surveys, i.e. 1957–93.

The dramatic changes in agricultural productivity that occurred in the early 1970s came about as a result of the intensification of irrigation, the adoption of new varieties of wheat, and the application of chemical fertilizers. There were clearly identifiable factors other than the population pressure within the village that could account for these changes; factors such as government intervention, increased availability of modern irrigation devices and fertilizers, and expanded access to credit facilities. Whilst these factors might be argued to derive from population pressures from some more global perspective, as far as Palanpur is concerned they can be seen as exogenous.

A more convincing case for the influence of demographic pressure in the village on agricultural growth might be made with reference to the expansion of irrigation that occurred between the 1950s and 1970s by means of an existing technology, Persian wheels. Even in this case however, the increase in agricultural intensification is likely to have come about as a result of a combination of factors. These include the demographic pressure as well as institutional interventions in the early 1950s such as the establishment of property rights more favourable to investment, in the wake of land reforms.[350]

The other side of the argument — that is, downward pressure on population growth as a result of rising incomes — has not been much in evidence as yet. It is quite possible, of course, that continued increases in income and improvements in living conditions will eventually lead to a decline in the rate of growth of population. For the length of our survey period, however, we feel justified in cautioning against singling out population growth as the prime cause of change in Palanpur, and against perceiving economic change as having exercised a strong influence on population growth.

The growth of outside employment could, in principle, influence both population growth and agricultural change. For example, expanding relations with urban areas might influence attitudes to family planning and growing opportunities outside might raise the opportunity cost of labour in the village and lead to technological change. The former effect may well be in evidence in the future but does not as yet appear to have emerged strongly in terms of the demographics of the village. The latter would not correspond well with the observed timing and proximate causes of technological change so far.

It is also possible that population growth and technological change

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[350] On the land reforms under Zamindari Abolition, see chapter 2.

could lead to a greater search for opportunities outside the village. The former probably has been influential in Palanpur as there is no doubt that, although it is possible to become more labour-intensive in agriculture, diminishing returns to labour are likely to be present. On the other hand, technical change in Palanpur came, initially, with strongly increasing capital intensity and land augmentation (in the form of double-cropping) and could not, therefore, be said to be labour-displacing. Further technical change in the form of mechanization which is labour-displacing (tractors and mechanical threshers, for example) is, however, now occurring (over the last decade or so) and this might release labour for outside employment.

The influence of the growth of outside employment on the Palanpur economy and society is consistent with some of the earlier accounts of the process of economic change in developing countries, such as that of Lewis (1954). Such descriptions of sectoral transfer from a subsistence agricultural sector towards an advanced (largely) non-agricultural sector have some resonance in the Palanpur context. However, it is also important to recognize significant departures in Palanpur's evolution from those in the standard accounts. Peasant agriculture in Palanpur is capitalistic both in the sense of using capital and being heavily involved in markets — it is hardly 'traditional' in the Lewis sense.

Perhaps more striking, however, is that the movement out of agriculture takes the form not of migration but of commuting. Whilst Palanpur villagers have the advantage of a railway line nearby, they have very poor access to roads. And the density of population is such that many or most villages in the Gangetic plain are within commuting distance of nearby towns, by local means of transport. In Palanpur the growth of outside employment has been fundamental to income growth, to changes in its distribution, and to the income mobility of individual families. There is much evidence of this being a common pattern for this region of India.[351]

The growth of the village population over the survey period, its changing composition, and the possible determinants of this change will be examined in section 1. In section 2, we describe the expansion of outside jobs and examine which factors have influenced both the acquisition of outside employment and the earnings from such jobs.[352] Section 3 is concerned with the process of agricultural change.

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[351] See also Sharma and Poleman (1993).

[352] In this chapter and elsewhere, the term 'outside jobs' refers to wage employment outside the village; this is more or less synonymous with non-agricultural wage employment. The term 'regular outside jobs' refers to outside jobs involving relatively secure employment (and, usually, favourable wages); see chapter 2, section 1.3 for further discussion.

Agriculture is still the dominant source of income in Palanpur and changes in it are central to individual livelihoods. We also comment on how some major debates on the working of rural economies, including the size-productivity relationship, appear from a Palanpur perspective. Some concluding remarks are offered in Section 4.

1. Population

1.1 The Palanpur Dataset and Demographic Analysis

This section provides a description of population growth in Palanpur and an analysis of some economic factors which might have influenced this growth on the basis of the detailed demographic and economic information available from the five surveys (1957–8, 1962–3, 1974–5, 1983–4 and 1993). The Palanpur surveys, however, were not designed primarily for the study of demographic patterns and trends. As such, they fall short of the requirements of some standard exercises in demographic analysis. In particular, two qualifications need to be borne in mind. First, the demographic data which were assembled (essentially a population census for each survey year) are not as detailed in coverage as one would need for the purpose of studying some important demographic questions. For example, we lack the information required to calculate reliable estimates of fertility and child mortality (see chapter 1). Second, we have no information, following their departure, on households that have left the village over the course of the survey period, and little information about the demographic behaviour of in-migrating households prior to their arrival in Palanpur. For the sake of consistency, in much of our analysis of changes in demographic behaviour and the relationship between economic and demographic variables, we are limited to using the sub-set of households that were present in the village at the time of the first survey (1957–8) and have continued to have a presence throughout. By focusing on these 'continuing' households which were represented in 1957–8 and had some successors (households formed by dividing the original household) in all survey years, we can learn something about long-term trends in demographic

variables. This set, however, is obviously quite restricted and consists of fewer than 80 of the original 100 households.[353]

Demographic analysis needs to take into account the patriarchical institutions of the village, e.g. the practices of village exogamy and patrilocal post-marital residence. As all daughters leave the village on marriage, it could be argued that they should be kept separate for the purpose of analysis, and that their own children certainly should not be counted as part of the village population growth (we have no data on these children). For consistent estimates of population growth, for instance, it might be instructive to focus on the *male* (or adult male) population. This would obviate the need to consider possible biases arising from asymmetric in- and out-migration of young women at the time of marriage. This alternative procedure, however, introduces biases of its own, such as failure to capture the effects of possible changes in the female-male ratio due to changing gender differentials in child mortality. As it happens, the results we obtain for male-to-male population growth are quite similar to those applying to total population growth, and will not be presented separately.

While we are unable to uncover much evidence that population growth in Palanpur is strongly related to household characteristics such as caste, religion, occupation, land ownership, and per capita income, there is one aspect of fertility behaviour for which interesting patterns do emerge. We find some evidence consistent with the view that households stop having children after they have obtained the number of male children they desire. This supports the idea that households in Palanpur are able to control, at least to some extent, the size of their families and it appears that there exists a well-defined notion of a desired household size and structure.

1.2 Population Growth

The story of the growth of population in Palanpur during the survey period can be told from more than one perspective. A straightforward census description tells us how many individuals were resident in the village at the beginning of each survey year. A standard sub-division is by caste, as in Table 1. The second and third lines for each caste show the growth rate of population on an annual percentage basis since the previous survey year, and since 1957–8,

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[353] As we are looking at 'surviving' households — those which did not die out or migrate away — there is also some sample selection bias present in our set of 'continuing' households.

Table 1 : Population by Year and Caste

Caste	1957–8	1962–3	1974–5	1983–4	1993
1. Thakur	104	125	174	217	283
		3.7	2.8	2.5	2.7
			3.0	2.8	2.8
2. Murao	117	133	178	217	294
		2.6	2.4	2.2	3.0
			2.5	2.4	2.6
3. Dhimar	56	53	59	74	82
		−1.1	0.9	2.5	1.0
			0.3	1.1	1.1
4. Gadaria	42	45	68	83	89
		1.4	3.4	2.2	0.6
			2.8	2.6	2.1
5. Dhobi	6	2	22	27	31
		−22.0	20.0	2.3	1.4
			7.6	5.8	4.6
6. Teli	47	57	71	92	109
		3.9	1.8	2.9	1.7
			2.4	2.6	2.3
7. Passi	56	70	63	79	62
		4.5	−0.9	2.5	−2.4
			0.7	1.3	0.3
8. Jatab	71	71	97	118	133
		0	2.6	2.2	1.2
			1.8	2.0	1.7
9. Other	29	29	58	53	50
		0	5.8	−1.0	−0.5
			4.1	2.3	1.5
Total	528	585	790	960	1133
		2.2	2.5	2.2	1.7
			2.4	2.3	2.1

Notes: 1. The second and third lines in each cell indicate the percentage change in population on an annual basis since the previous survey year, and since 1957–8, respectively.

2. The population figures for 1974–5 provided here include the 6 households left out by Bliss and Stern (1982) in their study. These households are dropped in the subsequent tabulations of this chapter (and in subsequent chapters). This leaves a 1974–5 population of 757, from 111 households.

respectively. This growth rate reflects the usual cycle of births and deaths affecting the caste concerned. This process, however, is importantly moderated by in- and out-migration, including the occasional migration of complete households.

Table 2 : Population by Year and Caste (Continuing Households)

Caste	1957–8	1962–3	1974–5	1983–4	1993
1. Thakur	99	112	151	194	259
		2.5	2.5	2.8	2.9
			2.5	2.6	2.7
2. Murao	106	118	166	207	277
		2.1	2.8	2.5	2.9
			2.6	2.6	2.7
3. Dhimar	36	40	56	53	70
		2.1	2.8	−0.6	2.8
			2.6	1.5	1.8
4. Gadaria	36	40	67	83	89
		2.1	4.3	2.4	0.7
			3.7	3.2	2.5
6. Teli	47	57	71	81	104
		3.9	1.8	1.5	2.5
			2.4	2.1	2.2
7. Passi	29	34	42	43	45
		3.2	1.8	0.3	0.5
			2.2	1.5	1.2
8. Jatab	65	71	97	110	133
		1.8	2.6	1.4	1.9
			2.4	2.0	2.0
9. Other	13	12	16	20	8
		−1.6	2.4	2.5	−9.2
			1.2	1.7	−1.3
Total	431	484	666	791	985
		2.3	2.7	1.9	2.2
			2.6	2.3	2.3

Note: See Table 1.

Table 2 gives the caste-wise population breakdown and growth rates for *continuing* households only. This eliminates Dhobis from consideration as there are no continuing households in that caste. The

Table 3 : Male Population by Year and Caste (Continuing Households)

Caste	1957–8	1962–3	1974–5	1983–4	1993
1. Thakur	55	64	70	100	144
		3.0	0.7	4.0	3.6
			1.4	2.3	2.7
2. Murao	55	59	76	110	144
		1.4	2.1	4.1	2.7
			1.9	2.7	2.7
3. Dhimar	24	26	23	29	39
		1.6	−1.0	2.6	3.0
			−0.3	0.7	1.3
4. Gadaria	20	22	35	34	45
		1.9	3.9	−0.3	2.8
			3.3	2.0	2.3
6. Teli	25	31	36	43	57
		4.3	1.2	2.0	2.8
			2.1	2.1	2.3
7. Passi	16	16	18	26	25
		0	1.0	4.1	−0.4
			0.7	1.9	1.2
8. Jatab	34	36	42	63	76
		1.1	1.3	4.5	1.9
			1.2	2.4	2.2
9. Other	6	6	8	8	3
		0	2.4	0	−9.8
			1.7	1.1	−1.9
Total	235	260	308	413	533
		2.0	1.4	3.3	2.6
			1.6	2.2	2.3

Note: See Table 1.

analysis of population change on the basis of continuing households provides insights into underlying demographic trends in the sense that the important influence of household migration is automatically excluded.[354] Note, however, that out-migration of some members of the

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[354] If migration is partly a response to fast population growth in some households (or if there is some other link between migration and population growth at the household level), the growth rate of continuing households will be a misleading indicator of population growth among all households originally present. This effect, however, is unlikely to be strong in Palanpur, where migration of complete households is primarily driven by positive employment opportunities rather than demographic pressure.

continuing households, which tends to be more common than individual in-migration, biases the measure of population growth downwards. The contrast between Tables 1 and 2 shows how important migration is in the population dynamics of the village. Another possible influence on population growth estimates is the likelihood of an imbalance between in-migration and out-migration of women at the time of marriage. Table 3 shows population numbers for continuing households again, but this time the numbers refer to males only.

Across the three population criteria used, in turn, in Tables 1–3, the growth rate of Thakurs and Muraos has been somewhat higher than that of the other caste groups. The results presented further in this section suggest that this may be a reflection of higher per capita land endowments among these two castes.

1.3 Migration of Complete Households

Table 4 summarizes the history of complete household migrations recorded in the four surveys following 1957–8. The data presented in Table 4 are close approximations to, but not precise counts of migration patterns. In each of the survey years every single household residing in the village was enumerated. The absence of a particular household in a subsequent survey is put down to out-migration, and the presence of a new household to in-migration. In some cases households that had been in the village during an early survey and had been absent in subsequent surveys reappeared later still. These households have been identified as 'returners'.

This method is obviously far from ideal for studying population movements in detail. For a start, it makes no distinction between households that cease to appear in subsequent surveys due to attrition and those that have indeed out-migrated. Second, any migration followed by a return in the period between two successive surveys is not recorded. We believe (on the basis of discussions in the village), however, that both these types of event do not seriously affect our main findings.

The table shows that migration of complete households is common, that out-migration has exceeded in-migration, and finally that the incidence varies significantly with caste. Indeed, it might be added

Table 4 : Migration of Complete Households (+ = Arrived; − = Left; R = Returned)

Caste	Number of Households in 1957–8	1962–3	1974–5	1983–4	1993
1. Thakur	17	+2	+1	+2	+4
		−0	−1	−2	−4
2. Murao	21	+1	+1	+0	+0
		−0	−3	−0	−0
3. Dhimar	10	+0	+0	+1 R 1	+1
		−2	−1	−0	−4
4. Gadaria	9	+0	+0	+0	+0
		−0	−1	−1	−0
5. Dhobi	2	+0	+3	+0	+0
		−1	−1	−0	−1
6. Teli	8	+0	+0	+1	+0
		−0	−0	−0	−1
7. Passi	11	+2	+0	R 2	+0
		−0	−6	−0	−2
8. Jatab	16	+0	+0	+0	+0
		−3	−0	−0	−0
9. Other	6	+2	+1	+2	+3
		−3	−2	−1	−0
Total	100	+7	+6	+9	+8
		−9	−15	−7	−12

Note: While out-migration is the most likely cause for households failing to appear in a subsequent survey, other causes such as natural death of a household are also counted as migration here. It is not possible to distinguish such natural attrition from actual out-migration for the earlier survey years.

that one of the common forms of migration involves the movement of a cluster of households of the same caste, often related to one another, to and from the village. Households of the Passi caste, for example, have tended to move in and out of Palanpur more readily than most other castes (which is particularly striking given the relatively small size of this caste). This is not altogether surprising, since the Passis first arrived in Palanpur from eastern Uttar Pradesh as a result of obtaining employment in the railways. As such, their movements into

and out of the village have been governed by their participation in the outside job market.

1.4 The Analysis of Population Growth

In examining whether obvious features of the economic situation of the 1957–8 households might explain subsequent growth of numbers, we look at the influence of the following household variables: per capita income in 1957–8 (PCI58); per capita land ownership in 1957–8 (PCL58); number of regular outside jobs held by household members in 1957–8 (JOBS58); number of years of schooling of the most educated member of the household in 1957–8 (EDUC58). As dependent variable, we take the proportional increase in household size between 1957–8 and 1993 (Growth HH). A regression across continuing households yields the results given in Table 5.

Table 5 : Population Growth Related to 1957–8 Household Features

Growth HH =				
0.869 + 0.002 PCI58 + 0.020 PCL58 − 0.605 JOBS58 + 0.02EDUC58				
(3.38)	(1.2)	(0.511)	(−1.42)	(0.42)
F = 2.17	R^2 = 0.115	N = 72		

Notes:

1. Variables: Growth HH = proportional increase in total numbers of persons in the household 1957–8 to 1993; PCI58 = per capita income for the household in 1957–8; PCL58 = per capita land-ownership for the household in 1957–8; JOBS58 = number of outside jobs held by household members in 1957–8; EDUC58 = years of schooling of the most educated household member.

2. N = number of observations.

3. The numbers in brackets are t-values.

4. The sample consists of all continuing households for which relevant data are available.

The exercise fails to identify any significant determinants of population growth. That the R^2 is small is not by itself fatal to the analysis, although it reminds us that very little cross-household variation in growth is being explained. More importantly, the F statistic, and the t-statistics for all but the constant value (which tells us only that there was growth on average) all suggest little explanatory power in the estimated relationships. The (negative) coefficient on outside jobs is the only one that comes anywhere close to statistical significance,

(weakly) consistent with the notion that urban influence might reduce population growth. The positive coefficient on per capita income, though not statistically significant, is interesting because it runs counter to the notion that population growth is typically faster among poorer households.

Table 6(a): As for Table 5 for Caste 1 (Thakurs) Only

Growth M = 1.40 + 0.002 PCI58 − 0.019 PCL58		
(1.70)	(0.33)	(−0.24)
F = 0.05	R^2 = 0.01	N = 15

Table 6(b): As for Table 6a for Caste 2 (Murao) Only

Growth M = 1.35 − 0.001 PCI58 + 0.06 PCL58		
(1.74)	(−0.2)	(−0.59)
F = 0.27	R^2 = 0.04	N = 17

Table 6(c): As for Table 6a for Caste 8 (Jatab) Only

Growth M = 1.43 + 0.007 PCI58 − 0.24 PCL58		
(1.84)	(0.77)	(−0.83)
F = 0.36	R^2 = 0.07	N = 13

Notes:

1. See Table 5.

2. Growth M = proportional increase in number of males in the household 1957–8 to 1993.

A closer examination of the data reveals that, caste by caste, the poor fit for the entire population coexists with almost no relation for most castes. Tables 6(a), (b), and (c) provide the results for the three largest castes: Thakurs, Muraos, and Jatabs. It happens that these castes had no outside jobs in 1957–8, so that variable is omitted. Given that our education variable is probably not a very refined measure of household educational achievement, and that it has no explanatory power in Table 5, it is also dropped here. The results are still uninformative. For Muraos the coefficient on income is negative.

In short, we are unable to uncover any systematic relationship between population growth and the variables included in these regressions (or for that matter any of the variables available for each survey). One possible explanation is that the notion of a small family norm is still quite alien to most Palanpur households. If the process of fertility reduction were substantially under way, with new patterns emerging at different rates for households with different social and economic characteristics, we might well have expected greater correlation between population growth and some of these characteristics. The absence of such correlations is consistent with the fact that the fertility desires of Palanpur parents are strikingly uniform, with two boys and one girl being widely reported as the ideal pattern (see chapter 1). In such a situation, differences in population growth between different households would be primarily driven by differences in child mortality.[355] Further, differences in mortality rates between different households may not themselves be strongly related, in a statistical sense, to the variables examined in this section, due to the greater influence of 'community' variables (e.g. the epidemiological environment and dietary habits) and random factors (e.g. linked with exposure to communicable diseases).

An alternative, although complementary, line of demographic analysis relates to the role of women in the society and family. Recent studies of demographic behaviour in India have brought out the crucial role of women in child health and fertility decline. For instance, in a statistical analysis of inter-district variations in mortality and fertility, Murthi *et al.* (1995) find that female literacy and female labour force participation are the only variables that have a statistically significant influence on fertility.[356] If one were to take these results as a basis for predicting patterns of fertility in Palanpur, one sensible prediction would be precisely that fertility rates may not vary very much between different households. This is because (in most households) all adult women are illiterate, and, similarly, only a few women in the entire village participate in the 'labour force' as defined by the Indian censuses (see chapter 1).

We end by noting one positive result. If we drop all the other

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[355] This would appear to the extent that 'replacement' was not possible.

[356] The other variables considered in that analysis include male literacy, urbanization, a poverty index, medical facilities, regional dummies, and dummies for scheduled castes and scheduled tribes.

variables, we find a positive and statistically significant correlation between population growth and land ownership: households with more land per capita in 1957–8 grew faster over the survey period. The relationship between land ownership and population growth remains very close to statistical significance (in fact, it is significant at the 10 per cent level) after introducing caste dummies, suggesting that this relationship is not just an indirect reflection of cultural differences between different castes. This positive correlation between land ownership and population growth is consistent with the findings of a number of studies of Indian populations at an early stage of the demographic transition (see e.g. Nagarajan and Krishnamoorty 1992, and the literature cited there).[357] One implication of this pattern, as discussed in chapter 1, is a mild reduction over time of disparities in land ownership, in the sense that per capita land ownership declines at a faster rate among households which started with larger land endowments.

The reasons for the positive link between land ownership and population growth in Palanpur are far from obvious, though several hypotheses can be advanced. First, as noted in chapter 1, landed households have a greater tendency to live in joint families, and other things being equal, the costs to parents of raising children tend to be lower in a joint family, as they might be shared with other parents in the household. This lower cost of raising children might be a factor explaining higher fertility rates in joint families, and hence among landed households. Second, the overall fertility rate might be a function of specific desired family composition among landowning families. If, for example, landowning families value boys more, due to social prestige, physical protection (Oldenburg 1992), or the necessity of land passing down the *male* line, under certain conditions this would lead to higher *overall* fertility rates in this group (see section 1.5 below). Third, the higher population growth of landed households may be a reflection of lower mortality rates. Note, however, that this explanation is not convincing if it is solely based on the idea that landed households have lower mortality due

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[357] It is quite possible that this relationship disappears, or gets reversed, as the demographic transition proceeds, reflecting the fact that landed households (which also tend to have higher incomes and education levels) are more responsive to the forces of fertility decline. For some evidence on this from rural Punjab, see Das Gupta (1994a).

to higher incomes. Indeed, the income-based explanation for differential population growth rates was rejected in our earlier regression analysis.

1.5 Boy Preference

The previous discussion has indicated that the data do not seem to offer us very much in terms of the explanation of growth in overall numbers. As mentioned above however, we do find more interesting results if we look at the proportion of male and female children in the family. The breakdown of male and female children in families with a given number of children is presented in Table 7 for the 1983–4 and

Table 7 : Household Size and Sex Ratios in 1983–4 and 1993

No. of children (0–14 years)	No. of families with stated no. of children in reference population	No. of boys	Boy/girl ratio
1983–4			
1	22	12	1.20
2	29	29	1.00
3	19	28	0.97
4	15	28	0.88
5	14	30	0.75
6	6	17	0.89
Household Weighted Pearson Correlation Coefficient			−0.897
(Probability Value)			(0.015)
1993			
1	40	25	1.67
2	29	32	1.23
3	26	48	1.60
4	14	32	1.33
5	13	29	0.81
6	5	15	1.00
7	2	7	1.00
Household Weighted Pearson Correlation Coefficient			−0.733
(Probability Value)			(0.061)

Note: In this table, the reference population consists of all household heads and their nuclear families.

1993 survey years.[358] We see that for both years there is a declining ratio of male to female children as the number of children increases (where children are defined as aged 14 or less).

One possible interpretation of this relationship is that it is a manifestation of boy preference. To illustrate, if families have a target number of boys, X, and go on producing children until that number of boys is reached, then the proportion of boys (X/N) in a completed family with N children would decline with N (the average proportion of boys in the population would, of course, still be close to the sex ratio at birth, if there are no mortality differences between boys and girls). A declining relationship would also emerge if families were looking for at least X boys and Y girls, and stopped producing when these numbers were achieved, provided X is bigger than Y. It is interesting (as noted in chapter 1) that most villagers in Palanpur describe the 'ideal family' as two boys and one girl.

One can consider more sophisticated demographic models, allowing for limited ability to control births, differential child mortality, and so on. These extensions would be unlikely to undermine the broad conclusion that the male-female ratio decreases with the number of children if there is 'boy preference' in desired family composition.

There are, however, other interpretations which might explain an inverse relationship between family size and boy-girl ratio. If the objective was to maximize the number of girls subject to not having more than two boys (say) then an identical relationship would exist to that where two boys were a target. Alternatively one can imagine a model where parents' choice of family structure is made by allocating a fixed budget (Y) to child-rearing, given sex specific prices for supporting boys (P_B) and girls (P_G), with $P_B > P_G$. One can derive a simple formula which is again consistent with the inverse relationship.[359]

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[358] In Table 7, the reference population consists of all household heads and their nuclear families. This is because the survey data do not allow exact matching of children with their respective parents in joint families, unless one of the parents happens to be the household head. There is no obvious reason why the relationship identified here should fail to hold for nuclear families outside the reference population.

[359] The resulting boy-girl ratio is

$$\frac{B}{G} = \frac{\frac{Y}{N} - P_G}{P_B - \frac{Y}{N}}$$

where B is the number of boys, G the number of girls, N = B + G and we ignore the requirement for integers (for a discussion of this type of model, see Leung (1991)). Another relevant argument, advanced by Das Gupta and Mari Bhat (1995) in a different context, is that there is a positive association between low fertility and gender discrimination in child care. The evidential basis of this statement, however, seems to require further scrutiny (see Murthi, Guio and Drèze 1995).

An attempt to distinguish between such theories on the basis of completed family size is not easy. If a distinction is to be made it is likely to be in terms of an examination of the assumptions, other predictions of the model, and the articulated views of the parents concerned. 'Boy preference' is clearly reflected in the statements of Palanpur villagers on desired family composition and related matters. By contrast, the assumption that $P_G < P_B$, or that over a lifetime girls are seen as cheaper than boys, would appear to be dubious in the North Indian context. Girls are seen, in net terms, as expensive because of the need to provide dowry, and because they do not provide support for their parents in old age. Whether or not such perceptions are based on careful assessment of all the relevant costs, including those of education and so on, they do seem to be strong and clear.

2. Outside Employment

2.1 The Expansion of Outside Employment

Tables 8 and 9 present information on wage employment outside the village ('outside jobs' for short) in each survey year. The focus of these tables is on wage employment of a regular or semi-regular nature, as opposed to casual labour. Some labourers in Palanpur, particularly Jatabs, occasionally work as casual labourers outside the village, but this is excluded from the present discussion. In some survey years, there are also a few cases of regular or semi-regular wage employment *within* the village (e.g. in 1983–4 this included one teacher and two watchmen). For convenience, these cases have been retained in the tables, but for practical purposes regular or semi-regular wage employment can be considered as identical to non-casual labour outside the village.

As Table 8 indicates, the number of regular jobs held by Palanpur households outside the village has increased from only 9 in 1957–8 to as many as 57 in 1983–4, before declining again to 32 in 1993.[360]

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[360] The specific reasons for this decline are discussed further below. Note that the decline does indicate that numbers are opportunity driven rather than a supply side phenomenon.

Table 8 : Regular Wage Employment Outside Agriculture, 1957–93 (Number of Persons With the Stated Job)

	1957–8	1962–3	1974–5	1983–4	1993
Regular jobs involving good education or skills					
teacher	0	0	3	2	4
mechanic	1	1	0	0	0
electrician	0	0	1	0	0
insurance sales-man	0	0	0	1	0
cook	0	0	0	1	0
skilled work in bakery	0	0	0	1	5
clerk in factory	0	0	1	0	0
accountant	0	0	0	0	1
Regular jobs involving limited training or skills					
chowkidar (watchman)	2	0	1	3	1
permanent rail-way employee	3	5	6	10	9
non-permanent railway employee	1	0	3	6	2
permanent serv-ant	1	0	0	0	0
cloth mill em-ployee	0	1	11	17	closed
cane centre em-ployee	0	0	2	0	0
bakery employee	0	0	0	7	0
security guard or policeman	0	0	0	2	2
coal depot em-ployee	0	0	0	1	0
sugar mill em-ployee	0	0	0	1	1
bank employee	0	0	0	1	1
press employee	0	0	0	0	1
permanent coolie	0	0	0	1	1
sweeper	0	0	0	0	3
service in tehsil	0	0	0	1	1
unspecified regu-lar job	1	3	9	2	0
Total	9	10	37	57	32

Table 9 : Semi-Regular and Seasonal Wage Employment Outside Agriculture, 1957–93 (Number of Persons With the Stated Job)

	1957–8	1962–3	1974–5[1]	1983–4	1993
Semi-regular and seasonal jobs involving training or skills					
tailoring in shop	0	0	0	1	0
temporary teacher	0	0	0	0	1
anganwadi manager	0	0	0	0	2
Semi-regular and seasonal jobs involving limited skills					
sugarcane factory employee	0	0	1	1	1
oil mill employee	0	0	1	1	0
chowkidar (watchman)	2	4	1	0	0
steel-polish worker	0	0	0	8	5
flour mill employee	0	0	0	1	0
coolie	0	0	0	1	2
helper in shop	0	0	0	1	0
liquor factory employee	0	0	0	1	2
coal depot employee	0	0	0	1	1
salesman	0	0	0	1	0
domestic servant	2	0	0	0	0
cement shop employee	0	0	0	0	2
ice factory employee	0	0	0	0	2
peppermint factory employee	0	0	0	0	2
operating marble machine	0	0	0	0	3
silver-ware factory employee	0	0	0	0	1
assistant to doctor	0	0	0	0	1
unspecified	0	2	0	0	0
Total	4	6	3	17	25

Note:

1. Data for semi-regular occupations in 1974–5 were not complete, and for that year the figures provided are likely to understate the incidence of such occupations.

Semi-regular and seasonal wage employment has expanded significantly from each survey year to the next, including between 1983–4 and 1993. Regular outside jobs are regarded as very desirable employment opportunities by most villagers. This attitude is not difficult to understand. Earnings from regular jobs outside Palanpur are high by village standards, and equally importantly, they are relatively stable and secure. Villagers frequently comment on the harshness and frugality of peasant life compared with the soft and affluent lifestyle of those who made it in the urban labour market. While there is no doubt some truth to this, it is also the case that some of the regular outside jobs in question are physically demanding and involve serious health hazards.

The share of outside job income in total village income rose from 12 per cent in 1962–3 to 15 per cent in 1974–5 and 34 per cent in 1983–4 (for further discussion of outside job income levels and distribution, see below and also chapter 5). Recall that we do not have income data for 1993 and are therefore unable to comment on the importance of outside job income in that year.

The growth of outside jobs represents an expansion of opportunities which has been seized by many in Palanpur, both better off and worse off. The distribution of outside employment opportunities has shown clear patterns, perhaps the most important being that they tend to cluster around well-defined locations and socio-economic groups. Certainly in 1974–5 and 1983–4 a small number of employers account for the majority of outside jobs. These include a cloth mill in Moradabad, bakeries in Chandausi, a liquor bottling plant, steel-polish workshops in Moradabad, and the railways. Similarly the composition of the group of employees shows identifiable subgroups: Jatabs have virtually no involvement in regular outside jobs, Passis had a heavy share of semi-regular jobs in 'steel polish' workshops in Moradabad in 1983–4 while in the same year young Thakur men were found mainly in bakeries. This phenomenon reflects the nature of the job search process in this segment of the labour market, which operates through 'contacts' rather than through 'impersonal' search by prospective employees (or employers).[361] Those who have

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[361] There may also be caste disadvantages in connection with certain types of work, e.g. groups ranked low in the social hierarchy may find it difficult to gain employment in an activity involving the handling of food. Note that employment in bakeries is monopolized by Thakurs, the highest-ranked caste in Palanpur.

already secured a job outside the village are usually in a privileged position to help their friends, relatives, or fellow caste members to take advantage of possible vacancies in their own place of employment; and employers themselves often use their existing employees as recruiting agents. This kind of search is in sharp contrast to labour market models where all those searching for employment have equal opportunities for fresh vacancies.[362]

In one respect Palanpur is somewhat better placed than the 'average' village in the area as regards access to outside employment opportunities: because of its location near the railway line. However, reasonable connections with urban areas are by no means unusual in this area, where, in most villages, a significant proportion of adult males commute to nearby towns by train, bus, cart, or bicycle. Moreover, a significant involvement in the labour market outside the village is now a widespread phenomenon in large parts of rural India.[363] Of course, the exact nature of those employment opportunities varies a great deal from region to region.

The growth of outside jobs may be seen as part of a process of intersectoral transfer of the labour force from agriculture which has long been viewed as a central part of development but, as mentioned earlier, it is associated with commuting of some household members out of the village and a shift in the balance of activities within the household. What we observe, from the household (and village) perspective, is commuting and diversification, not migration and exit from agriculture.

The radius within which employment outside the village takes place seems to have progressively increased. While in 1957–8 most outside employment arose in the railways, in nearby villages, or in Chandausi, the network of outside jobs had expanded considerably by 1983–4 and 1993. Palanpur villagers now have a strong involvement in the labour market of Moradabad and several of them work in a number of other nearby towns such as Sambhal and Bhejoi. Some villagers have found jobs in places as far away as Nainital, Delhi, the Punjab, and even Bhopal in Madhya Pradesh. These more distant jobs do entail migration, on either a permanent or semi-permanent basis. The process of diversification, apart from generally sustaining incomes by providing

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[362] The Harris and Todaro (1970) model, for example, (at least in its most simple form) has all jobs shuffled at random in each period.

[363] See, for example, the contribution of Hariss in Hazell *et al.* (1991) ; also Sharma and Poleman (1993), for Uttar Pradesh specifically.

new income sources, has also introduced a stronger element of stability in incomes and reduced the vulnerability of income-earning in the village to weather conditions and pests.

Outside jobs can have a pronounced impact on the economy and living standards of a village such as Palanpur through numerous routes. Some of these may be linked only indirectly to earnings from such employment. It has been argued that a reduction in the covariance of household incomes, as brought about by the spread of outside jobs for example, can be of importance in promoting the viability of credit or insurance arrangements (see Binswanger and Rosenzweig 1986a, Platteau and Abraham 1987, Alderman and Paxson 1994). Such arrangements exist, at least in part, to offer villagers the means to smoothen out expenditures in the face of fluctuating incomes. If incomes for different households fluctuate in concert then demands from individual households for loans, or insurance payments, will increase together and any agent seeking to offer such a service may encounter serious liquidity problems. We will examine below how far the degree to which incomes 'covary' in Palanpur has fallen, and we suggest that this may be associated with the expansion of outside earnings.

The distribution of outside jobs also has important consequences for income inequality within the village, which are examined more closely in chapter 5 of this volume. Moreover, the impact of outside employment opportunities on wage rates for casual labourers in the village is important, and is discussed in chapter 7. The upward mobility provided by outside jobs is considered further in chapter 4.

Before turning to an analysis of the determinants of outside employment and incomes, we should comment briefly on the decline of regular outside employment at the end of the survey period. As Table 8 indicates, the number of regular outside jobs declined from 57 to 32 between 1983–4 and 1993. However, taking regular and semi-regular employment together (the latter having continued to expand), we find that the decline of outside wage employment between 1983–4 and 1993 is entirely accounted for by the closure of local cloth mills. This development has had an important impact in Palanpur, where as many as 17 adult males were employees of these cloth mills in 1983–4, but it is not necessarily symptomatic of a general decline in non-farm employment in the area. Further, it should be borne in mind that by the end of the survey period the radius of wage employment outside the village had expanded considerably, with temporary migration (as opposed to commuting) playing an increasingly

important role. For instance, in 1993 quite a few adult males from Palanpur had found employment in Delhi, and these adult males are not included in the village census; by implication, their jobs are not included in Tables 8 and 9. In short, we have no strong evidence of generalized and sustained decline in outside wage employment after 1983–4, even though the closure of local cloth mills is an important problem for Palanpur villagers in the short term.

2.2 The Determinants of Outside Employment and Incomes

We have remarked above that there are patterns to the gaining of outside jobs.[364] In this section we examine those patterns in a slightly more formal way using some simple models. In Table 10 we present results from three probit regressions exploring the determinants of outside job employment. For 1974–5 we examine the relationship between certain household characteristics and the probability of having at least one member employed in a regular outside job. For 1983–4 and 1993 we are able to examine employment data at the level of the individual to investigate the determinants of outside employment.

In 1974–5, the significant variables are the amount of land owned, the number of adult males in the household, and the Jatab dummy. The likelihood of a household having at least one member regularly employed outside agriculture decreased with land owned and was lower for households of the Jatab caste. Households with more adult males were more likely to have an outside job (as one would expect since an 'extra person provides an extra chance'). The dummies for Murao and Thakur castes did not contribute to the explanation of the probability of outside employment.

In 1983–4 the significant variables were the amount of land owned, the number of adult males, years of completed schooling of the individual with the outside job, and the dummy for the Jatab caste. Once again, the land owned and the number of adult males contributed in a significant way to the probability of employment in a regular outside job (although note that now the data are at the individual level). Jatabs were less likely to have regular outside employment.

The larger the number of years of schooling, the greater the probability that an individual would have a regular job in 1983–4. However, of the 57 Palanpur villagers with regular outside jobs, 27 had not had any formal schooling at all.

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[364] See also Section 1.3, chapter 2.

Table 10 : Probit Results for the Probability of Holding a Regular Outside Job (Estimated Coefficients With Probability Values in Parentheses)

	1974–5	1983–4	1993
Total Observations	*111*	*485*	*359*
Observations at 0:	*74*	*428*	*329*
Observations > 0:	*37*	*57*	*32*
Variable			
Constant	−0.78	−1.24	−1.67
	(0.022)	(0.000)	(0.000)
Land Owned per Household	−0.03	−0.02	−0.01
	(0.017)	(0.000)	(0.182)
Number of Adult Males	0.45	0.10	0.27
	(0.003)	(0.036)	(0.004)
Literate Household Member (dummy)	0.61	—	—
	(0.146)		
Education of Individual (years of schooling)	—	0.09	0.04
		(0.000)	(0.120)
Murao	−0.28	−0.23	−0.12
	(0.498)	(0.419)	(0.677)
Thakur	−0.53	0.11	0.16
	(0.197)	(0.605)	(0.524)
Passi	1.18	0.22	−0.11
	(0.072)	(0.389)	(0.800)
Jatab	−0.95	−0.94	−5.69
	(0.051)	(0.026)	(0.999)
Log Likelihood (Model)	*−52.006*	*−151.474*	*−97.011*
Log Likelihood (Constant)	*−71.056*	*−175.803*	*−107.89*

Note: For 1983–4 and 1993, the unit of observation is the individual, whereas for 1974–5 it is the household. For the 1983–4 and 1993 regressions, the household variables (e.g. land owned and number of adult males) apply to the household of which the relevant individual is a member.

Whilst the coefficient on the Thakur dummy was insignificant for both 1974–5 and 1983–4, it switched in sign (from negative to positive) across the years. This switch accords with the impression that by 1983–4 individuals of this caste were becoming increasingly interested

in outside employment, perhaps as a way to counter their apparent decline in economic status within the village.

The results for 1993 are similar to those for 1983–4, though the fit is markedly lower and only the number of adult males is significant (though education is not far from significance). The less informative nature of the 1993 results may well reflect the fact that a large group of young men had lost their outside jobs just before that year, as discussed in the previous section.

We turn next to an examination of the determinants of household *earnings* from regular outside jobs (Table 11). For this purpose we use the Tobit model.[365] From the estimated coefficients in 1974–5, an additional bigha owned reduced household earnings from regular outside jobs by Rs 83[366] (at 1974–5 prices).[367] An additional adult male increased regular outside job income by Rs 1,403, while a household with at least one literate member, other things being equal, earned Rs 2,225 more from regular outside employment. Given other household characteristics, Thakur households tended to earn roughly Rs 2,000 less than reference households from regular outside employment and Jatabs about Rs 3,400 less. Passi households, on the other hand, earned about Rs 2,500 more from regular outside employment.

In 1983–4 an additional bigha of land owned reduced the average amount earned from regular outside employment by Rs 94 (again at 1974–5 prices). An additional adult male increased earnings from regular outside employment by Rs 1,452, and an additional year of schooling (for the most educated family member) raised these earnings by Rs 742). Once again, Jatabs earned substantially less from regular outside employment than other villagers.

This simple econometric exercise suggests that certain factors have had a consistent influence, over time, on the acquisition of regular outside employment. For example, in both 1974–5 and 1983–4 Jatab households were less likely to obtain regular outside employment and

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[365] In the absence of income data for 1993, we focus our attention here on 1974–5 and 1983–4. Note that in *both* years the unit of observation is the household (unlike in Table 10).

[366] We are speaking loosely here in interpreting the coefficient as the derivative of income with respect to a variable. In the Tobit, as in other limited dependent variable models, the expectation of the left-hand side variable, y, conditional on the right-hand side variable should take into account the probability of y being positive.

[367] See the appendix to this chapter for a discussion of the price indices employed here.

Table 11 : Tobit Results for Household Earnings from Regular Outside Employment (Estimated Coefficients With Probability Values in Parentheses)

	1974–5	1983–4
Total Observations[a]	*111*	*143*
Observations at 0:	*74*	*96*
Observations > 0:	*37*	*47*
Variable		
Constant	−1827	−3439
	(0.042)	(0.000)
Land Owned per household	−83	−94.3
	(0.002)	(0.007)
Number of Adult Males	1403	1451
	(0.000)	(0.000)
Literate Household Member	2225	—
	(0.022)	
Education of Individual[b]	—	742
		(0.000)
Murao	−1064	−2130
	(0.309)	(0.173)
Thakur	−2051	−1344
	(0.052)	(0.286)
Passi	2537	1816
	(0.028)	(0.179)
Jatab	−3377	−4672
	(0.012)	(0.023)
Log Likelihood (Model)	*−375.5*	*−488.9*
Log Likelihood (Constant)	*−403.4*	*−526.4*

Notes:

1. Coefficients for 1983–4 have been normalized in terms of 1974–5 rupees to facilitate comparisons.

[a] Note that we have 47 households with regular job income, although there are *57 individuals* with an outside job, in 1983–4. The difference reflects the fact that in some households more than one member has an outside job.

[b] In 1983–4, the education variable corresponds to the highest level of education achieved by those family members with an outside job. For 1974–5 this variable indicates whether *any* household member is literate or not.

also earned less from regular employment outside agriculture. Similarly, households with more adult males were more likely to obtain regular employment outside the village and had a greater income from outside sources. This latter observation, while not terribly surprising, is consistent with the notion that the pressure of population growth was being felt in Palanpur and that outside employment has a role to play in helping households combat the threat of falling per capita incomes in the face of a growing population and a fixed land area. In both survey years, households with large landholdings tended to figure less prominently among those with outside jobs and to earn less from regular outside employment. Finally, education was clearly and positively associated with outside employment and outside incomes.

In other respects there is evidence that between 1974–5 and 1983–4 there were shifts in the distribution of regular outside jobs and incomes. There is some suggestion that Thakurs switched from having a lower probability of regular employment outside the village to having a higher probability of such employment (as well as higher incomes). Passis seem to have lost the advantage that their greater historical exposure to the outside world (in particular through railway work) had conferred on them.

2.3 Outside Jobs and the Diversification of Income Sources

We have noted above that a diversification of sources of income, for example via the spread of outside employment opportunities, can reduce the extent to which total incomes covary across households. With incomes derived from different sources, the set of shocks to which households are exposed is not identical. This could, in principle, have important implications for the viability of insurance or credit arrangements within a village such as Palanpur.

Establishing whether, in fact, the covariance of incomes in Palanpur has declined over time is not a straightforward exercise. It is difficult, for example, to isolate expected or 'permanent' income for a household in any one year from the 'transitory' component. One way forward is to take the four observations of per capita income (corrected for price changes[368]) for each continuing household and average them. This average per capita income can be interpreted (somewhat tentatively) as a measure of expected or 'permanent' income. Accordingly, the difference between actual income in any one year and this

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[368] But not allowing for a trend.

permanent income can be defined as transitory income (possibly negative). We express the difference between actual and permanent income as a proportion of permanent income, so that shocks are interpreted as percentage deviations from permanent income.

Clearly in an agricultural setting income shocks often take the form of harvest failures or bumper crops due to climatic conditions.[369] These shocks would affect all households engaged in agricultural production. Where all households are exposed to the same shocks, their actual incomes in any one year will tend to deviate in similar ways from their permanent income levels. The question is whether in Palanpur, with the expansion of outside jobs over time, households have become differentiated in the shocks they face. In Table 12, we can see that the distribution across households of transitory income within a period, represented by the coefficient of variation, became more equal over time for the first three survey years. This may be interpreted as saying that household income became more covariant over time in the sense of proportional movements becoming less dispersed. By 1983–4, however, the coefficient of variation of transitory income increased dramatically. This suggests there was a sharp reduction in the degree to which household incomes were governed by common forces in the last survey year.

Table 12 : Distribution of Deviations from Permanent Income Across Households

	Mean Deviation	Coefficient of Variation of Income Deviations Across Households	Coefficient of Variation of Total Income Across Households
1957–8	−0.125	2.930	0.649
1962–3	−0.209	1.850	0.871
1974–5	0.368	1.293	0.504
1983–4	−0.061	7.423	0.545

Note: Income deviation is defined as the difference between actual household per capita income in the reference survey year and household per capita income averaged over the four survey years, expressed as a proportion of the averaged income.

While it is tempting to attribute the rise in the dispersion of transitory incomes between the earlier years and 1983–4 to the expansion of outside employment opportunities, it is worth remembering that the expansion of outside employment started between 1962–3 and 1974–5, and the inequality of income 'shocks' between those two years actually declined. Nevertheless, the types of activities in outside jobs in 1983–4 were, as we have seen, much more varied in number and nature than in 1974–5.

3. Agricultural Practices: 1957–8 — 1983–4

Despite the growing importance of outside employment, agriculture remains the mainstay of the Palanpur economy. It generates a large share of the village income and absorbs the bulk of the work time of a large proportion of the village population. Changes in the agrarian economy are, therefore, crucial aspects of economic change in Palanpur. In this section we describe the main changes that have occurred in the agricultural economy over the survey period. In the course of our discussion we hope to develop an understanding of the causes of change, and will also comment on how our interpretation of these developments relates to current views and theories about technological change in agriculture. For reasons of data availability, the reference period in this section is 1957–8 to 1983–4, unless stated otherwise.

3.1 Changing Technology

Palanpur has experienced fairly significant improvements in agricultural productivity over the survey period. Some

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[369] Although note that pests and other mishaps can be local and that farmers can differ in the steps they take to mitigate risks.

comparative statistics are quite illustrative: the yield per acre of the main food crop, wheat, increased by around three times between 1957–8 and 1983–4, and by around four times between 1957–8 and 1993.[370] These increases translate into an annualized growth rate of around 4 per cent. In comparison with this, the population growth rate was around 2.1 per cent per year, and real per capita income grew by about 2 per cent per year between 1957–8 and 1983–4.

Agricultural technology has undergone a number of highly visible changes in Palanpur over the survey period. There has been a

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[370] These estimates are based upon the 'normal' yield for the years mentioned. Actual yields varied substantially around the underlying trend. The 'normal' yield refers to the yield expected by farmers prior to harvest time.

substantial rise in irrigation. New varieties of high-yielding seeds have become commonplace, and there have been significant increases in the use of chemical fertilizers. Many farm tasks have, over the period, also become increasingly mechanized. In this sub-section we discuss each of these aspects of technological change in turn. Finally, another conspicuous feature of agricultural change over this period has been in cropping patterns. This, we examine in section 3.3.

The period of rapid change in these elements of technology in North India during the late 1960s and early 1970s came to be seen as part of a phenomenon known as 'the Green Revolution'. This was particularly associated with the development of new varieties of wheat, many arising from research at CIMMYT (Centro Internacional de Mejoramiento de Maiz y Trigo) in Mexico in the 1950s and 1960s. However, it is important to see agriculture, at least in Palanpur, as in a process of evolution. It is true that the early 1970s in Palanpur was a period of particularly rapid change but important developments took place both before and since. Thus we have to be careful when insisting on a particular short period as being that of the 'Green Revolution'. We can, in broad terms, speak of the 1957–8 and 1962–3 surveys being before and the 1974–5 and 1983–4 surveys being after the 'Green Revolution', but we must not lose sight of the process as being one of gradual change. Because, however, the term has become so widespread we shall, from time to time, use Green Revolution without quotation marks. Agricultural change and intensification involves choice, and different farmers have reacted in different ways and at different speeds to the changing opportunities. Nevertheless, by 1974–5 virtually all farmers growing wheat were using 'new' seeds.

Irrigation in 1957–8 was poorly developed. The Ansari report described the lack of irrigation facilities as a 'major bottleneck' (Ansari 1964). By 1974–5 there were 25 Persian wheels and 7 working pumpsets in the village and 96 per cent of the village land was irrigated. By 1983–4 there had been further improvements in the quality of irrigation and there were 27 working pumpsets. Mechanical pumpsets had begun to displace Persian wheels by 1983–4, and most of the Persian wheels fell into disrepair due to lack of maintenance. By 1993, there was not a single Persian wheel in operation in Palanpur. The switch from Persian wheels to pumpsets represents an important development in the intensification of irrigation since pumpsets allow a far greater rate of water flow than is possible with the Persian wheel. The Persian wheel also involves the use of draught

animals and supervisory human labour for extended periods (see Bliss and Stern 1982). The greater control over the management of water that became possible due to pumpsets has been an important complementary input to the adoption of other new technologies such as better seeds and chemical fertilizers.

'High-yielding' varieties of wheat, or HYVs, were introduced in India in 1963 with the first large-scale adoption by farmers (in the Punjab) in 1966. They were designed to be more responsive to high doses of water and fertilizer than traditional varieties. They also had a somewhat shorter growing season, providing more time for the kharif harvest and for land preparation (rabi harvest dates provide little flexibility in timing since the temperature rises rapidly during April in northern India). By 1974–5 a large majority of the wheat area in Palanpur was sown with high-yielding varieties. These had arrived around 1971. Some of the HYV wheat seed, particularly that emanating from the Seed Store, was, however, in a poor condition. Since 1974–5 HYVs have continued to be adopted for wheat with farmers trying different varieties. As we describe below (section 3.3), there has been considerable increase in both the productivity of wheat and the area under wheat during the 1970s and early 1980s.

Chemical fertilizers were not used at the time of the first two surveys, although farmyard manure (FYM) was. By 1974–5 fertilizer use was common, although for many farmers applications were far below recommended levels. It was also common to find that basal fertilizers including phosphates (P) and potash (K) were neglected in favour of nitrogenous (N) fertilizers. One explanation of the 'low' doses could be ignorance but, as Bliss and Stern (1982) emphasize, an important reason could also be risk-aversion given that fertilizers must be applied well before the output — of uncertain quality — is yielded. Thus the application of fertilizers represents an investment involving risk. Poor balance of fertilizer is likely to be associated with ignorance of its importance. The effect of a 'top dressing' of fertilizer on a young crop is readily visible over a short period of time.

By 1983–4 the use of fertilizers had increased and balance in the type of fertilizers used was improving. While the average application of basal fertilizer on wheat (usually some NPK mixture) on the sample plots[371] in 1974–5 was 5.4 kgs/bigha, in 1983–4 it had risen to 6.4 kgs/bigha. Top dressing applications of urea in 1974–5

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[371] Bliss and Stern (1982) report on their selection of a small number of 'sample plots', under wheat, for close scrutiny.

averaged 5.4 kgs/bigha while in 1983–4 the average application of the first top dressing was 6.7 kgs/bigha. Moreover, in 1983–4 the application of two or more top dressings per crop was fairly common.

Mechanization of ploughing in Palanpur is quite recent. There were no tractors in 1974–5 and only one in 1983–4, although there were 7 by the end of the 1980s. There has been some gradual mechanization of other aspects of agriculture as well. For example, most threshing was done in 1983–4 with threshing machines driven by diesel engines, whereas in the earlier years the predominant method was trampling by bullock. In 1983–4, there were 7 mechanized threshers in Palanpur.

Technological changes are not merely about the introduction of new inputs. They also involve the learning of types of skills not only with respect to the new inputs but also in the more effective complementary use of traditional inputs. The type of technological change that has occurred in Palanpur over the survey period, for example, goes alongside the more careful management of irrigation, and the timeliness of various agricultural operations.[372] It follows that farmers' responses to technological innovation are likely to differ according to their ability to learn and adapt, and their willingess to invest the time and resources required for making effective use of these innovations. It is interesting to note that one identifiable group of Palanpur farmers, namely those belonging to the Murao caste, have indeed responded to these changes particularly positively. For example, members of this caste owned 13 of the 27 pumpsets in 1983–4, 5 out of 7 energized threshers, and 25 of the 43 bores. As we see in the next subsection, by 1983–4 they had further increased the fraction of the village land which they cultivated.

3.2 Land Owned and Land Cultivated

In this section we describe the patterns of land ownership and operation in the four survey years[373] ending in 1983–4 (we continue to exclude 1993). We have seen in section 1 that the population of Palanpur nearly doubled between 1957–8 and 1983–4, from 528 to 960 individuals. The total amount of land available was roughly constant over all four survey years. As a result land owned per household at the village level declined steadily from 27.5 bighas in 1957–8 to 25.7 bighas in

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[372] Weeding also becomes more important, as does careful attention to sowing techniques.

[373] On related issues, see also chapters 2,   5   and 8.

Table 13a : Land Distribution by Caste: 1957–8

Caste	Number of Households	Number of Individuals	Land Owned[a] (in bighas)	Land Cultiva-ted[a] (in bighas)	Land Owned per capita	Land Culti-vated per cap-ita
Thakur	17	104	908 (33.1)	642 (27.5)	8.73	6.17
Murao	21	117	1020 (37.1)	805 (34.5)	8.72	6.88
Dhimar	10	56	103 (3.8)	90 (3.9)	1.84	1.61
Gadaria	9	42	186 (6.8)	208 (8.9)	4.43	4.95
Dhobi	2	6	60 (2.2)	70 (3.0)	10.00	11.67
Teli	8	47	87 (3.2)	117 (5.0)	1.85	2.49
Passi	11	56	115 (4.2)	115 (4.9)	2.05	2.05
Jatab	16	71	240 (8.7)	244 (10.5)	3.38	3.44
Other	6	29	28 (1.0)	40 (1.7)	0.97	1.38
Total	100	528	2747 (100)	2331 (100)	5.20	4.41

Note:

[a] Percentage distribution in brackets.

Table 13b : Land Distribution by Caste: 1962–3

Caste	Number of Households	Number of Individuals	Land Owned[a] (in bighas)	Land Cultiva-ted[a] (in bighas)	Land Owned per capita	Land Culti-vated per cap-ita
Thakur	19	125	850 (31.2)	918 (33.0)	6.80	7.34
Murao	25	133	1020 (37.5)	963 (34.6)	7.67	7.24
Dhimar	9	53	97 (3.6)	83 (3.0)	1.83	1.57
Gadaria	9	45	198 (7.3)	201 (7.2)	4.40	4.47
Dhobi	1	2	40 (1.5)	40 (1.4)	20.00	20.00
Teli	9	57	93 (3.4)	154 (5.5)	1.63	2.70
Passi	16	70	130 (4.8)	97 (3.5)	1.86	1.39
Jatab	13	71	244 (9.0)	281 (10.1)	3.44	3.96
Other	5	29	51 (1.9)	46 (1.7)	1.76	1.59
Total	106	585	2723 (100)	2783 (100)	4.65	4.76

Note:
[a] Percentage distribution in brackets.

Table 13c : Land Distribution by Caste: 1974–5

Caste	Number of Households	Number of Individuals	Land Owned[a] (in bighas)	Land Cultivated[a] (in bighas)	Land Owned per capita	Land Cultivated per capita
Thakur	25	174	760 (30.4)	652 (26.8)	4.37	3.75
Murao	28	178	1006 (40.3)	773 (31.7)	5.50	4.22
Dhimar	8	59	85 (3.4)	151 (6.2)	1.43	2.56
Gadaria	10	68	177 (7.1)	181 (7.4)	2.61	2.67
Dhobi	3	22	58 (2.3)	54 (2.2)	2.61	2.43
Teli	12	71	89 (3.6)	221 (9.1)	1.25	3.12
Passi	8	61	92 (3.7)	104 (4.3)	1.45	1.65
Jatab	14	97	201 (8.1)	299 (12.3)	2.08	3.08
Other	4	27	31 (1.2)	2 (0.1)	1.25	0.08
Total	111	757	2498 (100)	2438 (100)	3.27	3.20

Note:

[a] Percentage distribution in brackets.

Table 13d : Land Distribution by Caste: 1983–4

Caste	Number of Households	Number of Individuals	Land Owned[a] (in bighas)	Land Cultivated[a] (in bighas)	Land Owned per capita	Land Cultivated per capita
Thakur	30	217	762 (29.3)	584 (22.0)	3.51	2.69
Murao	27	217	1080 (41.6)	1108 (41.8)	4.98	5.11
Dhimar	13	74	65 (2.5)	152 (5.7)	0.88	2.05
Gadaria	12	83	195 (7.5)	192 (7.2)	2.35	2.31
Dhobi	4	27	21 (0.8)	60 (2.3)	0.77	2.23
Teli	16	92	98 (3.8)	206 (7.8)	1.06	2.24
Passi	14	85	127 (4.9)	100 (3.8)	1.61	1.27
Jatab	19	118	218 (8.4)	224 (8.5)	1.84	1.90
Other	8	47	31 (1.2)	23 (0.9)	0.58	0.45
Total	143	960	2596 (100)	2650 (100)	2.70	2.76

Note:
[a] Percentage distribution in brackets.

1962–3, 22.5 bighas in 1974–5, and 18.2 bighas in 1983–4 (see Tables 13a–13d). In terms of land operated, the decline at the village level was roughly similar, although between 1957–8 and 1962–3 there was a slight increase in the amount of land cultivated per capita, as in the former year more of the village land was leased out to outsiders than was leased in, and the reverse occurred in 1962–3. Note that these figures for land cultivated do not reflect the intensity with which the land is operated, i.e. the fact that individual plots are frequently double-cropped in the later survey years.

There has been considerable change over time in the pattern of the ownership of land among village households. The most important mechanism through which this has occurred has been household partitioning. Changes through land sales are much less important since the market for land as an asset in Palanpur is rather inactive (on this see also chapter 2). Table 14 shows the details of all land sales in the village during the 27 years between 1957–8 and 1983–4. From this we observe that the percentage of village land sold in an average year is small. On average about 0.5 per cent of the village land changed hands each year over that period, and there was a little more than one transaction per year. When we compare this with about 25 per cent of the land in Palanpur being under tenancy in one year, or for example, houses changing hands in the UK, on average, every 5 or 10 years, one might ask why the market for this asset is so inactive.

In order to try to answer this question we can examine a number of reasons for wanting to sell, acquire, or hold land, and ask about their applicability in Palanpur. Reasons for selling or acquiring land may include the following: life-cycle changes; moving jobs; adjustment to desired capital position as a result of changing wealth; changes in perceived returns to different forms of assets (including speculation). All of these have some relevance to Palanpur but perhaps in a much more muted form than one might find, say, for houses (the main personal asset) in the UK. For example, the sale of land for life-cycle reasons (aging of farmer, in particular) is less compelling if a multi-generational view of the family is taken. Inheritance and division between sons is an important aspect of changing land distribution but does not involve sale. Similarly, as we saw in section 2, changing employment has not required separation from the family land and home since commuting is possible. Further, the commuter is generally just one of a number of members of the household so that his work outside agriculture represents diversification of the household

Table 14 : Land Sales 1957–8 to 1983–4

Caste of selling household	Initial Land owner-ship (bighas)	Amount sold (bighas)	Number of sales	Reason
1. Thakur	180	80	n.a.	Dissipated living
2. Thakur	124	14	1	Court expenses (murder)
3. Thakur	43	35	3	Debts
4. Gadaria	40	40	4	Dissipated living, debts
5. Thakur	39	33	3	Court expenses (murder)
6. Thakur	36	30	2	Dissipated living
7. Passi	30	16	3	Debts, medical ex-penses
8. Harijan	29	9	2	Debts (marriage)
9. Thakur	29	15	2	Debts (medical ex-penses)
10. Thakur	21	18	2	Debts (dissipation)
11. Passi	15	8	2	Debts
12. Dhimar	12	12	1	Dissipated living
13. Passi	12	12	2	Dissipated living and migration
14. Jatab	12	4.5	1	Debts
15. Dhimar	10	10	1	Debts (medical ex-penses)
16. Dhimar	10	10	1	n.a.
17. Badhai	8	8	1	Migration and debts
18. Gadaria	7.2	7.2	1	Debts and migration
19. Passi	7	3.5	1	n.a.
20. Murao	3.6	3.6	1	Migration
21. Murao	3.6	3.6	1	Migration
22. Dhimar	n.a. (approx 10)	10	n.a.	Dissipated living
23. Dhimar	n.a. (approx 20)	20	n.a.	n.a.
24. Murao	n.a.	2	1	Dissipated living
Total	approx 704	404.4	approx 36	

Notes:

1. The households are arranged in decreasing order of initial land ownership.

2. n.a. indicates that no reason is available.

activities and not necessarily a relinquishing of agriculture. Thus a changing occupational structure in Palanpur does not create the same incentive for land sale as it would if outside jobs required migration. Changing occupation may, however, imply leasing out some land, an issue to which we shall return.

Changing wealth positions can and do provide a motive for land sales in Palanpur with heavy debt associated with 'dissipation' (usually drinking and/or gambling) being a prominent reason (see Table 14). Debts can also arise from the loss of earning power and direct costs associated with health problems. Finally amongst the reasons for sales, variations in the perceived return to different assets seem to play only a small role in Palanpur. This may be explained in part by the lack of a broad choice of assets and high transaction costs.

Several types of transactions costs are likely to be present in the land market in Palanpur. First, there are costs associated with the clear demarcation of property rights. This might seem surprising given the claims in chapter 2 that the establishment of private property in land was one of the defining features of the Zamindari Abolition land reforms just before the survey period. One reason for the continued ambiguity in the delineation of property rights in land is that rival claims might arise at the time of inheritance (whether or not the legal owner dies intestate). Both the law and custom would, for instance, entertain claims based on the Hindu joint family. It might be argued that the danger of such ambiguities would lead to greater recourse to written wills, but of course, these can be also be challenged legally.[374]

There are other types of transactions costs, however, that are related to the low frequency of land transactions itself. In the absence of an active market, for example, the price of any particular plot might be subject to a great deal of guess-work. Additionally, information about the quality of a plot might be asymmetrically distributed between vendor and purchaser. It is important to note that these types of transactions costs are likely to be much less problematic if the market was active to begin with.

One can imagine equilibria which are 'thin', i.e. few sales, or 'thick', with many sales. Factors leading to there being a 'thin' as opposed to a 'thick' market equilibrium include the above. The strength of different effects both influences, and is influenced by, the 'thickness' of the

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[374] There can also be problems of fraud. For example, one brother might 'sell' land, take the money and then (pre-arranged or not) another brother could challenge the sale.

market. If, for example, it were easy to buy back into a market then households would be more willing to sell for reasons of changing occupation or perceived changes in returns to different assets. In a 'thick' market equilibrium some of the reasons offered for reluctance to sell would not be so strong, since upturns and downturns in fortunes or rates of return could be quickly reflected in changing portfolios.[375]

A combination of these transactions costs and the relatively muted demand for land transactions arising from life-cycle or occupational mobility considerations, can explain the persistence of the thin market equilibrium. The initial cause of such an equilibrium might be sought in the history of landed property. In particular, it is worth recalling that Palanpur villagers first acquired private property rights in land — and land thus became, in principle, fully transferable — only relatively recently.

Some early assessments of technological change in north Indian agriculture warned that the land market might 'work against' the poor as a result of rising agricultural productivity.[376] It was argued that rich landowners, boosted by higher agricultural incomes would be in a position to 'buy out' smaller farmers, who would then be rendered landless. The infrequency of land sales, and the relatively small areas of land transacted suggest that, at least in Palanpur, such a process was not widespread (Table 14). Furthermore, over two–thirds of the entire area of land sold in Palanpur between 1957–8 and 1983–4 came from households whose initial endowments in 1957–8 were 29 bighas or more, compared to the average holding size in that year of 22.5 bighas.

Although the idea that land sales are prompted by economic hardship does receive support from our data, there is little evidence that this distress is related to the vendor's inability to keep up with agricultural innovation. The importance of distress in explaining sales is demonstrated by the fact that of the 21 households which reported a reason for the sale of land, only two cases can be thought of as sales in response to positive economic opportunity rather than severe hardship. These are the two Murao households who sold their land and migrated. All other reported reasons for the sale of land imply some form of financial crisis for the vendor household. Closer scrutiny reveals, however, that as many as 13 out of the remaining 19 households sold their land due to economic shocks that were

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[375] A thick equilibrium might also be more likely to support and be supported by a mortgage market.

[376] See I. Singh (1990) for a recent review of this debate.

independent of the initial position of the households in the agrarian economy. Eight households sold land because of the dissipation of their wealth, mainly as a result of extravagant consumption, alcohol abuse, or gambling. Another two reported sales were in order to meet legal costs of murder trials in which household members were implicated. It might be noted that Thakur landowners, who started with relatively good endowments of land at the beginning of the survey period, are renowned in this region for their high consumption rates and their fondness for drink and gambling. They are also known to carry on violent feuds with rival families. A further three households reported selling land due to medical expenses. All these 'reasons' for land sales are related either to life-cycle events or to very specific patterns of consumption and social behaviour. There is little evidence of systematic land sales by the poor on a mass scale as a result of distress arising from agricultural impoverishment.

Caste is historically, and in terms of ideology, associated with economic vocation. It is far from clear however, whether the caste-specific vocational calling was ever the only or even the main source of livelihood for all caste groups in Palanpur. In particular, at least from the very beginning of our survey period, we observe widespread participation in farming among the various castes whose traditional vocation was not farming. There are two castes, however, that have traditionally been associated with land ownership and cultivation. The Thakurs and the Muraos, who, according to their traditional vocations, are landlords and cultivators respectively, have dominated Palanpur's agriculture. In 1957–8 these two castes together owned about 70 per cent of the village land while making up only about 40 per cent of the village population.[377] In subsequent survey years, the sum of the proportions of land owned by these two castes remained very stable although the total amount of land owned by Palanpur villagers declined slightly from around 2700 bighas in the first two survey years to about 2600 by 1983–4 (the proportion of the population represented by these two castes increased only slightly to about 45 per cent in 1983–4).

There has been a noticeable change, however, in the relative position of Muraos and Thakurs. While the two castes together have owned a fairly constant proportion of Palanpur land, the amount of

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[377] Note however, that the distribution of land owned or cultivated *within* castes is by no means uniform.

land owned and operated in aggregate, as well as per capita terms, has increased for the Muraos and declined for the Thakurs. Per capita land ownership among Thakurs, as a percentage of the corresponding figure for Muraos, declined from 100 in 1957–8 (when both castes owned almost exactly the same amount of land per person) to 89 in 1962–3, 79 in 1974–5 and 70 in 1983–4. The decline in the relative position of Thakurs in terms of land cultivated per person has been even more dramatic, with a particularly sharp decline between 1974–5 and 1983–4 (see Tables 13a and 13d for details).

The change in the relative position of these two castes in terms of land ownership and operation can be interpreted as arising out of their respective responses to new technology and changes in the relative returns to various factors of production. The Thakurs began (in 1957–8) with excellent land endowments and one might have expected a period of population growth and land-augmenting technological progress to have led to a relative rise in land rents and in the fortunes of those who live from rents. There are a number of factors that have worked in the opposite direction. First, real wages have risen in response to developments elsewhere in the economy. Second, the changing technology may improve the returns to agricultural skills, in which Muraos might be relatively better-endowed, relative to the returns to land ownership. Third, it should also be noted that population growth works to decrease rents per capita insofar as it operates on the denominator.

In comparing the changing fortunes of Thakurs and Muraos it is also worth noting that the latter appear to have higher savings rates. Whilst we do not have consumption and savings figures to establish this directly, the apparently frugal lifestyle of many Muraos compared with the 'self-indulgence' of some Thakurs might suggest this to be the case, especially when coupled with the observable increase in assets amongst the Muraos, not only in terms of land but also as regards other agricultural assets (see chapter 2).

We return to some of these issues in chapter 5, where we consider the distributional impact of differential responses to population growth and agricultural intensification of identifiable social and economic groups within the village.

3.3 Cropping Patterns

The village of Palanpur was selected by Bliss and Stern for intensive study because it met a number of criteria relevant for the issues they

wished to investigate. Prominent among these criteria was the requirement that the village be actively involved in the cultivation of wheat (the most important crop in Uttar Pradesh). Bliss and Stern wanted to study the impact of new agricultural technologies on cultivation in rural India; these new technologies were of particular relevance for wheat.

Palanpur's heavy involvement in the cultivation of wheat is reflected in the fact that in the four survey years the proportion of land under wheat during the rabi season was never less than 46 per cent (see Table 15). The figures are even more striking when we consider the absolute amount of land devoted to wheat in the different survey years. During the earlier survey years, when double-cropping in Palanpur was not common, the amount of land under wheat during the rabi season ranged between 770 bighas and 880 bighas. In 1974–5, after increasing irrigation had made double-cropping widespread, 1030 bighas of land were under wheat, although this represented less as a percentage of all land cultivated in the rabi season than in the earlier two survey years. By 1983–4 this amount increased by more than 50 per cent to 1573 bighas, so that both in absolute as well as in percentage terms, the cultivation of wheat was clearly becoming increasingly important in Palanpur agriculture. The increasing involvement with wheat reflects not only the technical changes in wheat itself, but a shift to a more intensive agriculture. Some other possible rabi crops, such as barley, are less intensive in both labour and non-labour inputs. In this respect we have similarities with the increasing role of rice in the kharif season.

During the period of study wheat yields rose sharply. In 1957–8 and 1962–3, wheat yields were around 40 kgs per bigha (approximately 0.64 tonnes/ha). These yields rose to 114 kgs per bigha by 1974–5 (1.82 tonnes/ha) as a result of the introduction of HYVs of wheat, the spread of irrigation, and the increasing application of fertilizer. In 1983–4 wheat yields had declined to 101 kgs per bigha (about 1.6 tonnes/ha), still more than twice as high as in the earlier two survey years, but about 13 per cent lower than in 1974–5. Yields in 1974–5 were somewhat above normal for that period, while the 1983–4 harvest was negatively affected by hot winds, pests, and other factors.

The contribution of a crop such as wheat to disposable incomes depends not only on area sown and yields, but also on crop prices. The real value of total wheat output was virtually the same in 1983–4

Table 15 : Cultivation Details for Selected Major Crops in Palanpur

Crop	1957–8	1962–3	1974–5	1983–4
1. Wheat				
a) Area cultivated (bighas)	879	767	1030	1573
b) % of total cultivated area[b]	52	48	46	57
c) Yield (kg/bigha)	41	41	114	101
d) Real Output Value/bigha[c]	16.46	22.07	41.17	26.53
2. Paddy				
a) Area cultivated (bighas)	70	274	125	266
b) % of total cultivated area[b]	5	17	6	12
c) Yield (kg/bigha)	11	26	103	130
d) Real Output Value/bigha[c]	2.13	9.77	32.63	34.32
3. Bajra (millet)				
a) Area cultivated[a] (bighas)	644	638	610 (730)	137 (363)
b) % of total cultivated area[b]	46	40	29	6
c) Yield (kg/bigha)	34	27	59	48
d) Real Output Value/bigha[c]	10.16	11.76	20.05 (20.31)	11.69 (13.68)
4. Sugarcane				
a) Area cultivated (bighas)	391	430	463	886
b) % of total cultivated area[b]	28	27	22	39
c) Yield (quintal/ bigha)	n.a.	n.a.	21.3	12.5
d) Real Output Value/bigha[c]	34.16	34.00	71.62	43.41

[a] The figures in brackets include plots sown with mixed crops. In these cases the area figures are upper bounds on the effective areas.
[b] Proportion of area cultivated refers to percentage of area under the specified crop for the *relevant season* (rabi for wheat; kharif for paddy and bajra; kharif has also been taken as the reference area for sugarcane).
[c] Real values are obtained by deflating with price deflators used elsewhere based on the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh. All values are in 1960–1 rupees.

Notes: 1. The 1957–8 figures are based on direct calculations from the household questionnaire, and are consistent with the corresponding figures given in Ansari (1964), some of which are also reported in Bliss and Stern (1982). The 1957–8 yield figures reported in Table 2.17, p. 32, in Bliss and Stern (1982) are underestimates due to a minor flaw in the conversion of local units of weight.

2. The average yield figures for 1962–3 in this table are somewhat misleading in that they exclude cases of zero output, which were not uncommon in that year due to total crop failure on a number of plots. The true average yields, inclusive of cases of zero output, would be lower.

(Rs 41,732 at 1960–1 prices) as in 1974–5 (Rs 40,323 at 1960–1 prices). This occurred notwithstanding the large expansion of area sown in 1983–4 compared with 1974–5, an expansion which more than compensated for the relatively low yields so that the total wheat output in 1983–4 was greater than in 1974–5. This higher output in 1983–4 was offset by wheat prices in that year which were considerably lower than in 1974–5 (see below).[378]

We now turn to three other major crops cultivated in Palanpur during the survey years. Another crop which benefited considerably from the new technologies, particularly the spread of irrigation, is paddy. This crop is cultivated during the kharif season, and in the years prior to mechanical irrigation, it was commonly sown in the bed of the Ari river which forms the boundary, to the north and east, of Palanpur land. The cultivation of paddy also requires substantial labour input. As a result of both the expansion of irrigation sources and population growth one might therefore expect to see an increase in the cultivation of this crop over time. Such a rise was predicted in the closing chapter of Bliss and Stern (1982). From Table 15 we can see that the picture from the four survey years is not entirely clear-cut. While there would appear to be a steady rise in the cultivation of paddy if one considered 1957–8, 1974–5, and 1983–4 only, the 1962–3 survey year stands out as somewhat of an exception with more land under paddy in that year than in any other survey year. It appears that

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[378] In Palanpur farmers do not face sales rationing for their wheat and are able to sell all the wheat they produce at the market price, see section 3.4.

during that survey year, a non-Palanpur landlord with landholdings in the Ari river bed leased out substantial quantities of land to Palanpur farmers during the kharif season, presumably on the understanding that paddy would be grown. This raised the share of paddy in the total cultivated area. In the event however, the harvest from paddy cultivation was poor in that year as a result of adverse weather conditions.

Looking at the last two survey years, we see that the percentage of land under paddy during the kharif season doubled between 1974–5 and 1983–4. Yields from paddy cultivation also increased substantially, and for this crop it appears that price movements were not as strongly negative as they were for wheat. In real terms, total income from the cultivation of paddy more than doubled between 1974–5 and 1983–4.

Another important food crop grown in Palanpur, which is less commonly sold on the market is bajra (pearl millet), also a kharif crop. The area under cultivation with this crop was particularly high in the first two survey years. In percentage terms, the area under bajra during the kharif season was only slightly lower than the area sown with wheat during the rabi season for those years. While 29 per cent of kharif land was still sown with bajra in 1974–5, by 1983–4 this figure had declined to 6 per cent. Note that the figures for all cropping areas in this table require some care in their interpretation. This is because they represent only areas devoted to the cultivation of the specified crop, and do not reflect the fact that additional amounts of land may be mixed-cropped with combinations of two or more crops simultaneously. This is particularly the case with bajra in 1983–4. However, even if we were to take mixed-cropping into account, the area sown under bajra in 1983–4 would remain less than half the area in 1974–5.

Yields of bajra increased somewhat between the earlier two survey years and the last two. However, the scale of increase was not of the same order as those for wheat or paddy. The new technologies ushered in with the 'Green Revolution' revolutionized the cultivation of rice and especially wheat, but not that of coarse grains, and this has been the prime reason for the shift out of bajra towards paddy.

This shift to paddy provides additional support to the proposition that agriculture in the village is becoming increasingly skilled since paddy generally involves more marketing, management, and attention than bajra, together with greater labour and water requirements. This is reflected further in the expansion of the land area sown with sugarcane between the earlier survey years and 1983–4. Prior to the last survey year, the area sown with sugarcane was below 500 bighas

during each year (recall that sugarcane is a ten-month crop). By 1983–4 this had risen to 886 bighas, about 36 per cent of land cultivated in that year. However, adverse weather and pest conditions in 1983–4 resulted in yields of only about half those in earlier years. As in the case of wheat, prices for sugarcane do not appear to have risen to offset the adverse harvest, and as a result despite nearly double the area sown with sugarcane, real income from sugarcane cultivation in 1983–4 was only marginally higher than in 1974–5.

We conclude from this brief review that in response to a variety of factors (population growth, increased irrigation, improved seeds, higher wages, and so on) agriculture has, since 1957–8, moved towards crops which are irrigation intensive; which have benefited most from HYV advances (e.g. the expansion of wheat despite a fall in relative price); and which have a high income elasticity of demand (such as sugarcane). This has occurred at the expense of the cultivation of coarse grains. Yields do not, however, increase monotonically since, notwithstanding the greater security associated with irrigation, agriculture remains a risky activity (as seen in the better than expected harvest in 1974–5 and poor harvest in 1983–4).

3.4 Changing Prices for Agricultural Products

In Table 16 we present prices (in 1960–1 rupees) for a selection of crops grown by Palanpur farmers in the four relevant survey years.[379] We can see that wheat prices declined significantly (relative to other commodities) between the pre- and the post-Green Revolution periods. In real terms prices rose between 1957–8 and 1962–3 but then following the introduction of HYVs, and the spread of irrigation and modern fertilizers, the real price of wheat declined by about 37 per cent between 1962–3 and 1974–5 and another 26 per cent by 1983–4.[380] As a consequence the real price per quintal of wheat in 1983–4 was less than half that in 1962–3. This consistent decline in the relative price of

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[379] These prices were calculated by dividing reported value of a given crop by reported quantity. For those crops for which physical output figures were scarce, and only estimates of the value of production were reported, it was not possible to derive the implicit prices of the output. For this reason, we are unable to provide specific information on sugarcane prices for all four survey years, and prices for several other crops were also not available for the two earlier survey years.

[380] It should be remembered that for much of the period domestic prices were insulated from world prices by the policies of the Indian government.

Table 16 : Prices of Selected Major Crops: 1957–8 to 1983–4 (In 1960–1 Rupees Per Quintal)

Crop	1957–8	1962–3	1974–5	1983–4
Wheat	41.05 (100)	54.35 (132)	34.39 (83)	25.57 (62)
Barley	26.47 (100)	35.33 (133)	26.46 (100)	21.78 (83)
Pea	30.00 (100)	29.89 (100)	39.68 (132)	57.95 (193)
Gram	32.01 (100)	37.04 (116)	47.62 (149)	59.66 (186)
Mustard	63.01 (100)	n.a. (n.a.)	52.91 (84)	89.96 (143)
Paddy	46.73 (100)	37.96 (81)	22.73 (49)	25.95 (56)
Maize	27.34 (100)	24.10 (88)	34.39 (126)	20.83 (76)
Jowar (sorghum)	27.78 (100)	40.39 (145)	31.75 (114)	19.89 (72)
Bajra (millet)	29.46 (100)	43.48 (148)	34.39 (117)	23.67 (80)
Urd (pulse)	40.93 (100)	66.83 (163)	52.91 (129)	81.44 (199)
Potato	n.a.	n.a.	6.61	20.08
Arhar (pulse)	n.a.	n.a.	44.97	65.72
Masoor (pulse)	n.a.	n.a.	42.33	81.82
Lahi (oilseed)	n.a.	n.a.	52.91	89.96

Notes:

1. These prices are obtained by taking an average over unit values (value of output divided by quantity produced). For some crops there were not many observations for which both value and production data were available, and the price information for these crops was therefore obtained by averaging over only a few entries.

2. Sugarcane prices are not available as output data were usually reported in terms of value only (with no separate information on quantities).

3. All prices were divided by the price deflators used elsewhere based on the CPIAL for Uttar Pradesh. All prices are in 1960–1 rupees.

4. Price indices are given in brackets (with 1957–8 as base, for expositional convenience).

wheat, also observable in Uttar Pradesh as a whole, reflects the sharp increase in aggregate output over that period. The level of wheat production at the state level rose from 2750 thousand tonnes in 1957–8, to 3210 thousand tonnes in 1962–3, 7176 thousand tonnes in 1974–5, and 16121 thousand tonnes in 1983–4 (Chandhok and The Policy Group, 1990).

For paddy, relative prices also declined markedly between the first two surveys and the later two. In contrast to wheat however, the price of paddy did not decline further between 1974–5 and 1983–4. As a result incomes from paddy were considerably higher in 1983–4 than in 1974–5, reflecting not only the greater area sown under paddy and higher yields, but also the stable prices.

If we consider prices in general in Table 16 and compare 1974–5 and 1983–4 in particular we see that for a number of important crops such as wheat, barley, gram, maize, jowar, and barley, prices in the earlier year were higher than in 1983–4. The fact that 1974–5 was a year of high output *and* prices, while in 1983–4 the poor harvest in Palanpur coincided with relatively low output prices (the 1983–4 harvest in UP as a whole was quite good), largely accounts for the higher agricultural incomes in 1974–5 than 1983–4.

Farmers in Palanpur received open market prices for most of their crops. Only for sugarcane did prices received by farmers differ depending on whether they sold their produce to the Cane Society or on the open market. While the Cane Society generally offered more attractive prices, farmers could sell to it only a pre-arranged quota of sugarcane, based on some averaging of their crop in preceding seasons.[381] The supply-rationing scheme operated by the Cane Society was often criticized by Palanpur farmers for disproportionately benefiting the relatively well-off and more influential (for further details, see Bliss and Stern 1982).

3.5 Productive Assets

Productive assets employed in agriculture in Palanpur comprise a variety of devices and implements, and include draught animals, irrigation machinery, threshers, carts, choppers, and (in 1983–4) one tractor. Of particular importance are draught animals and irrigation

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[381] In 1974–5 the difference between the open market price and the price paid by the government Cane Society was relatively small (see Bliss and Stern 1982). In 1983–4 the Cane Society's price was approximately 50 per cent higher than the open market price.

Table 17 : Productive Assets: 1957–8 to 1983–4 (Total Number Owned)

Asset	1957–8	1962–3	1974–5	1983–4
Bullocks	96	105	121	81
He-Buffaloes	28	33	36	60
Cows and She-Buffaloes	89	79	109	129
Goats	19	15	n.a.	75
Other Livestock	119	130	130	145
Persian Wheels[b]	11	17	22	22
Pumpsets	0	0	7	27
Tubewells	0	0	0	3[a]
Threshers	0	0	n.a.	8

[a]   Two of these tubewells were unusable due to the discontinuation of electricity supply (the third one was operated with a special electricity connection to the railway station).

[b]   Including non-functional or unused Persian wheels (quite common in 1983–4).

devices. In Table 17 we can see that while the number of bullocks owned by farmers rose from 96 in 1957–8 to 121 by 1974–5, this declined to only 81 by 1983–4. However, over the interval studied, the number of he-buffaloes owned increased steadily from 28 in 1957–8 to 60 by 1983–4. Thus whilst the change from 1957 to 1984 in total draught animals was small there was a switch from bullocks to he-buffaloes. It is quite possible that the comparative advantage of he-buffaloes *vis-à-vis* bullocks has increased over the survey period. Bullocks can plough faster, and are better at withstanding high temperatures. But he-buffaloes are stronger, and therefore more useful for tasks such as transporting sugarcane to nearby factories, which have grown in importance over the survey period (especially with rapidly growing ownership of carts). Expressed as a percentage of village income in each respective year, the value of draught animals in the village rose from 15 per cent to 25 per cent between 1957–8 to 1962–3, but then declined to around 10 per cent in the last two survey years. Between 1983–4 and 1993, several more farmers in the village purchased tractors. This went hand in hand with a sharp decline in the absolute number of bullocks and he-buffaloes in the village (see chapter 2).[382]

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[382]   Conversations with villagers in 1993 suggest that the importance of draught animals as components of dowries has also diminished in recent years. Frequently such productive assets have been displaced in dowries by consumer durables.

There has been a dramatic change in the type and number of irrigation devices used in Palanpur. In the first two survey years, water extraction for irrigation purposes was achieved exclusively through the use of Persian wheels. Over the interval studied, the number of such Persian wheels in the village increased steadily from 12 in 1957–8 to 22 by 1974–5 and then remained unchanged. In fact, between 1974–5 and 1983–4, the actual use of Persian wheels declined sharply (and many Persian wheels became non-functional). The reason for this can be found in the introduction and spread of pumpsets in the village. In 1983–4, one household also had an electric tubewell.[383]

Pumpsets lift groundwater and are capable of irrigating a field in a fraction of the time required by a Persian wheel powered by draught animals. In 1974–5 there were 7 pumpsets in use in Palanpur and during that survey year it was already clear that these machines were conferring a distinct advantage to their users, particularly in terms of timely irrigation. By 1983–4 their adoption had become widespread and there was a fairly active market for their rental.

3.6 Size-Productivity and the Determinants of Agricultural Output

The relationship between the size of cultivated area and output per acre has been a topic of lively interest, particularly since Sen (1962) drew attention to a negative relationship in Farm Management Survey data for the 1950s (see Bliss and Stern 1982, chapter 3, for a discussion). In this section we examine both this relationship and the estimation of simple production functions. The availability of data on agricultural outputs and inputs from four survey years in combination with the fact that much of these data can be organized in a panel form provides an opportunity to proceed beyond the simple estimation of an agricultural production function of the standard cross-section variety (see for example, J. O. Lanjouw 1997). Nevertheless, this latter approach is helpful in setting a benchmark and was also the approach taken in Bliss and Stern (1982).

Based on the 1974–5 data, Bliss and Stern (1982) found that the relationship between gross agricultural output and land cultivated was

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[383] There is no functioning electricity connection in the village *per se,* but this particular tubewell had a special connection with the railway station (see also chapter 2).

not far from proportional. Second, where further determinants of gross agricultural output were examined, it was found that the ownership of a pumpset exercised a significant and positive influence on output. The value of draught animals was found to be significant only occasionally amongst the regressions depending on whether one examined gross output from the rabi season, the kharif season, or for the year as a whole. The number of adult males in the household exercised no significant explanatory power in any of the regressions for gross output.

For comparison purposes we present results from estimating the determinants of gross agricultural output for all four survey years using (nearly) the same specification as was used by Bliss and Stern for 1974–5 only. The definitions of the variables used are also largely the same as in the earlier study. For example, gross agricultural output ('GAO' for short) is equal to the total value of output for the rabi and kharif seasons as well as of sugarcane, expressed in 1960–1 rupees. No costs have been deducted and no by-products from crops, such as straw which is used for fodder, have been included. The specification used here does differ from Bliss and Stern with respect to the variable representing the number of adult males in the household. Bliss and Stern focused their attention on a more specific variable, namely the number of males aged between 16 and 60 who were fully involved in cultivation. This variable proved difficult to construct for the first two survey years, and for this reason it was decided to use the more general variable representing all adult males in the household. As it happens, for all survey years except 1974–5 this more general variable was found to be highly significant.

Table 18 presents some summary statistics for the value of gross agricultural output for each of the survey years, as well as for a range of variables which may have exercised some explanatory power in determining output levels. Note that in each of the survey years we focus our attention on cultivating households, defined as households with strictly positive levels of gross agricultural output.[384]

The value of gross agricultural output per cultivating household (at 1960–1 prices) more than doubled between 1957–8 and 1974–5, with the increase concentrated in the period after 1962–3. This clearly reflects the impact of changing agricultural technologies and

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[384] This may introduce some sample selection bias but broad results are not likely to vary substantially, see Lanjouw (1997) for a treatment which does not suffer from this problem.

Table 18 : Descriptive Statistics of Regression Variables

Variables	1957–8	1962–3	1974–5	1983–4
Gross agricultural output[a]				
mean	681	786	1,495	1,073
st. dev.	570	814	1,141	1,228
Land cultivated				
mean	27	31	26	26
st. dev	21	25	16	23
Number of adult males				
mean	1.8	1.8	2.0	2.3
st. dev	1.1	0.95	1.1	1.5
Value of draught animals[a]				
mean	153	251	211	193
st. dev	166	242	171	194
Pumpset dummy				
mean	–	–	0.08	0.23
st. dev	–	–	0.27	0.43
Persian wheel dummy				
mean	0.13	0.13	–	–
st. dev	0.34	0.33	–	–
Thakur dummy				
mean	0.19	0.22	0.25	0.22
st. dev	0.39	0.41	0.43	0.42
Murao dummy				
mean	0.25	0.27	0.26	0.26
st. dev	0.43	0.45	0.44	0.44
Number of observations (Households with non-zero output)	85	88	93	98

[a] In rupees at 1960–1 prices.

the accompanying intensification of cultivation and occurred despite a decline in prices between the earlier pair of years and the later pair. Between 1974–5 and 1983–4, GAO fell by about 37 per cent, partly due to the fact that the agricultural harvest in that year was particularly poor. As the standard deviation of GAO in 1983–4

remains greater than for 1974–5, this suggests that if the decline in output between the two years was due to harvest factors, these did not affect all farmers in a uniform way (a simple scaling down of farmers' output would also have reduced the standard deviation of output). This increase in variance is consistent with the adverse harvest factors including, at least in part, elements which were not perfectly correlated between different farmers (such as pest attacks).[385]

The figures for land cultivated presented in Table 18 correspond to the areas operated by the households during the rabi season plus land under sugarcane (an annual crop). Although arher, another annual crop, was fairly important in the early survey years, the area under cultivation was negligible in 1983–4 and is not included in our figures. Land which was fallow during the rabi season for a particular survey year is also not included in these figures.

Table 19 presents a first set of regressions of gross output in the four survey years. In this table the functional form considered is linear, while in Table 20 we examine the same specifications but with a logarithmic functional form. Note that the total number of observations for each year in Tables 19 and 20 are different, as for the logarithmic functional form we disregarded households with no adult males or draught animals. In the first part of each table the only explanatory variable is land cultivated, thus depicting the simple size-productivity relationship.

The first observation we can make is that for each of the four survey years, the relationship between gross agricultural output and land cultivated is not far from proportional. From Table 20A we can infer that for both of the 1957–8 and 1983–4 survey years the relationship between gross output per acre and land cultivated is declining slightly, and for the other two survey years the relationship is slightly rising. However, the coefficients in the logarithmic relations are close to 1 for each survey year (e.g. less than one standard deviation from one in three cases out of four), and it would be difficult to sustain a case that there is a relationship which differs markedly from the proportional between gross output and land cultivated.

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[385] In chapter 5 we will be commenting further on the dispersion of cultivation income and the impact of this on income inequality. Note that the variance of output per acre in the two bad years was considerably higher than in the good years, although the covariance of output per acre and land cultivated was comparatively low in all years (reflecting the proportionality of output to land cultivated — see below).

Table 19a : Gross Agricultural Output on Land Cultivated

	Linear Model			
Dependent variable: Gross agricultural output				
Independent variable	1957–8	1962–3	1974–5	1983–4
Land cultivated	16.4* (2.44)	23.5* (2.41)	65.4* (2.77)	44.4* (3.01)
Constant term	235.6* (83.0)	43.3 (97.1)	−210.3* (85.0)	−84.4 (104.6)
No. of observations	85	88	93	98
Adjusted R²	0.345	0.520	0.858	0.690
F-value for equation	45.2	95.1	555.7	216.8

Table 19b : The Determinants of Gross Agricultural Output

	Linear Model			
Independent variable	1957–8	1962–3	1974–5	1983–4
Land cultivated	6.3* (2.29)	15.2* (3.40)	59.6* (4.05)	40.6* (4.50)
Persian wheel dummy	490.0* (126.7)	−27.8 (207.0)	–	–
Pumpset dummy	–	–	592.6* (202.2)	−25.1 (176.0)
Number of adult males	140.6* (39.5)	187.0* (67.44)	42.8 (44.30)	254.9* (47.60)
Real value of draught animals	0.9* (0.29)	0.8* (0.31)	−0.1 (0.38)	−0.73 (0.45)
Murao dummy	167.6 (110.4)	182.8 (147.0)	168.2 (106.0)	73.8 (166.3)
Thakur dummy	134.3 (121.2)	−2.58 (161.9)	212.0* (105.1)	125.9 (158.7)
Constant term	−13.5 (82.2)	−272.7 (128.3)	−279.6* (118.6)	−476.3* (123.9)
No. of observations	85	88	93	98
Adjusted R²	0.626	0.594	0.8860	0.757
F-value for equation	24.4	22.2	119.1	51.4

Note: Standard errors in brackets. Starred entries indicate significance at the 5 per cent level.

Table 20a : Gross Agricultural Output on Land Cultivated

	Logarithmic Model			
Dependent variable: Gross agricultural output (log)				
Independent variable	1957–8	1962–3	1974–5	1983–4
Land cultivated (log)	0.93* (0.072)	1.08* (0.087)	1.12* (0.040)	0.95* (0.071)
Constant term	3.30* (0.228)	2.81* (0.285)	3.60* (0.126)	3.68* (0.223)
No. of observations	82	88	91	90
Adjusted R²	0.672	0.640	0.898	0.669
F-value for equation	167.2	155.8	790.3	180.7

Table 20b : The Determinants of Gross Agricultural Output

Logarithmic Model				
Independent variable	1957–8	1962–3	1974–5	1983–4
Land cultivated (log)	0.686* (0.112)	0.543* (0.134)	0.907* (0.068)	1.06* (0.132)
Persian wheel dummy	0.536* (0.182)	0.184 (0.168)	–	–
Pumpset dummy	–	–	0.110 (0.127)	−0.002 (0.122)
Number of adult males (log)	0.134* (0.064)	0.260* (0.063)	0.010 (0.028)	0.095* (0.033)
Real value of draught animals (log)	−0.017 (0.130)	−0.024 (0.117)	0.106 (0.067)	−0.118 (0.115)
Murao dummy	0.076 (0.166)	0.231 (0.150)	0.101 (0.075)	0.020 (0.136)
Thakur dummy	0.130 (0.179)	0.046 (0.166)	0.150* (0.074)	0.207 (0.138)
Constant term	3.866* (0.593)	4.253* (0.646)	3.637* (0.315)	3.721* (0.591)
No. of observations	60	63	77	63
Adjusted R²	0.599	0.639	0.839	0.716
F-value for equation	15.7	19.3	67.0	27.1

Note: Standard errors in brackets. Starred entries indicate significance at the 5 per cent level.

We turn now to the second part of the tables where a simple production function analysis is presented. While the number of adult males in the household is insignificant in the 1974–5 survey years (for both the linear and logarithmic equations), this is not so for the other survey years. In the linear model, the number of adult males in the household was found to exercise a positive and significant influence on total gross agricultural output in all survey years other than 1974–5. In the logarithmic equation this finding was echoed for 1962–3 and 1983–4, but for 1957–8 the significance of the adult male variable diminished somewhat. Bliss and Stern stressed (chapter 6) that a variable such as the number of adult males represents a stock (number of family members) as opposed to a flow (the actual labour input) and is therefore unable to reflect the extent to which household members vary their input into agriculture. The interpretation of this variable in these regressions is therefore not straightforward. It is worth noting, however, that the finding that the adult male variable is significant for every survey year except 1974–5 is inconsistent with the notion of a smoothly functioning competitive labour market, at least in a simple form; the latter would imply that all households face the same opportunity cost for labour, so that the labour endowments of any particular household are irrelevant to its cultivation decisions and practices.[386]

The finding of Bliss and Stern that the value of draught animals is only occasionally significant as an explanatory

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[386] The hypothesis that household production decisions are invariant to labour endowments is also clearly rejected in J. O. Lanjouw (1997).

variable (in the different specifications with which they experimented) also appears for the other survey years. For the logarithmic model in particular the coefficient on this variable is insignificant for all survey years. It may be that the crucial difference is whether a household is with or without draught animals; such an effect would be lost in the logarithmic regressions. The Murao and Thakur dummies are not found to contribute a significant independent explanatory power in the first two survey years (for either models). As far as one can tell from these regressions, the Muraos' superior farming performance operates largely *through* other variables such as investment in productive assets and leasing in of land.

4. Concluding Comments

The changes in population, outside jobs, and agricultural technology in 27 years have been of momentous proportions by local historical

standards. Between 1957–8 and 1983–4, population roughly doubled; outside job income rose from around one-tenth to one-third of village income; and agriculture changed dramatically. For example, irrigation expanded from about half to virtually all of cultivable village land; double-cropping became widespread; chemical fertilizers were introduced and were used with increasing intensity; and the lifting of water, threshing, and ploughing became mechanized. These changes together have been profound driving forces in altering the economy of Palanpur.

Looking at population change in some detail we saw that there was little in the way of a discernible relationship between population growth for a household (and its descendants) and its initial income, land holding, caste, education, or employment status. Whilst we suspect that these negative findings may be fairly robust to more sophisticated treatment of data and modelling, we must recognise that our own study has not provided, and did not set out to provide, the detailed raw material for serious demographic analysis. We made no attempt, for example, to collect detailed information on births and deaths year-by-year.

An interesting finding for Palanpur is the declining relationship between the ratio of male to female children and the total number of children within a family. Whilst one must acknowledge that there are a number of possible explanations, 'boy preference' seems the most plausible.

The growth in outside jobs reflects the substantial influence of, and growing integration with, the outside economy. This expansion has to a great extent involved commuting rather than migration (although migration for employment purposes became more common around the end of the survey period, when the 'employment circle' expanded). The proximity of nearby towns in a region of high population density, such as the Gangetic plain, together with the high costs and risks attached to migration help explain why such commuting is a common feature in North India. The (relative) move out of agriculture is consistent with standard dual economy models, but the way it occurs, by commuting, has attracted less attention.

The outside jobs themselves are both skilled and unskilled. Given the relatively high level and stability of earnings in outside employment, these jobs are generally considered attractive compared with agriculture. A few major employers account for a large share of outside employment for Palanpur residents. Different social groups in the

village tend to concentrate with particular employers. These two features together would suggest that the gaining of jobs is to a substantial extent through a network, or word of mouth, and this is confirmed in discussions with the Palanpur villagers.

Agriculture in Palanpur has seen a radical change in the use of irrigation between the 1950s and early 1960s, and later periods, with a rapid expansion in the late 1960s and early 1970s. The use of irrigation further intensified during the 1970s and 1980s. The growth in irrigation has been accompanied by a rising use of chemical fertilizers. These changes have been accompanied by a shift towards wheat in the rabi season, already the dominant rabi crop in the 1950s, and rice in the kharif. The productivity (per unit area) of these two main crops has risen sharply, although other crops have seen rises also. Agriculture has become increasingly mechanized. This is reflected principally in the lifting of water but also increasingly in other areas such as threshing (and, more recently, ploughing).

The big rises in wheat and rice productivity have occurred at the same time as falling real prices themselves brought on by aggregate output increases in India as a whole (and a grain market fairly insulated from outside influences). Nevertheless these crops are contributing an increasing share to agricultural output for the village. Output per hectare in Palanpur seems to have been fairly unrelated to farm size for all four survey years — confirming the result for 1974–5 in the earlier Bliss and Stern study (1982). Much of the remainder of this book is devoted to charting the way in which the three factors of population growth, rise in outside jobs, and changing agricultural technology operate in influencing economic life in Palanpur. They have had profound effects on markets, institutions, and living standards in the village.

Appendix: The Calculation of Incomes and Wealth

1. Incomes

The measurement of income and its change over time presents a number of difficulties, many of which are especially severe for an agrarian economy. First, we have the question of the definition of the income-earning unit, specifically individual, family, or household. Data problems essentially force us to base calculations on the household although we generally take the individual as the basis of social concern. Second, we have problems associated with the definition of income for farm households which are simultaneously involved in production, consumption, and investment. Third, we require price indices for purposes of comparison across survey years. We need to remember, in addition, that while an annual measure is in many respects a natural interval over which to calculate the flow of income, it does mask considerable fluctuations within that time period.

Estimating Incomes:

The notion of income that we take in this book is intended to measure the returns to land, labour, and other household assets, but we have not, largely for data reasons, been in a position to capture this perfectly. For all years the main sources of income were derived directly from the household questionnaires. But coverage of income sources was not exactly the same in each survey. For example, while the 1983–4 survey included detailed information on all important sources of income, the estimation of 1974–5 incomes involved a certain amount of guesswork (see Bliss and Stern 1982, chapter 6). One potentially important source of income, namely income from money-lending, was not adequately covered in any of the survey years and therefore had to be omitted. Because the income data for 1957–8 and 1962–3 were collected in a one-shot interview (rather than in a set of interviews distributed over the year, as in 1974–5 and 1983–4, and with extensive monitoring and verification), they are likely to be less precise than those for the later two years. Of the four surveys for which income data were collected, income in 1983–4 represents the most complete and reliable measure available, followed by 1974–5, and then the two earlier years.

Considerable effort was made to apply the same definitions and conventions in constructing the final income figures. The calculation of income in each year followed the same broad framework, based on the following formula:

Value of gross agricultural output	
rabi	[RABI]
kharif	[KHARIF]
sugarcane	[SUGAR]
potato	[POTATO]
mustard	[SARSON]
+ Rental income from leased land	[SHARINC]
+ Value of milk production	[MILK]
+ Income from labour	
casual labour wage	[CASWAGE]
permanent labour wage	[PERMWAGE]
outside job income	[OUTINC]
self-employment and customary payment	[SELFEMP]
+ Rental Income	
irrigational sources and carts	[HIRE]
thresher	[THRESH]
fixed land rent	[FIXRENT]
+ Remittances	[REM]
+ Other (net of unspecified costs)	[OTHER]
− Cultivation Costs (rabi and kharif)	
seed	[SEED]
fertilizer	[FERT]
casual wage labour hired	[CASLAB]
livestock fodder	[FODDER]
irrigation	[IRRIG]
− Labour Cost	
artisans	[ARTISAN]
permanent labourers	[PERMLAB]
− Land Costs	
share rental payment	[SHARCOST]
fixed land payment	[FIXLNDCOST]
NET HOUSEHOLD INCOME	[NETINC]

Note that some of the items listed here apply in some years and not in others; for instance there were no mechanized threshers in Palanpur until 1983–4 (hence THRESH is irrelevant for the other years), and no permanent labourers in 1983–4. Also, for some items and survey years (e.g. remittances in 1974–5) no information is available. The actual formula adopted for each year is given as follows:

1. 1957–8
   NETINC = RABI + KHARIF + SUGAR + SHARINC + CASWAGE + PERMWAGE + OUTINC + SELFEMP + FIXRENT + REM + OTHER − SEED − IRRIG − FODDER − ARTISAN − PERMLAB − SHARCOST − FIXLNDCOST

2. 1962–3
   NETINC = RABI + KHARIF + SUGAR + SHARINC + CASWAGE + PERMWAGE + OUTINC +

SELFEMP + FIXRENT + REM + OTHER − SEED − IRRIG − FODDER − ARTISAN − PERMLAB − SHARCOST − FIXLNDCOST

3. 1974–5 (see also Bliss and Stern 1982)
    NETINC = RABI + KHARIF + SUGAR + SHARINC + 4/3 (CASWAGE + PERMWAGE + OUTINC + SELFEMP − CASLAB − PERMLAB) + MILK − FODDER − 1.5 (FERTILIZER) − SHARCOST

4. 1983–4

    NETINC = RABI + KHARIF + SUGAR + POTATO + SARSON + SHARINC + MILK + CASWAGE + PERMWAGE + OUTINC + SELFEM + HIRE + THRESH + FIXRENT + REM + OTHER − SEED − FERT − CASLAB − FODDER − SHARCOST − FIXLNDCOST

Sensitivity analysis around the definitions employed indicates that incomes calculated for 1983–4 are perhaps slightly lower than would have obtained had a definition closer to that employed for 1957–8 and 1962–3 been applied. However, the differences are relatively small and it is not obvious that forcing the definitions of income for 1974–5 and 1983–4 to be even closer to those of the first two survey years would have yielded a more accurate picture of the evolution of living standards over the survey period.[387]

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[387] See Lanjouw and Lanjouw (1997) for further discussion of issues of comparability across non-identical definitions of welfare.

Price Indices:

Precise estimates of economic growth can be quite sensitive to the choice of price index used to deflate nominal income figures in different years. Throughout this book we have converted incomes into 1960–1 rupees, based on the Consumer Price Index for Agricultural Labourers in Uttar Pradesh (CPIAL). CPIAL estimates for the first two survey years (for which no official estimates are available) are based on Lal (1976); the 1957–8 figure is based on interpolation between Lal's 1956–7 and 1958–9 figures; the Whole-sale Price Index series suggests that interpolation is plausible, since the inflation rate was fairly stable during this period. For 1974–5 see the *Bulletin of Food Statistics (1976)*, estimating the average between July 1974 and June 1975. The 1983–4 estimate is obtained from the mean CPIAL for agricultural labourers between November 1983 and October 1984 in the *Bulletin of Food Statistics (1985)*.

Basic Results:

Estimates of average income in Palanpur, based on the above method are presented in Table A1. More detailed figures (for example, caste-specific estimates and poverty indices) can be found in chapters 2, 3, 4, and 5.

Table A1 : Estimates of Average Income

	1957–8	1962–3	1974–5	1983–4
Village Income at Current Prices (Rs/year)	91,128	87,156	781,331	984,361
Per Capita Income at Current Prices (Rs/year)	172.6	149.0	1038.7	1025.4
Price Index (1960–1 = 100)	1.07	0.98	3.78	5.28
Real Per Capita Income at 1960–1 Prices (Rs/year)	161.3	152.0	274.8	194.2

2. Harvest Quality and Agricultural Incomes in the Survey Years

When making comparisons of output, income, poverty, inequality, and related variables between different survey years, an important factor to bear in mind is the short-run influence of agroclimatic conditions and price variations. For each of the survey years, it is possible

to obtain a reasonably accurate idea of agricultural conditions by combining relevant information from different sources, including the survey data, informal evidence from the original survey questionnaires, and first-hand observations (not only for 1974–5 and 1983–4, as noted by us, but also for 1957–8, as noted in Ansari 1964). For instance, the survey questionnaires for 1962–3 include systematic informal notes on crop failures, which indicate that plot-specific crop failures were quite frequent in that year (due, for instance, to frost, pests, poor rains combined with lack of irrigation, and damage caused by nilgai). This is corroborated by the survey data, which include a relatively large number of zero entries for the outputs of particular plots in that year. Similarly, in 1983–4, extensive discussions with farmers enabled the field investigators to obtain a reasonably good idea of how the yields of different crops in that year compared with what could be expected in an 'average' year. In the case of wheat, for instance, most farmers reported outputs of around one quintal (100 kgs) per bigha, lower than usual due to adverse weather conditions (mainly hot winds) during the rabi season. The 'normal' level of productivity on wheat plots at that time was commonly estimated at 1.4 to 1.5 quintals per bigha.

Based on all the available evidence, our assessment of the pattern of agricultural conditions in different survey years is as follows. The first survey year, 1957–8, was quite close to 'normal', both in terms of output levels and in terms of prices. In 1962–3, there were frequent plot-specific crop failures, leading to a high dispersion of output levels. The average level of output was also somewhat lower than normal. Local crop prices, however, were high in that year (relative to the general price index); combining the output and price effects, the level of real agricultural incomes was similar to the 1957–8 level, but with greater dispersion. This is one reason for the relatively high levels of poverty and inequality in that year (see chapters 4 and 5); many cultivators, in particular, fell below the poverty line in 1962–3.

The next survey year, 1974–5, was a year of favourable local agroclimatic conditions and good harvests. This was also a year of high crop prices (partly due to a relatively poor harvest in Uttar Pradesh as a whole), so that real agricultural incomes in 1974–5 were significantly above trend, and markedly higher than in any other survey year. Conversely, 1983–4 happened to be a year of rather poor harvests (with, for instance, average wheat output per bigha about 30 per cent lower than normal) and also of low crop prices — partly

reflecting a good harvest in Uttar Pradesh as a whole. Real agricultural incomes in 1983–4 were thus unusually low.

To summarize, the survey period has witnessed the succession of a fairly 'normal' year (1957–8), a year of indifferent average output, frequent crop failures and high crop prices (1962–3), a year of good harvests and high crop prices (1974–5), and a year of poor harvests and relatively low crop prices (1983–4).

3. Wealth

Our calculations of the wealth of Palanpur households are rather more rudimentary than the income calculation. We are able to estimate moderately comprehensive wealth figures for only two years: 1962–3 and 1983–4. And even here, we have had to leave out certain components and to make fairly strong assumptions.[388] While we cannot claim that our calculations provide a complete picture of wealth holdings in these two years, we did conduct fairly extensive sensitivity analysis to assess the extent to which the assumptions we made were driving the conclusions presented in the text. Reassuringly, the broad conclusions we have emphasized in the text are not very sensitive to alternative assumptions.

Wealth in 1962–3:

The principal components of the wealth variable for 1962–3 consist of: value of consumer durables, value of productive assets and the value of land. Given that in 1962–3 only a fraction of the land under cultivation was irrigated, we differentiate in this year between the value of irrigated and unirrigated land.

Consumer durables owned by Palanpur households in 1962–3 comprised torches, lamps, umbrellas, stoves, bicycles, and watches. Households reported their stocks of these durables and provided an estimate of the replacement value of these items. One group of four Murao households reported joint ownership of these consumer durables and as a result the value of consumer durables attributed to each household in this group was one-fourth of the total value.

Wealth in productive assets in 1962–3 consisted of the value of livestock. In 1962–3 there were some productive assets such as

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[388] In neither of the two years were we able to include the value of Palanpur's housing stock. We believe that households' wealth in housing is likely to be strongly correlated with that of wealth components we have been able to include, and that ordinal statements regarding changes in average wealth and the distribution of wealth are therefore likely to be unaffected.

Persian wheels which were also of considerable value. However, Persian wheels are fixed in location and are able to irrigate only proximate plots of land. As we valued irrigated land differently from unirrigated land in 1962–3, the value of Persian wheels is thus reflected in the value of households' landholdings. Livestock in 1962–3 comprised bullocks, cows, buffaloes, goats, and other animals. Once again, households' stocks were valued at replacement costs that the households themselves reported.

We experimented with two relative prices between irrigated and unirrigated land in 1962–3. We assumed first that one bigha of unirrigated land was worth one-third of a bigha of irrigated land, and then that the relative price was two-thirds. We imposed the conservative assumption that the price of an irrigated bigha in 1962–3 was the same, in real terms, as the price of an irrigated bigha in 1983–4. In 1983–4 one bigha of irrigated land was worth Rs 1000, and this is equal to Rs 193 in 1962–3 prices. This assumption is conservative because in all likelihood the combined impact of technological change in agriculture and population pressure resulted in a real rise in the price of land over time. The effect of this assumption is thus to overstate the wealth of households with landholdings in 1962–3.

Total wealth per household in 1962–3 was simply the sum of these three main components of wealth. We were unable to deduct, in 1962–3, any liabilities that households might have had. Once again, the impact of this would be to overstate the wealth of households in 1962–3.

Wealth in 1983–4:

In 1983–4, wealth comprised the value of consumer durables, the value of productive assets, and the value of land. However, in this year we also deducted outstanding debts to credit sources outside the village. As the bulk of debt outstanding in Palanpur was owed to institutional credit sources and to urban money-lenders we believe that this measure of liabilities is fairly complete.[389]

During the 1983–4 survey year, there was no systematic attempt to collect information on household ownership of consumer durables. However, such a survey was conducted during a revisit in early 1990. In addition to the range of consumer durables owned by households in 1962–3, the survey in 1990 found that a few households also owned

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[389] Borrowings within the village were left out because of the relative complexity of the exercise involved in working out the identity of the lender (for whom the loan should be entered as an asset) as well as the borrower.

goods such as radios, televisions, and motorcycles. The survey in 1990 collected information on stocks of consumer durables, purchase date, and original purchase value. To calculate the value, in 1990, of these durables, each item was valued at its purchase price normalized by its age and an assumed depreciation rate of 15 per cent. The value of household ownership of consumer durables in 1990 was then simply converted into 1983–4 rupees to add to other wealth components of the household in 1983–4. The rather strong implicit assumption was therefore made that while households might have adjusted their stocks of consumer durables between 1983–4 and 1990, the net effect of these adjustments over the period was such that the total value of consumer durables was not affected in real terms. This assumption might lead to some overstatement in the wealth of households in 1983–4.

Productive assets in 1983–4 included not only livestock but also assets such as diesel and electric pumpsets, threshers, bullock-carts, and one tractor. In 1983–4, unlike in 1962–3, virtually all land was irrigable with pumpsets, and those households which owned such devices were able to irrigate all their plots without having to turn to the rental market. To determine whether our inclusion of productive assets other than livestock drives our observation of rising average wealth and increased inequality of wealth, we also calculated wealth in 1983–4 omitting all productive assets other than livestock. The impact of this adjustment was minimal and does not affect our broad conclusions.

In 1983–4 land was given a uniform value of Rs 1000 per bigha. This price was the actual going price in 1983–4 and as all land was irrigated in that year there was no need to differentiate between irrigated and non-irrigated land. While there is reason to believe that land quality did not differ enormously in Palanpur (see Bliss and Stern 1982) there may be some variation in the value of land which is not captured by this uniform price.

Net household wealth was calculated by deducting from the total value of consumer durables, productive assets, and land owned, household liabilities in the form of debts to institutional credit sources and urban moneylenders. We will see in chapter 8 that outstanding debts to institutional sources were by far the greatest component in total debt outstanding. Some of these debts had accumulated over time into very large liabilities by 1983–4 with the result that in that year 17 households had negative net wealth holdings. It is interesting to note

that although in 1983–4 there was no clear prospect of debt relief on the horizon, by 1986 debts outstanding to institutional credit sources had been forgiven — and the asset position of at least a subset of village households had been consequently transformed.

In order to compare wealth holdings between 1962–3 and 1983–4, the value of wealth in both years was converted into 1960–1 rupees using the same deflator as was applied to incomes in different years to render them comparable. The results are given in Table 9 of chapter 2.

II-B Outcomes

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Chapter 4 Poverty in Palanpur

Peter Lanjouw and Nicholas Stern

Introduction

The focus of this chapter is on poverty, or to put it more precisely, on certain basic questions: Who are the poor? What are their economic and social circumstances? How do the identity and circumstances of the poor change over time? The chapter examines these questions with reference to two types of orderings of households: one which is based on income measures, and another based on a combination of qualitative as well as quantitative criteria.

There is growing interest in analyses of well-being which make use not only of standard monetized indicators such as income or expenditure but also of non-monetized indicators such as direct measures of education and health status, and qualitative rankings of command over resources or affluence. Recent years have witnessed a lively, if not always amicable, debate between practitioners looking at these questions from different disciplinary perspectives.[390] In particular, there has been criticism of approaches to poverty that rely wholly on the use of income or expenditure-based indicators.[391]

In many respects this debate creates an artificial competition between two approaches. They are complementary and we make use of important elements of both. Our notion of poverty is based primarily on income and we identify the poor as those individuals who are at the lower end of the income scale. However, we also make use of information other than that incorporated in an (imperfect) indicator of income. A careful investigator, based in the field, can draw on a host of qualitative indicators, including physical living conditions, social standing, peer perception, and indeed, self-perception. Such information can have a useful bearing on the identification of the poor and an understanding of their circumstances. Our data and analysis of these issues

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[390] See, for example, various contributions in Bardhan (1989a).

[391] Chambers' (1983) critique has received much attention.

for Palanpur thus goes well beyond income rankings, and our examination of poverty in the village will compare and contrast the implications of using the more quantitative and qualitative approaches.

In analysing change we focus on the influence of the three major forces described in the previous chapter, taking into account the operation of village markets and institutions. In the analysis we shall invoke two kinds of theory. The first involves broad-brush descriptions of the way in which development processes take place, and particularly of the role of technical change and sectoral transfer. The second concerns the way in which certain markets work, particularly those for land, labour, and agricultural inputs. These markets have been discussed in Part I of the book and are examined in more detail in Part II.C.

In the next section we take further some issues of measurement and describe our own specific approaches to the definition and measurement of poverty in Palanpur. The relationship between the economic and social characteristics of a household, such as demographic composition, land ownership, caste, participation in the labour market, and its vulnerability to poverty is examined for one of the survey years (1983–4) in section 2. In section 3 we consider changes in the circumstances of those identified as poor over the survey period. Some aspects of income mobility are explored in section 4. We identify agricultural labourers as one of the core groups of the long-term poor in Palanpur, and section 5 provides a detailed picture of the composition and conditions of this group over time. Concluding remarks are offered in section 6.

As an example of what it means to be poor in Palanpur, how closely poverty and vulnerability are intertwined, and how difficult it can be for the poor to lift themselves out of poverty in a sustained way, consider the case of Roshan, an elderly man of the Teli caste who heads a household of four. He has no land, and earns his income working as an agricultural labourer. He lives with his family in a one-room house with mud walls and a packed earth floor. For one year during the mid-1980s (after the 1983–4 survey) Roshan's fortunes appeared to be improving after he succeeded in obtaining a loan and setting himself up as an oil-seller (the traditional Teli occupation) in Palanpur and nearby villages. However, this success proved short-lived when he was involved in an accident in which 42 litres of oil were spoilt and he was unable to continue his business. At the time of a short re-visit to Palanpur during January and February of 1990, Roshan was in a desperate situation. His wife was ill and needed medication which

Roshan was unable to purchase. Because of his age and feeble physical health he was finding it difficult to get work as a casual labourer. His children were young and not contributing to household income, although Roshan's eldest son was nearing the age when he would be able to work as well. Finally, Roshan was heavily indebted after having borrowed money to purchase a rope-making machine and some goats. All but one of the goats had died, and the rope-making machine was not producing rope of sufficient quality for the local market. Roshan was at a loss as to how he was going to repay these loans. These are some of the realities of being poor in Palanpur.

1. Issues of Measurement

1.1 Current Income

We use two approaches to the measurement of economic status or command over resources. The first focuses on (a number of) conventional monetized measures. The second attempts to capture resources or means at the disposal of a household — we call it 'observed means' — using more qualitative indicators based on local knowledge of the circumstances of different households. This latter notion is discussed in section 1.2.

Income estimates are available for each survey year up to and including 1983–4. Although we are quite confident about the quality of the income data from all the survey years, there is some variation in data quality from one survey to the other. The data for 1983–4 for instance, are the most reliable since in this year the investigators were able to carry out many cross-checks on income from various sources. Next in order of reliability is the 1974–5 survey, followed by that of 1957–8. Our information about the implementation of the 1962–3 survey is relatively limited, and consequently we have less confidence in the data from that year.

The definition and measurement of household incomes is discussed in the appendix to chapter 3. Essentially, the income estimates are intended to capture the returns to all household assets (as in Bliss and Stern 1982). Although there are some differences in the construction of income estimates for different survey years (arising from data restrictions), the underlying definition is the same for each year and the estimates obtained are reasonably comparable. Unless stated otherwise, all income figures are at 1960–1 prices, based on the price indices introduced in the appendix to chapter 3.

It has been argued (see, for example, Anand and Harris (1990) and Ravallion (1994)) that income is a less effective measure of economic status than some alternative indicators such as consumption expenditures. Incomes are difficult to measure accurately, particularly in a rural setting where cultivation costs may be incurred well in advance of revenues, and where different household members may have various, and differing, sources of income during the course of the year. Certainly, in large surveys where households are interviewed just once, an accurate measure of income is likely to remain elusive (while consumption expenditures, particularly for the poor, can be simpler to collect).

The distinction between the notions of permanent and current or transitory incomes is well-established in the literature on the subject. It is often contended that a comprehensive monetary measure of consumption (reflecting actual consumption expenditures as well as imputed expenditures on home-produced goods and services) is the most reliable indicator of permanent income. The empirical evidence for this, however, is still only partial (see Chaudhuri and Ravallion 1994, for an investigation in rural India).

Data on consumption expenditure are not available for Palanpur. The main motivation for the first three surveys was to study changing patterns of economic activity and returns to assets, particularly in agriculture. Output and income were, therefore, the main focus of the earlier surveys and thus provide the basis for comparable data across the surveys. The Palanpur surveys differed, however, from large-scale one-shot income surveys in obvious ways. First, each survey involved prolonged periods of stay in the village by investigators and rather than relying simply on respondent's recollections, detailed records were kept of the various economic activities of individuals. Second, particularly in the 1974–5 and 1983–4 survey, a great deal of effort was made to cross-check information from various sources. We are confident, therefore, that many of the problems usually encountered in the measurement of income, were at least partially overcome.

An additional advantage of using current income data from the surveys for the analysis of poverty is that it allows the possibility of relating economic status directly to specific economic behaviour and events. There are a number of issues in the use of current income as an indicator of economic status in poverty analysis that require comment.

First, it is difficult to make the crucial distinction between chronic and transitory poverty using current income. This is all the more

important in a predominantly agrarian economy where the quality of the harvest is an important determinant of current income, but not necessarily of underlying economic status. As noted in earlier chapters, 1957–8 seems to have been an average year for agriculture, 1962–3 bad, 1974–5 rather good with yields perhaps 15 per cent or so higher than average at that time, and 1983–4 a bad year with yields 30–5 per cent or so below the average at that time. Wheat prices also fluctuated, relative to other prices, across the years (see chapter 3). With roughly 80 per cent of income coming from agriculture for the years of the first three surveys (although only 56 per cent in the last one) such fluctuations in harvest value are obviously of importance for assessing the level of incomes.

Strictly speaking, the issue here is to find a suitable proxy for the 'permanent' income of the household. Current consumption might fulfil that function if it is possible for households to smooth over inter-seasonal variations in income around some notional value of 'normal' income.[392]

Second, a related issue is that of variations in current income over the life-cycle of an earner. Most of the relevant theoretical literature treats the problem of income (or consumption) smoothing over the life-cycle in a similar manner to the problem of smoothing over transitory income shocks. In Palanpur, however, there are important institutional reasons why the two problems cannot be bundled together. As discussed in detail in chapter 9, the credit market functions far from smoothly. While it may be possible for households to smooth over some of the harvest-induced year-to-year variations in income from their own savings, consumption over the life cycle is likely to be quite closely correlated with the income profile. Moreover, specific life-cycle events are closely associated with dramatic changes in a person's (and often a household's) relative economic and social status. A young widow without grown-up sons, for instance, is likely to face severe hardship until one of her sons is able to go to work. For a young man the loss of a spouse rarely implies such a dramatic transformation of fortune. In these cases, current income is likely to be a useful proxy for real economic status.

Third, although it is common to aggregate income over all members

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[392] Although Chaudhuri and Ravallion (1994) found that in the ICRISAT village setting, current per capita income performed no worse than per capita consumption in identifying the long-term poor (defined in terms of per capita incomes averaged over consecutive years).

of the household, there are important intra-household issues that are relevant to poverty analysis. The problem of gender bias in the allocation of household resources, for instance, is widely noted for India. There are obvious difficulties in accounting for bias against females or against children, for that matter, in an aggregate measure such as household income. This, in itself, may not be very damaging for the measurement of relative status if gender or other biases are uniformly distributed among different groups. In cases where, due to to specific circumstances, there are discernible patterns of gender bias it would be useful to supplement current income with these types of observations. Another intra-household issue is the way in which income might be compared across households of different size (often denoted as the problem of 'equivalence scales') The use of these scales requires assumptions about economies of scale and age-wise and sex-wise consumption 'needs' of individuals. Peer perceptions of economic status by household size and composition might provide some clues as to relevant criteria for equivalence scales (and see 1.2).

In sum, economic status or vulnerability of persons or households might be functions of a combination of factors, including the social standing of an individual or household, its material as well as human resources and resourcefulness, its asset position, and its family and other social connections. These traits are generally well-known to other village residents who include neighbours, friends, and relatives, and are also observable by patient outsiders. It is desirable as well as possible, therefore, to supplement income or for that matter consumption with these other less easily quantifiable indicators of a household's underlying ability, or lack thereof, to stave off severe deprivation.

We turn now, briefly, to an analysis of the principle determinants of current household income. These are embodied in simple regressions and are set out in Table 1. Income is measured at 1960–1 prices (using the same price indices as in chapter 3) to allow ready comparison across years. The desire to compare across years also guided the selection of explanatory variables to be included in regression equations. A large part (two-thirds or more) of the variance in household income is explained by the variables included in these regressions for three of the four survey years, although the results for 1962–3 are somewhat less satisfactory.[393]

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[393] As has already been mentioned elsewhere in this book (e.g. the appendix to chapter 3),   the survey data are somewhat less reliable for 1962–3 than for other years.

Table 1 : Income Regressions

Income = β_1Land + β_2Fam + β_3Draught + β_4Perwheel + β_5Pumpset + β_6Educ + β_7dThakur + β_8dMurao + β_9dJatab + β_{10}Jobs + stochastic term				
No. of observations	1957–8 100	1962–3 106	1974–5 111	1983–4 143
constant	58.0 (0.55)	121.9 (0.87)	−133.9 (−0.63)	−485.9 (−4.18)
β_1 Land	10.1 (4.69)	12.3 (3.70)	26.6 (5.47)	−0.0 (−0.01)
β_2 Fam	69.5 (3.82)	47.2 (1.91)	149.3 (5.81)	219.0 (11.71)
β_3 Draught	0.8 (2.30)	0.9 (2.78)	1.1 (1.88)	−0.2 (−0.47)
β_4 Perwhel	228.6 (1.52)	50.9 (0.34)	82.7 (0.46)	77.9 (0.49)
β_5 Pumpset	—	—	879.7 (2.64)	292.6 (1.62)
β_6 Educ	−227.2 (−1.17)	−38.0 (−0.21)	214.5 (1.0)	162.5 (1.32)
β_7 Thakur	−134.4 (−0.99)	−196.4 (−1.08)	95.9 (0.47)	−84.1 (−0.53)
β_8 Murao	76.5 (0.61)	−180.2 (−1.08)	−37.3 (−0.18)	292.8 (1.56)
β_9 Jatab	−30.6 (−0.26)	−285.2 (−1.59)	−159.6 (−0.74)	−404.2 (−2.34)
β_{10} Jobs	508.9 (3.74)	533.2 (2.93)	285.1 (1.86)	585.7 (5.99)
R^2 (adjusted)	0.654	0.473	0.771	0.771

Notes:

1. The dependent variable is household income at 1960–1 prices (see appendix to chapter 3)

2. statistics are given in brackets.

3. Land = land owned in bighas; Fam = household size; Draught = value of draught animals at 1960–1 prices; Perwhel = dummy variable for ownership of Persian wheel; Pumpset = dummy variable for ownership of pumpset; educ = dummy variable indicating whether at least one household member is literate; Thakur, Murao, and Jatab = caste dummies; Jobs = number of regular outside jobs.

In the first three survey years, the amount of land owned by a household exercised a significant and positive influence on household income, both before and after controlling for the household's demographic structure and productive assets. It is interesting to note that in 1974–5 the effect of an additional bigha of land on household income was more than twice as large as in the earlier survey years. This reflects the increased intensity of cultivation by 1974–5 and the spread of double-cropping. In 1983–4, as a consequence of the poor harvest in that year, land ownership exercised no independent and significant influence on household income.

In all years household income increased with household size (although this variable was only weakly significant in 1962–3). Between the early pair of survey years and the later pair, there was a substantial rise in the effect of an additional household member on income.[394] This could be the consequence of both increased intensity of cultivation, requiring greater labour input, and the expansion of various income earning opportunities outside the village. The value of draught animals contributed positively to household income in the first three survey years but not in 1983–4 — again reflecting the poor agricultural harvest.

The presence of an irrigation device generally increased household income although only in 1974–5 was the effect statistically significant. In the survey years before 1974–5, the only available irrigation device was the Persian wheel, but by 1974–5 a number of households also owned pumpsets. The contribution of a pumpset to household income can be substantial because not only does it allow a farmer to irrigate his fields much more quickly than with a Persian wheel but he can also more easily supplement his income by renting out the services of this asset. The services of Persian wheels can also be rented out but only to a small number of farmers, as they cannot be moved; and at a relatively low price.

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[394] These regressions do not correct for possible endogeneity. See J. O. Lanjouw (1997) for a more detailed treatment.

Education in these regressions is proxied by a dummy variable which takes the value of 1 if at least one member in the household is literate. This particular variable does not perform well although in 1974–5 and in 1983–4 the presence of at least one literate household member increased household income (although not in a statistically significant manner). It should be noted however, that in Palanpur

 (1) education raises significantly an individual's chances of obtaining a regular job outside agriculture (see chapter 3); and (2) regular jobs have a major positive impact on household income (see below). Thus, education does have an important positive effect on income via employment opportunities.

The caste dummies included in the regression are intended to capture caste-specific influences on household income, through, for example, rationing in the labour market, better access to credit, and so on. It is interesting to observe that in three out of four survey years, holding all other variables constant, Thakurs were likely to be worse off, for given endowments, than other households. This may reflect their apparent lack of interest in farming and a less intensive use of family labour to complement other assets. However, in no year was the parameter estimate on this dummy variable statistically significant. The parameter estimates on the Murao dummy were also not significant, and as with the Thakur dummy in some years the effect was to reduce household income while in other years it raised incomes. The Jatab dummy took a negative sign in all survey years, suggesting that this caste systematically faced difficulties in converting its endowments and assets into income. However, only in 1983–4 was this effect statistically significant. In that year, Jatab households had an income Rs 400 lower on average (at 1960–1 prices) than other households with the same assets and endowments.

Finally, we observe that outside jobs contributed positively to total income in all survey years (significantly so in 1957–8, 1962–3, and 1983–4). In the first two survey years and in 1983–4, an outside job increased household income by more than Rs 500 (in real terms), while in 1974–5 the contribution was Rs 285.

1.2 The 'Observed Means' Classification

The affluence of a household in a small Indian village is, to some extent, a matter of common knowledge in the sense that its asset position and purchasing power are widely known. The investigators who constructed the 'observed means' classification used in this chapter for 1983–4 were involved in intensive fieldwork in Palanpur for more than a year and absorbed much of that common knowledge. They were also able to use further formal and informal evidence obtained in the course of data collection.

The classification was carried out in several stages. Initially, all households were divided into seven 'groups' of increasing prosperity

by Jean Drèze. These groups were labelled 'Very Poor', 'Poor', 'Modest', 'Secure', 'Prosperous', 'Rich' and 'Very Rich'. These labels roughly correspond to the way in which different households are perceived in the village itself. (There is no implication that any household in Palanpur can be considered as 'very rich' in an objective sense which covers the all-India spectrum.) The number of households in these respective groups turned out to be: 8, 8, 43, 38, 29, 6, and 11. Next, Naresh Sharma (who collaborated in the field work throughout 1983–4) was requested to produce his own *independent* classification of Palanpur households, aiming at groups of the same size as Drèze. Table 2 presents the combined results of these classifications. In this table, each 3-digit number represents one household (with the first digit denoting caste), and its position in the table indicates how the household has been classified by both Drèze and Sharma. For example, household 209 has been put in the 'modest' category by Sharma, and in the 'prosperous' category by Drèze. For the final classification the differences were resolved by closer examination of the household circumstances in the manner illustrated in the examples below.

It is not easy to spell out precisely what the basis of one's impressions about the means available to different households is, even when these impressions are quite strong. Roughly speaking, the notion of observed means used here may be thought of as capturing a household's 'lifestyle': the quality of housing, food and clothing, the possession of durable goods, the consumption of luxuries, and so on. When a household's lifestyle is consistent with its earnings and wealth, there is no major difficulty in giving the household an approximate ranking in the scale of 'observed means'.

One difficulty is that lifestyle, earnings, and wealth do not always lead to a similar assessment of a household's economic means. The inconsistencies arising from giving different weights to these different criteria are responsible for many of the discrepancies between the classifications of Drèze and Sharma. An illustration of this difficulty is provided by household 226, classified as 'Modest' by Drèze but 'Rich' by Sharma. Bhikkay (226) was an old and childless man who lived alone and exclusively on the rent of his land. He owned 25 bighas (about 4 acres) of land and, under the standard terms of share-cropping in Palanpur, this earned him a per capita income well above the Palanpur average. However, Bhikkay's consumption patterns were those of a poor man: his small mud house was dilapidated and empty, his clothes

were tattered and his diet was extremely frugal. This seems to have led Drèze to classify Bhikkay as 'Modest'. Sharma on the other hand, classified him as 'Rich' on the basis of his relatively high income. The stated motive for Bhikkay's high savings rate was his desire to build a small temple, a dream which he fulfilled shortly before dying in 1987. The question as to how a person who lives frugally but is able to save enough to build a temple should be ranked in the scale of economic affluence is not a simple one, [395]and appears to have been resolved differently by the two investigators. After examining the reasons for the different classification, 'Rich' was used in this case since we are seeking a definition here which is based on command over resources.

Another important difficulty arises from intra-household inequalities of lifestyle. An example is provided by household 705, consisting of a widow (Champa), her adolescent son (Raj Kumar), and a small daughter. Raj Kumar works in a steel polish workshop in Moradabad, and his earnings are the main source of household income. Polishing steel is hard work, but under the piece-rate system it yields relatively high daily wages, and Raj Kumar himself enjoys a relatively high consumption level. But his mother Champa is comparatively neglected, and leads a severely deprived life. She even engages in wage labour, a clear sign of severe deprivation in Palanpur, where it is considered very humiliating for a woman to work for wages. This household has been classified as 'Modest' by Drèze and as 'Very Poor' by Sharma. In this case the 'means' averaged across household members lies between the two examples of mother and son.

In spite of these ambiguities, the discrepancies in Table 2 are perhaps less striking than the overall consistency of the respective assessments. As many as 135 out of 143 households were put in identical or adjacent categories by Drèze and Sharma. This confirms the view that the relative position of households in the scale of economic affluence is in many cases fairly clear to informed observers. While serious ambiguities of assessment do occur in individual cases, they can be resolved by close examination and do not appear to undermine the validity of the exercise.

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[395] This issue has long troubled philosophers. For example, Hobbes (1651), in discussing taxation, puts it as follows:What reason is there, that he which laboureth much, and sparing the fruits of his labour, consumeth little, should be more charged than he that liveth idlely getteth little, and spendeth all he gets: Seeing the one hath no more protection from the commonwealth than the other?

Table 2 : Classification of Households by Observed Means

Naresh Sharma / Jean Drèze	Very poor	Poor	Modest					Secure			Prosperous		Rich	Very Rich
Very Poor	613	608	609					–			–		–	–
	711	610												
	714	802												
	812													
Poor	307	710	501					–			–		–	–
	808		611											
			612											
			801											
			804											
Modest	705	818	114	303	504	713	810	103	403	903	604		226	–
	817	819	120	304	606	803	814	113	409					
		901	128	309	615	806	815	115	601					
		905	301	317	703	807	816	117	605					
			302	407	712	809		131	811					
Secure	–	–	123	406				104	216	311	102	310	126	–
			206	503				105	218	404	106			
			223	602				107	219	411	108			
			308	617				124	227	607	109			
			312	715				129	305	707	110			
			402	805				214	306	813	122			
Prosperous	—	—	209					212 709			111 204 401		207	—
								405 909			119 210 408		211	
								412			121 215 701			
								603			127 220 902			

							704			202 222 906			
							708			203 225			
Rich	—	—	—				—			702		116	201
										907		118	706
Very Rich	—	—	—				—			205		410	101 217
													112 221
													125 224
													208 502
													213

Note: Each three-digit number represents one household (the first digit indicates caste: 1=Thakur; Murao=2; Dhimar=3; Gadaria=4; Dhobi=5; Teli=6; Passi=7; Jatab=8; Other=9). The position of a household in the table indicates how its economic status was evaluated by Jean Drèze (row index) and Naresh Sharma (column index). See text for details.

The final stage of the classification exercise consisted of ranking the households from the seven fractiles into deciles of equal size — a task which was carried out by Drèze. It involved the integration of the separate scales produced by Drèze and Sharma, as well as examination of the households within some groups to get a separation into the slightly finer categories.

1.3 Observed Means and Current Income

It is interesting to compare the position of different households in the scale of 1983–4 per capita income with their position in the scale of observed means discussed in the preceding section. A basis for this comparison is provided in Table 3, which shows the position of each of Palanpur's 143 households both in the observed means scale (row index) and in the per capita income scale (column index), both scales having been divided into deciles.[396] It is clear that there are substantial differences between the rankings obtained under each method. These reflect partly the inaccuracies inherent in each method of assessment, but also some real differences in the underlying notions of economic status.

One basic contrast arises from the fact that current income varies widely from year to year. As a result, per capita income in 1983–4 can be a misleading indicator both of the longer-run earning opportunities of a household and of its living standard in that year.

Among the factors that account for the short-run instability of income, the quality of the harvest is one of the most influential. The year 1983–4 was one of poor harvests in Palanpur but good harvests in Uttar Pradesh as a whole, associated with low output prices. The result was depressed income for households which derive a substantial part of their earnings from farming. As can be seen from Table 3, for a majority of households cultivating 10 bighas of land or more, 1983–4 per capita income is somewhat depressed relative to 'observed means' (38 households from this group can be found below the digonal, compared with only 19 above the diagonal). The incomes of Murao farmers are particularly depressed, as cultivation tends to account for a large part of total income for this cultivating caste.[397] For example, of the 24 Murao households cultivating more than 10

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[396] In each scale, the number of households per decile is 17 for the poorest decile and 14 for all other deciles.

[397] In Table 3,   Murao households are those with an identification number starting with '2'.

bighas, 16 were found to lie below the diagonal in Table 3, indicating that their per capita income ranking understated their observed means. In only two out of the 24 cases did per capita income overstate the observed means of Murao households.

Fluctuations in the quality of the harvest for the village as a whole are compounded by fluctuations for individual farmers related to factors such as pests, management or other errors, or risk-taking behaviour. An extreme example is provided by household 122, which had a *negative* income in 1983–4. This household owns a large amount of land, excellent draught animals, a variety of consumer durables, and a good house. But, for some reason, it experienced a disastrous harvest in 1983–4, resulting in a negative income for that year. It appears in the poorest decile in terms of per capita income, but in the third most affluent decile in terms of observed means.

There are other important sources of short-run income instability. These include: (1) fluctuations in prices and wages; (2) temporary illness (household 113); (3) job search (household 715). Many of the divergences of classification in Table 3 can be readily attributed to short-term fluctuations in income that have an observable or plausible cause.

Two further problems of measurement should be mentioned. First, our measure of current income excludes earnings from moneylending as well as income earned from illegal activities (e.g. stealing coal from passing trains and selling liquor). These omissions appear to lead to some systematic underestimation of the incomes of some of the richer households. Thus, it is revealing that among the 8 households which are positioned in the richest decile in terms of observed means but *not* in terms of per capita income, *all* the non-Murao households (5 in total) are moneylenders.[398] One of them (410) is also notorious for earning large sums of money from illegal activities, especially selling liquor.

The second problem relates to the treatment of household size. As can be seen from Table 4, there is a tendency for the scale of observed means to boost the position of large households, and reduce the position of small ones, compared to the scale of current incomes. For

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[398] The neglect of interest can also lead to overestimation of the incomes of heavily indebted households. One example is that of household 609 (among the poorest according to 'observed means' and in the sixth decile of per capita income), which borrowed a large sum of money just before the survey year to buy a female buffalo.

Table 3 : Per Capita Income and Observed Means (1983–4)

Per capita income observed means	poorest	2	3	4	5	6	7	8	9	richest
poorest	608 711 **804**	**501** 808	307	610	802	609	—	—	—	—
	612 714 817	**611** 812								
	613 801	710								
2	303	**809**	712	713	901	—	—	—	705	—
	810	818	**815**	**806**						
	814	819	905	**807**						
3	**803**	309	128	302	504	301	615	—	—	—
		315	409	811	**606**					
		403	816		703					
4	113	**605**	117	—	407	**115**	103	114	—	304
	903	**617**	**308**			131	120			
						601				
5	715	**813**	105 **406**	129 **404**	503	**402**	—	—	123	—
			223	**218**	**805**					
			227	**219**						
6	—	—	—	—	**108 607**	107	**216**	104 602	**604**	206
					124		**311**	**306**		707
					305			312		
7	**122**	-	**212**	126	-	110 909	**109**	411	**102**	214
						412	**704**		**106**	
						603			310	
8	**225**	-	-	**121**	215	127	**202**	**204**	708	-
				203	222		**210**	209	709	
							906	902		
9	-	-	-	-	-	**207**	119	226	**111 408**	**220** 907
							205	614	**211 701**	**405**
									401	**702**
richest	-	-	-	**112**	-	**125**	**221**	**101**	224	**116 208**
						410		**213**		**118 217**
								502		**201** 706

Note: Each column of the table represents one decile of the scale of per capita income and each row represents one decile of the scale of 'observed means', with deciles ranked in increasing order of affluence. Households cultivating at least 10 bighas, a little over 1.5 acres, are indicated in bold italics.

instance, among 19 households with at most three members in 1983–4, 63 per cent were in the top two quintiles of the per capita income scale but only 28 per cent were in the top two quintiles of the scale of observed means. There are at least three possible reasons for this contrast. First, it may be that perceptions of lifestyle are overinfluenced by total household income (or wealth) as opposed to per capita income, and biased upward for large households, due to intra-household inequalities. An example of this possibility is provided by household 224. This household is widely regarded as one of the best-off in the village, and its endowment of land and other assets in 1983–4 was indeed impressive (it possessed, for instance, the only functioning tubewell in the village, the only tractor, and the only flour mill). The head of the household, Man Singh, rarely works himself, smokes cigarettes as opposed to bidis, travels, and gives generous feasts at marriages. However, when it is remembered that this exceptionally large household contains no less than 35 members, and that the other 34 members rarely smoke cigarettes or travel, it becomes much harder to make up one's mind where to place it in the scale of observed means.

Table 4 : Household Size and Rankings in the Observed-Means and Current-Income Scales

Quintile	Quintile distribution of households (percentage in each quintile), for a given household size and evaluation criterion			
	Size below 4		Size above 11	
	Per capita income (%)	Observed means (%)	Per capita income (%)	Observed means (%)
poorest	33	49	0	0
2	7	14	14	0
3	28	35	7	14
4	28	7	28	14
richest	35	21	14	35
Total Number of Households	19	19	9	9

A second possibility is that the observed contrast arises from the failure of per capita income to capture the effects of economies of scale

in household consumption. There are obvious economies of scale involved, for instance, in the ownership of a number of consumer durables such as handpumps, radios, and bicycles.[399] First-hand observation does suggest that these economies of scale are important, and lead per capita income to underestimate the economic status of larger households.[400]

A third possibility (bearing in mind that there is a positive correlation between household size and the child-adult ratio) is that dividing income by an unweighted sum of household members may lead to underestimation of the living standards of households with more children relative to those with more adults. This consideration suggests the use of equivalence scales so that the divisor for income ('adult equivalents') is a weighted sum of the number of adults and children in the household, with a lower weight for children.

It is clear from this discussion that observed means and current per capita income both have strengths and weaknesses as indicators of economic status.[401] One specific conclusion is that defining 'poverty' simply in terms of current income leads to rather unsatisfactory and counter-intuitive classifications. The observation that current income has major deficiencies as an indicator of prosperity is hardly surprising, but has far-reaching policy implications since current income is often taken as the basis for 'targeting' government assistance to vulnerable households.[402]

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[399] Even with food there may be some economies of scale, e.g. associated with bulk-purchase discounts, time spent in food preparation, etc.

[400] Correspondingly, per capita income is likely to lead to an *underestimation* of poverty among social groups that tend to have small households. These include, for instance, landless labourers (who typically live in nuclear families) and widows with young children (who are rarely integrated in the families of their parents or in-laws). See Lanjouw and Ravallion (1995) for an analysis of this issue in the context of poverty in Pakistan; see also Drèze and Srinivasan (1996).

[401] In a similar exercise for three villages in West Bengal, Gazdar (1992) also finds striking divergences between the rankings of different households based on current income (or per capita income) and personal assessments of economic status made by field investigators who had spent extended periods in the respective villages. For instance, out of 40 households which have been put in the bottom decile of the scale of observed means of the relevant village by the field investigators, as many as 12 belong to the *top* half of households in the per capita income scale applying to the same village (calculated from Gazdar 1992, Table 12).

[402] See Drèze (1990a) for further discussion of this point, with special reference to the Integrated Rural Development Programme.

1.4 'Long-Term Income'

One way of reducing the measurement problems caused by short-run fluctuations in income is to average income over several years. In parts of the remainder of this chapter, we shall make occasional use of such intertemporal averages. In particular, we will use the (unweighted) average of 1974–5 and 1983–4 per capita incomes at 1960–1 prices. For convenience of exposition, we will refer to this income measure as 'long-term income', although strictly speaking it is nothing more than an intertemporal average based on two particular survey years (as with 'trend income' in chapter 2). When using intertemporal averages based on other pairs (or groups) of years, the reference period will be indicated. Thus, '1957–63 per capita income' should be understood as the average of 1957–8 and 1962–3 per capita incomes, and '1957–75 per capita income' should be understood as the average of 1957–8, 1962–3 and 1974–5 per capita incomes.

Intertemporal averages raise problems of their own, particularly in view of the long gap between different survey years. For instance, when we compare the 1983–4 per capita income of a particular household with its 'long-term income', it is difficult to say whether the difference is due to a sustained change in economic status between 1974–5 and 1983–4, or to transient income fluctuations in one or both of these two years. Nevertheless, we will see below that long-term income provides a useful complement to both current income and observed means in examining issues such as the relationship between household characteristics and the risk of poverty.

1.5 The Definition and Measurement of Poverty

In the next section, we examine the determinants of poverty and the characteristics of those who are poor. This requires operational definitions of poverty. Poverty lines are usually drawn in the space of income or expenditure and absolute poverty is generally defined in terms of an income or expenditure required to meet some specified living standard. This has been the dominant practice in India. When following this approach in this chapter, we will be using the poverty line for rural areas proposed by Dandekar and Rath (1971) — Rs 15 per person per month at 1960–1 prices. Relative prices between U.P. and India as a whole for 1963–4 were used to obtain a corresponding poverty line for U.P. in 1960–1 (see the contribution of Bhattacharya and Chatterjee in Srinivasan and

Bardhan 1974). This figure is then deflated using the appropriate year's price index to obtain a poverty line in terms of current income per person for each of our survey years. Based on this procedure, 40 per cent of Palanpur households (accounting for 34 per cent of the village population) were below the poverty line in 1983–4.

Our focus in this chapter, however, is not so much on the numbers who are poor in an absolute sense, but on the characteristics of those at the lower end of the income distribution. For this reason we shall work mostly with 'positional' poverty measures, concentrating in particular on the bottom 40 per cent under different income definitions, as well as the observed means index discussed earlier. Our use of different definitions serves to highlight some conceptual and measurement issues which are likely to be of general relevance in poverty analysis. The choice of 40 per cent has its arbitrariness, just like any absolute poverty line, but we shall not be concentrating solely on the bottom 40 per cent as an undifferentiated group and will also look at the characteristics of individual households and their standards of living.

Our analysis of poverty in the early survey years, and comparisons across years, will, for reasons of data, be based on current household per capita income. We have already noted that short-run income fluctuations do not necessarily reflect underlying levels of living because consumption can be smoothed over time, if credit or savings opportunities are available. Further, income may be measured with error. In both cases the implication is that the data are noisy. The presence of noise will increase the estimated incidence of poverty (as measured by the 'head count' ratio) for any unimodal distribution if the poverty line lies below the distribution's mode (and vice versa).[403] This result is of importance if we wish to look at the poverty incidence in different groups, since it suggests that if we consider two groups within the population such that one group is concentrated above the poverty line and the other below, then we will overstate the incidence of poverty for the former group and understate the incidence for the latter group. Further, these biases will be larger

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[403] This result, (Ravallion 1988), is specific to poverty as represented by the headcount measure. For poverty measures that belong to the FGT class, Ravallion shows that the presence of noise leads to an increase in measured poverty incidence regardless of where the poverty line is relative to the mode of the distribution; see also Ravallion (1994).

in the case of groups for which the 'noise' component of income is particularly important.

The intuition for this argument can be seen from Figure 1. Suppose that observed per capita income in a particular year is the product of 'true income' and a random component. Assume for simplicity that both components are log-normally distributed with mean (of the logarithm) zero. Due to the presence of the random component, observed per capita incomes (as measured by the logarithm) will have a 'flatter' distribution than true incomes, with the same mean. As a result, if the poverty line is below that mean, the estimated proportion of households below the poverty line (based on observed incomes) will be *higher* than the proportion corresponding to the distribution of true incomes. If the poverty line had been drawn to the right of the mean income level, our conclusion would be the reverse: we would be understanding the incidence of poverty on the basis of observed income. Further, if there are two groups in the population, one with its mean income above the poverty line and one with its mean below the line, then by examining 'observed' instead of 'true' income we would overstate the poverty incidence of the group concentrated above the poverty line, and understate the poverty incidence of the group below the line. We shall be able to see the relevance of this argument in the next section when we look at some of the empirical results.

2. The Incidence and Determinants of Poverty in 1983–4

2.1 Household Characteristics and the Incidence of Poverty

In this sub-section we examine the incidence of poverty among households in relation to economic, demographic, occupational, and caste characteristics. The reference year is 1983–4. A simple 'poverty profile' is presented in Table 5, where a number of different household groups are considered. The penultimate column of this table indicates the number of households in each group. The first column indicates the proportion of households which would be included in the poorest 40 per cent of households under the observed means criterion. The second and third columns denote the proportion of households in the poorest 40 per cent of the population according to the long-term income and current income classifications, respectively (where 'long-term' refers to the average of 1974–5 and 1983–4 incomes as in section 1.4).

Figure 1: *Probability Density Functions*
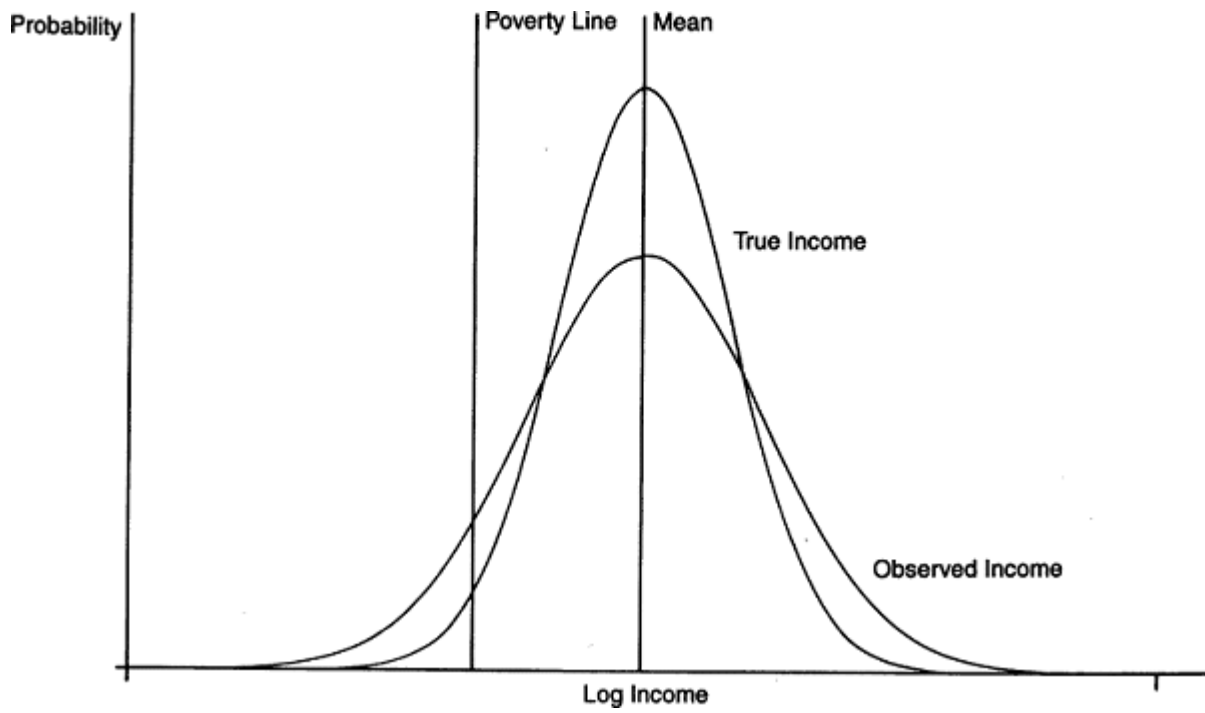
Table 5 : 'Poverty Incidence' For Different Household Groups in 1983–4

Household characteristic	Proportion of households with stated characteristic classified as poor			Total number of households	Average real per capita income in 1983–4
	Observed means	Long-term income	Current income		
With regular job	0.25	0.21	0.15	48	243
Landless	0.70	0.59	0.44	27	159
Landless without regular job	0.76	0.65	0.53	17	139
Agricultural labour	0.78	0.68	0.63	41	135
Landless agricultural labour	1.00	0.73	0.64	11	105
Without fit adult male	0.67	0.61	0.56	18	147
Landless without fit adult male	0.57	0.57	0.43	7	182
With widow	0.45	0.48	0.48	33	173
Widow without fit adult male	0.67	0.56	0.67	9	103
Joint family	0.19	0.30	0.22	37	214
Thakur	0.27	0.20	0.30	30	200
Murao	0.00	0.11	0.26	27	231
Dhimar	0.62	0.46	0.46	13	181
Gadaria	0.25	0.25	0.33	12	202
Dhobi	0.50	0.75	0.25	4	159
Teli	0.69	0.63	0.44	16	147
Passi	0.43	0.43	0.36	14	229
Jatab	0.89	0.89	0.89	19	85
Other	0.50	0.50	0.38	8	169
All households	0.40	0.40	0.40	143	183

Note: In this table, a household is counted as 'poor' if it falls in one of the four bottom deciles of the scale in terms of the relevant criterion (observed means, long-term income and current income). On these different criteria, see text.

It is reassuring that different approaches to the assessment of poverty do not give wildly diverging indications of the comparative incidence of poverty in different household groups. For example, both the observed means and the current income criteria suggest that households without land, households with no fit adult male, households headed by widows without a fit adult male, agricultural labour households, and households of the Jatab caste are substantially poorer than average, while there is comparatively little poverty among joint families, households with access to regular jobs, Thakurs, and Muraos. The criterion of long-term income gives a similar picture for most household groups. In fact, there is generally a better match between long-term income and observed means than between current income and observed means. This observation is qualified only where groups are defined in terms of certain demographic characteristics. For example, widow-headed households without a fit adult male in 1983–4 constituted a highly vulnerable group in that year according to both the observed means and current income criteria, but less so in terms of long-term income. There is nothing which is necessarily inconsistent in these findings, since many of these widows would have been living with their husbands in the earlier survey year.

Following our discussion of the 'noisiness' of current income estimates in 1.4, it is interesting to compare poverty incidence using current income and observed means where we interpret the latter as being the more appropriate measure of economic status. We do find, as suggested in that discussion, that for groups likely to be concentrated above the poverty line, such as Thakurs and Muraos, current income overstates their incidence of poverty relative to the observed means criterion. If we examine groups whose incomes are likely to be concentrated below the poverty line such as the landless, landless without regular job, agricultural labour households, and households without fit adult male, we see that for these groups the poverty incidence obtained on the basis of current income is consistently lower than that suggested by the observed means index. In other words, income-based poverty indicators reduce the contrast between high-poverty and low-poverty groups.

2.2 The Correlates of Poverty

We now turn to a brief discussion of the relationship between poverty incidence and some specific household characteristics. Ownership of land is an obvious starting point. Agriculture is the mainstay of the

village economy and land is the most important agricultural asset. Depending on the classification used, the incidence of poverty among landless households ranges from about 44 per cent (current-income criterion) to 70 per cent (observed means criterion) compared with 40 per cent for the village as a whole. The link between poverty and landlessness is therefore important, but perhaps not so unambiguous or strong as might have been imagined. The reason for this is that, in Palanpur, the landless represent a highly heterogeneous group, which includes households with widely divergent economic opportunities.

We can identify at least three sub-groups of landless households which one would not expect to be particularly poor. First, there are landless households with regular employment outside the village. Important examples include the two households of the Kayasth caste. This caste is generally associated with high educational achievements and has a long tradition of involvement in white-collar jobs. It lives up to its reputation in Palanpur, with an adult literacy rate of 100 per cent and, in both households, there is a secure and well-paid job outside the village. Second, there are households from castes traditionally providing particular services not involving the use of land, for example, carpenters, barbers, sweepers. In Palanpur as in much of the rest of India, some of these traditional occupations have been displaced in villages by increased integration with the urban economy (see chapter 2). Others, however, have recently prospered. This applies, for instance, to carpenters, who are in great demand in Palanpur due to the high propensity to invest in housing as real income increases. Third, a number of landless households are those of adult sons who live separately from their parents and have no legal title to land but have privileged access to their fathers' land. This can take the form of being granted the usufruct of a particular plot from the family holding, or of leasing-in on preferential terms. One would not expect such households to be as deprived as households which have no access to family land.

It should be stressed that the rather weak relationship between poverty and landlessness in Palanpur reflects the absence of a large group of landless labourers, and the relatively advanced diversification of occupations. One would not expect the same finding where these conditions are not met.[404]

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[404] A similar exercise carried out by Haris Gazdar in four villages of West Bengal, where as many as 45 per cent of households are landless, reveals a much stronger association between landlessness and poverty (Gazdar 1992)

Households without a fit adult male would be expected to be vulnerable to poverty, especially in villages such as Palanpur where female income-earning activity outside the household is severely restricted. Once again, however, this is a heterogeneous group. The means through which some of these households escape poverty in Palanpur include the ownership of milch animals (household 409), child labour (712) and remittances from a male family member living outside the village (503, 907).[405] Table 5 itself suggests that there are sub-groups among the group of households without a fit adult male for which poverty incidence is very high. For instance, the households of widows without a fit adult male are highly vulnerable.

The condition of widows in Palanpur is discussed in detail in Drèze (1990b). Once again this is a heterogeneous group including a number of very deprived households but also Gulabo (household 112) who is the largest moneylender in Palanpur and is entered in the top decile of the observed means classification. The vulnerability of widows in Palanpur is strongly affected by the presence or absence of an adult son. Under the practice of patrilocality, a woman of Palanpur normally joins her husband's village immediately after marriage and is generally unable to rely on her own relatives for support when she becomes widowed. Employment opportunities in Palanpur are very limited for women, so a widow has great difficulty in earning income by hiring out her labour. In-laws in Palanpur rarely provide any support to a widow. As a consequence of these factors, only a widow with adult sons can be fairly confident that she will receive some support.

The incidence of poverty among agricultural labour households is high across the three poverty criteria considered. Only households of the Jatab caste run a uniformly higher 'risk' of poverty than agricultural labour households, particularly those without land.[406] Attention has already been drawn, in chapter 1, to various features of the labour

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[405] Note that a male family member who *normally* resides outside the village is *not* counted as a member of the 'household'. Thus, households 'without a fit adult male' include a few households with an adult male working and residing outside the village.

[406] Note, however, that the group of households involved in agricultural labour is larger than that of Jatab households. This implies that their 'contribution' to total poverty (the number of households with the stated characteristic relative to the total number of poor) is greater than that of the Jatabs. Of course, there is also considerable overlap between these two characteristics. Of the 19 Jatab households in 1983–4, 11 were engaged in agricultural labour.

market in Palanpur. First, most employment of labour within Palanpur takes the form of casual agricultural labour. Second, non-casual agricultural employment is extremely rare, and non-agricultural wage employment within the village is only slightly more common. Third, for a majority of agricultural labour households, agricultural labour is one of several activities. Other activities may include cultivation, wage-employment outside the village, and non-agricultural employment in the village (e.g. shop-keeping, rope-making, or construction work). Fourth, amongst major income-earning opportunities, agricultural labour is generally seen as the 'last resort'.

The 'last resort' feature of agricultural labour reflects two closely related aspects of this activity. First, agricultural labour is, by and large, a 'free-entry' activity, which can be taken up even by those who have no special skill, or asset, or contact with potential employers.[407] Second, real wages for agricultural labour tend to be much lower than earnings in most other occupations. Notice that the argument for thinking that involvement in agricultural labour is associated with poverty is only in part that the wages are low but also that the social status of the activity, in a sense which goes beyond wages, is seen as very low—the 'last resort'.

Indicators of poverty incidence by caste (see the last block of rows of Table 5) broadly confirm the patterns discussed in chapters 1 and 2. The incidence of poverty is very high among Jatabs, and relatively low among Thakurs and Muraos. Poverty among Muraos is practically non-existent, though current incomes reveal some poverty in this group mainly due to the bad harvest of 1983–4.

One of the most striking features of Table 5 is the high incidence of poverty among Jatabs. For households belonging to this caste, the probability of being poor is nearly 90 per cent according to *all* three measures included in the table. As will be seen further on, the proportion of Jatab households placed in one of the four bottom deciles of the per capita income scale was somewhat lower in earlier survey years, indicating some deterioration over time in the relative economic position of the Jatabs. The causes of high vulnerability among Jatab households include not only poor endowments of productive assets but also low educational standards and caste-based discrimination (implying, *inter alia,* restricted access to better-paid

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[407]   An important qualification is that this view of agricultural labour as a free-entry occupation does not apply to households without a fit adult male, or to Thakur households.

employment outside the village). Their poverty is also closely associated with the work of agricultural labourers, a common occupation for Jatabs. The persistence of endemic poverty among Jatabs is one of the glaring problems of economic development and public policy in Palanpur.

To summarize, the poor in Palanpur form a varied and heterogeneous group. Certain household characteristics, such as employment as an agricultural labourer or being of the Jatab caste appear sufficient to ensure a high risk of poverty. Other characteristics that one might have thought to be closely linked to poverty, however, are less successful in identifying the poor. Landlessness or the absence of a family member who is able to work, for example, do not, of themselves, guarantee that the household will be poor. This observation, while simple, is important. Although one might be tempted to target the poor in a village like Palanpur on the basis of a few obvious household characteristics, at best only a subset of the poor would be identified in this manner—and possibly no small number of the non-poor. As we shall see further in chapter 5, the village reflects a wide spectrum of household circumstances and individual experiences. Identifying the poor against such a backdrop is not a straightforward matter.

The discussion of the preceding paragraphs can be extended using simple econometric analyses of the correlates of poverty in 1983–4. The problems of specifying exogenous variables to 'explain' poverty in this way are both important and difficult. We have selected two types of variables to put in this category. The first consists of five variables characterizing the household's endowments. Two of these five variables represent the household's land ownership position—bighas owned per capita, and a dummy indicating whether the household is landless. Since landownership arises for many families from their historical position at the time of the zamindari abolition (in the early 1950s) and since the land market in Palanpur is highly inactive, there is some case for thinking of these two variables as exogenous for the present purposes. We include a separate dummy for landlessness to investigate whether the landless are exposed to poverty in a distinct way. The third variable is a dummy indicating the presence in the household of a regular outside job. Being in possession of such a job may depend primarily on factors unrelated to a household's short-term economic position (see chapter 3). The fourth variable is a dummy indicating the presence of a fit adult male, and the fifth, a

dummy indicating whether the household is a joint-family. We may view these as reflecting demographic factors independent of short-term economic circumstances. We must acknowledge that one can provide arguments why each of these five variables might be endogenous (particularly the regular job dummy), but the problems with regarding them as exogenous are rather less strong than with other possible selections. The second group of explanatory or exogenous variables are dummy variables representing the three main castes in the village (Thakurs, Muraos, and Jatabs)—these are as clearly exogenous as one can expect to find in the social sciences.

Three measures, or identifiers, of poverty are used in this part of the analysis. The first is derived from the observed means index, the second from current per capita income, and the third from per capita income averaged across the last two survey years (long-term income). As in the preceding section, for each of the criteria we call a household poor if it is among the poorest 4 deciles of the corresponding scale of economic status. Results from probit analysis of the influence of household characteristics on the risk of poverty are presented in Table 6, with and without caste dummies. Without the caste dummies we find that for the observed means criterion the important explanatory variables are landholding size, employment in a regular outside job, and joint-family living (all of which reduce the risk of poverty). Using the estimated parameters in the first part of Table 6 we find that comparing a household with a per capita land holding of average size (2.82 bighas in 1983–4) with one with a bigha less (for average values of other variables) the risk of poverty for this household would nearly triple (from 3 per cent to 8 per cent).[408] Turning to the current income and long-term income criteria, we find that the same explanatory variables are significant, with the exception of a joint family in the case of long-term income.

The presence or absence of a fit adult male does not seem to be of independent significance, nor does landlessness exercise a significant independent influence. The significance of the outside job variable survives the introduction of variables representing caste. However, while remaining significant for the observed means criterion, in the case of current income the land-owned variable becomes only weakly

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[408] Putting these means in the estimated equation and calculating in turn a z-value when landholding size is equal to 2.82 and 1.82 gives a value for the left hand side of the probit of −1.875 and −1.415, respectively. From standard normal tables it is possible to obtain the corresponding probabilities.

Table 6 : Probit Analysis of the Characteristics of the Poor[a]

Household characteristic	Poverty Criterion		
	Observed means 1983–4	Current income per capita	Long term income per capita[b]
Without Caste Dummies			
Per capita land owned	−0.46	−0.15	−0.09
(bighas)	(0.00)	(0.00)	(0.01)
Landless	−0.29	−0.42	−0.26
	(0.45)	(0.22)	(0.41)
Regular job	−1.22	−1.37	−1.01
	(0.00)	(0.00)	(0.00)
No fit adult male	0.34	0.16	0.43
	(0.39)	(0.65)	(0.22)
Joint family	−0.68	−0.57	−0.15
	(0.03)	(0.05)	(0.60)
Constant	1.33	0.78	0.27
	(0.00)	(0.01)	(0.18)
With Caste Dummies			
Per capita land owned	−0.37	−0.11	−0.01
(bighas)	(0.00)	(0.06)	(0.91)
Landless	−0.08	−0.25	−0.34
	(0.85)	(0.47)	(0.32)
Regular job	−1.00	−1.19	−0.89
	(0.00)	(0.00)	(0.00)
No fit adult male	0.35	0.19	0.32
	(0.41)	(0.00)	(0.38)
Joint family	−0.56	−0.50	−0.05
	(0.11)	(0.10)	(0.87)
Thakur	0.04	−0.02	−0.82
	(0.92)	(0.96)	(0.02)
Murao	−6.71	−0.05	−1.38
	(0.99)	(0.90)	(0.00)
Jatab	1.16	1.16	1.07
	(0.01)	(0.01)	(0.02)
Constant	0.97	0.45	0.16
	(0.01)	(0.11)	(0.53)

[a] The probability that the estimated coefficient is equal to zero is in brackets.
[b] Long term income is defined here as the average of incomes in the 1974–5 and 1983–4 survey years.

significant and drops out altogether with long-term income. Joint family is also less significant after caste dummies are included. There may be an identification problem here since caste is strongly associated with both land ownership and joint family living.

For given values of the 'asset' variables, Jatab caste membership has a significant positive effect on the probability of poverty, regardless of the poverty criterion used (see the second part of Table 6). With the observed means and current income criteria, membership of the Thakur and Murao castes does not appear to have a significant independent effect on poverty, although with the long-term income criterion they both become significant (decreasing the probability of poverty).

3. Poverty and the Characteristics of the Poor in Earlier Survey Years

So far in this chapter the focus has been on the poverty of Palanpur households during the 1983–4 survey year. The availability of an observed means index for that year has allowed us a comparator with income measures in identifying the poor in the village. For the earlier years, we are compelled to rely exclusively on the income criterion while recognizing that this measure is imperfect (and may systematically understate the incidence of poverty for precisely those groups we would expect to be highly represented among the poor). We confine our discussion to current income figures for each year.

Using the Dandekar and Rath absolute poverty standard (see section 1.5) we find that the proportion of households below the poverty line was 47 per cent in 1957–8; 55 per cent in 1962–3; 13 per cent in 1974–5; and 40 per cent in 1983–4. The year 1983–4 was poor for agriculture, 1974–5 was quite good, 1962–3 somewhat below average and 1957–8 average. The fact that the incidence of poverty was lower in 1983–4 than in either 1957–8 or 1962–3, in spite of bad harvests in 1983–4, suggests that there has been a sustained (though not large) decline in poverty during the survey period. Broadly speaking, we would suggest that around the earlier pair of years poverty was around 40–5 per cent in years of normal harvests, compared with 20–30 per cent around the later pair. These judgements take into account the quality of harvest and also the shapes of the income distributions in the respective survey years.[409] As discussed in chapter 2, this decline in poverty is consistent

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[409] For example, the poverty line cuts the distribution of income for 1962–3 at a point where a large number of households are clustered. This means that were a better harvest in 1962–3 to have boosted all household incomes by, say, 15 per cent then a large number of households would have crossed the poverty line, and the incidence of poverty among households in 1962–3 would have fallen considerably, from 55 per cent to 47 per cent.

with complementary evidence on asset ownership and real wages as well as with the villagers' own perceptions. What is difficult to say with any confidence on the basis of income data is what happened between 1974–5 and 1983–4. The headcount index rose substantially between those two particular years (after a large decline between 1962–3 and 1974–5), but the fact that 1974–5 was a good agricultural year and 1983–4 was not, undoubtedly accounts for at least part, and possibly all, of the apparent increase in poverty.

In Table 7 we provide figures for the incidence of poverty in terms of the current income criterion for each of the four survey years, looking at the same household characteristics that we examined in section 2.[410] As our focus is on the characteristics of households at the bottom of the income distribution rather than on some notion of absolute poverty, the poverty line has been set at a level such that 40 per cent of all households are poor in each year. During no survey year was the poverty incidence of households with regular outside jobs above the village average. Consistently high poverty incidence in all four survey years is observed for agricultural labour households, as well as for Jatab, Dhimar, and Teli households. Thakur and Murao households were consistently less likely than average to be among the poor in all four survey years.

Looking at poverty across years for different groups, there is little evidence of particular groups becoming increasingly vulnerable to poverty (in the sense of being in one of the four bottom deciles) over time. However, it is clear that variations in income components relating, for instance, to the quality of the harvest, will affect the identity of the poor in any one year. For instance, the (comparative) poverty incidence of households with regular jobs was lowest in the two years during which harvests were poor (1962–3 and 1983–4), at least partly because cultivating households had depressed incomes. Similarly, households of the Murao caste, with their heavy focus on agriculture, registered their highest incidence of poverty in those two years. Only for landless agricultural labour households did the incidence of poverty never fall

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[410] Note that for the earlier survey years, it was not possible to ascertain whether a household had a *fit* adult male member or not. We therefore examine the alternative characteristic of absence of *any* adult male in the household.

Table 7 : 'Poverty Risk' For Different Household Groups

	Proportion of households in the four lowest deciles of the per capita income scale[a]			
Household charac-teristic	1957–8	1962–3	1974–5	1983–4
With regular job	0.25 (8)	0.00 (9)	0.34 (35)	0.15 (47)
Landless	0.50 (14)	0.25 (12)	0.50 (10)	0.44 (27)
Landless without regular job	0.54 (13)	0.30 (10)	0.40 (5)	0.53 (17)
Agricultural labour	0.54 (26)	0.75 (16)	0.78 (32)	0.63 (41)
Landless agricultural labour	0.33 (6)	0.33 (3)	0.60 (5)	0.64 (11)
Without adult male	0.67 (3)	0.00 (6)	0.00 (0)	0.60 (5)
Landless without adult male	0.50 (2)	0.00 (4)	0.00 (0)	0.33 (3)
With widow	0.48 (27)	0.37 (27)	0.38 (21)	0.48 (33)
Widow without adult male	1.00 (1)	0.00 (4)	0.00 (0)	0.75 (4)
Joint family	0.39 (38)	0.40 (35)	0.41 (44)	0.22 (37)
Thakur	0.29 (17)	0.37 (19)	0.16 (25)	0.30 (30)
Murao	0.14 (21)	0.28 (25)	0.15 (27)	0.26 (27)
Dhimar	0.70 (10)	0.78 (9)	0.75 (8)	0.46 (13)
Gadaria	0.33 (9)	0.33 (9)	0.50 (8)	0.33 (12)
Dhobi	0.00 (2)	0.00 (1)	0.67 (3)	0.25 (4)
Teli	0.63 (8)	0.56 (9)	0.67 (12)	0.44 (16)
Passi	0.45 (11)	0.19 (16)	0.25 (8)	0.36 (14)
Jatab	0.56 (16)	0.54 (13)	0.79 (14)	0.89 (19)
Other	0.50 (6)	0.60 (5)	0.50 (4)	0.38 (8)
All households	0.40 (100)	0.40 (106)	0.40 (111)	0.40 (143)

[a]   In brackets, the total number of households with the specified characteristic in the relevant year.

between any two years, and it rose from 0.33 in 1957–8 to 0.64 in 1983–4. These households do not appear to have been able to take advantage either of outside jobs or increasing yields, and real wages in agriculture have risen only slowly. Their experience, as well as that of Jatab households (also increasingly over-represented among the poor over time), suggests the possibility that such households have experienced a relative decline over time in the village economy. This is an

important question and one which will be given further attention in section 5.

We close this discussion with a closer and more individual examination of the 25 households in each of the four survey years who are located at the bottom of the distribution in that year. These are listed by rank of current income per capita in Tables 8(a) to 8(d) for 1957–8 to 1983–4. The figures on current income per capita are in comparable terms — rupees per annum per capita at 1960–1 prices. The per capita income figures may be compared with the corresponding Dandekar and Rath poverty line of 140 rupees per capita per annum (i.e. their Rs 15 per capita per month translated into U.P. 1960–1 prices — see 1.5). The tables also contain land owned and land cultivated in bighas and household size, together with village averages for all variables. Finally, the tables describe the principal occupations (with remuneration) in which members of the households were involved. In Table 8(e) we provide a list of the households placed in the bottom two deciles of the observed means index, although they are presented in Table 8(e) in rank order of their current income per capita.[411] Our purpose in looking at the bottom households in this way is to provide some further insight into the question of 'who are the poor' by examining the bottom group in an individual way. Note that the choice of '25' is arbitrary here and that the level of income for the bottom group varies substantially from year to year.

It can be seen from these tables that the bottom 25 households in the years 1957–8, 1962–3 and 1983–4 all have incomes per capita well below the absolute poverty line of 140 rupees per capita per annum. However in 1974–5 only the bottom 14 fell below this line. The fact that the bottom few households had incomes only 20 or 30 per cent of that line in 1957–8, 1962–3 and 1983–4, and around 60 per cent of the line in 1974–5, raises questions about the interpretation of this poverty line. Clearly, it cannot be interpreted as a minimum level for short-run survival. Whilst smoothing is possible we see that even in a good year like 1974–5 the poorest reach only halfway to the line. This observation also emphasizes the importance of focusing on the economic status of those at the lower end of the distribution rather than simply treating all those below the poverty line as an undifferentiated group 'in poverty' (as is standard using the 'headcount' index).

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[411] As mentioned earlier, there are 17 households in the poorest 'decile', and 14 in each other decile. We take the bottom two deciles for Table 8(e) since we do not differentiate within deciles of 'observed means'.

Table 8(a): The Bottom 25 Households in the Income Distribution: 1957–8

Household number	Real per capita income	Land owned (bighas)	Land cultiv. (bighas)	Household size	Principal occupation
608	21.5	20	20	6	cultivation
907	29.0	0	0	5	carpentry
804	37.4	13	17	6	cultivation, casual labour
109	43.1	19	19	7	cultivation
710	43.2	0	0	4	casual non-agricultural labour
904	45.3	0	12	8	barber, cultivation
112	48.1	10	10	2	cultivation
604	50.4	14	14	9	cultivation, casual labour
306	50.8	10	10	5	cultivation, casual labour
212	51.4	10	10	3	cultivation
220	67.2	23	23	7	cultivation
301	68.2	12	2	8	cultivation, casual labour
703	69.2	7	7	7	cultivation
810	69.9	7	7	5	cultivation, casual labour
603	72.3	6	19	3	cultivation, casual labour
307	73.4	30	30	11	cultivation, casual labour
310	73.5	6	0	5	guard
706	75.7	7	7	8	cultivation, casual labour
809	77.4	7	7	7	casual labour
302	79.1	0	0	6	casual labour
905	79.4	0	0	2	barber
403	81.8	25	25	6	cultivation
107	84.1	16	24	3	cultivation
807	84.3	10	10	6	cultivation, casual labour
103	86.0	0	71	7	cultivation, livestock products
Average	62.5	10	14	6	—
Village average	177.6	27	23	5	—

Notes:

1. Incomes are in 1960–1 rupees.

2. The first digit of each household number indicates caste, as in Tables 2 and 3.

Table 8(b): The Bottom 25 Households in the Income Distribution: 1962–3

Household number	Real per capita income	Land owned (bighas)	Land cultiv. (bighas)	Household size	Principal occupation
8050	10.3	13	11	4	cultivation, casual labour
1040	12.4	50	34	5	cultivation
1050	14.4	39	49	7	cultivation
8040	18.8	15	15	7	cultivation
7610	28.4	11	0	6	cultivation
2160	30.4	32	32	4	cultivation
8030	30.7	36	36	7	cultivation
9610	31.1	0	0	7	carpenter
2030	31.5	108	108	7	cultivation
6061	44.8	1	14	4	cultivation, casual labour
3071	45.3	20	20	9	cultivation, casual labour
9010	48.5	28	28	5	cultivation
9040	48.8	8	18	7	barber, cultivation
1030	50.4	0	40	5	cultivation, livestock products
8130	56.5	7	7	6	cultivation, casual labour
2120	62.0	10	0	2	cultivation, casual labour
1020	67.7	35	35	4	cultivation
7020	69.1	24	34	7	cultivation, casual labour
3090	71.2	6	6	4	cultivation, casual labour
6080	72.1	20	20	8	cultivation, shop-keeping
2143	72.8	23	23	5	cultivation
2144	72.8	23	23	5	cultivation
3050	73.5	6	17	5	cultivation, casual labour
8120	75.0	9	20	2	cultivation
6010	81.1	25	32	8	cultivation
Average	48.8	22	25	6	—
Village average	186.4	26	26	6	—

Notes:

1. The fourth digit of the household number indicates whether the household split between 1957–8 and 1962–3, and is essentially a serial number identifying the split households. It takes a value of zero if the household did not split. Similarly with the fifth digit of household numbers in Table 8(c) for splits between 1962–3 and 1974–5 and for the fifth in Table 8(d), for splits between 1974–5 and 1983–4.

2. For other notes, see Table 8(a).

Table 8(c): The Bottom 25 Households in the Income Distribution: 1974–5

Household number	Real per capita income	Land owned (bighas)	Land cultiv. (bighas)	Household size	Principal occupation
21000	54.5	25	10	6	cultivation
80901	71.2	5	5	6	cultivation, casual labour
60503	79.7	0	0	6	casual labour, railways
57390	80.4	2	8	6	cultivation
11200	83.8	2	2	4	cultivation, casual labour, watchman
57190	100.4	0	8	6	cultivation, washerman
40302	105.5	12	12	6	cultivation
60502	111.6	0	6	5	railways
81000	119.3	10	10	11	cultivation, casual labour, work in mill
60501	120.1	0	0	4	railways, casual labour
81300	122.5	8	0	8	cultivation, casual labour
30100	127.5	12	26	3	cultivation, casual labour
40101	128.5	8	0	7	railways
60400	138.5	13	23	7	cultivation, casual labour
70100	143.0	0	0	6	casual labour, goat trading
81600	143.1	20	22	7	cultivation, casual labour
21800	143.5	11	3	7	cultivation, sugarcane factory
80902	151.8	5	26	6	cultivation, casual labour
60800	160.5	22	26	11	cultivation, cloth mill
30720	162.2	16	21	9	cultivation, casual labour
80500	165.8	10	30	7	cultivation, casual labour
40800	172.4	20	7	7	cultivation
31000	175.6	3	13	7	casual labour, unspecified outside job
60620	177.1	1	40	5	cultivation
70410	179.4	3	0	13	casual labour, service outside the village
Average	128.7	8	12	7	—
Village average	285.3	23	22	7	—

Note: See Notes for Table 8(b). The fifth digit of the household identification number indicates household partitioning between 1962–3 and 1974–5 and the fourth digit indicates partitioning between 1957–8 and 1962–3.

Table 8(d): The Bottom 25 Households in the Income Distribution: 1983–4

Household number	Real per capita income	Land owned (bighas)	Land cultiv. (bighas)	Household size	Principal occupation
108002	−41.0	36	36	6	cultivation
108001	14.3	10	3	3	salesman
711091	20.2	7	0	5	job search
802001	25.8	10	15	5	cultivation
813001	28.1	12	6	8	mason, casual labour (also non-farm)
607020	30.6	0	0	4	casual farm and non-farm labour
602003	37.2	0	0	4	casual farm and non-farm labour
711093	38.6	0	0	1	casual farm and non-farm labour
802002	43.6	18	12	8	cultivation
815000	46.5	23	20	8	cultivation, casual labour
812000	51.1	14	14	7	cultivation, casual labour
208010	53.9	40	36	6	cultivation
606200	57.1	1	19	6	cultivation, casual labour
805002	62.2	0	0	5	work in chakki
904000	63.1	0	17	4	barber, cultivation
306002	66.2	0	0	4	railways, casual labour
901000	66.4	14	0	6	spinning factory
807002	67.1	5	0	7	farm and non-farm casual labour
606100	67.8	1	18	3	cultivation, casual labour
402001	69.9	11	11	7	domestic work only
814000	72.8	23	20	7	cultivation
304090	73.9	4	0	5	farm and non-farm casual labour
681990	79.1	0	38	8	cultivation, casual labour
601001	80.0	2	25	4	cultivation
805001	81.2	9	2	3	rope-making, casual labour
Average	50.2	10	13	5	—
Village average	182.9	18	19	7	—

Note: See Notes for Table 8(b). The sixth digit in the household identification number indicates partitioning between 1974–5 and 1983–4; the fifth digit indicates partitioning between 1962–3 and 1974–5; and the fourth digit indicates partitioning between 1957–8 and 1962–3.

Table 8(e): The Bottom 31 Households in the Observed Means Distribution: 1983–4

Household number	Real per capita income	Land owned (bighas)	Land cultiv. (bighas)	Household size	Principal occupation
802001	25.8	10	15	5	cultivation
813001	28.1	12	6	8	mason, casual labour
607020	30.6	0	0	4	farm and non-farm casual labour
602003	37.2	0	0	4	farm and non-farm casual labour
711093	38.6	0	0	1	farm and non-farm casual labour
815000	46.5	23	20	8	cultivation, casual labour
812000	51.1	14	14	7	cultivation, casual labour
606200	57.1	1	19	6	cultivation, casual labour
805002	62.2	0	0	5	work in chakki
306002	66.2	0	0	4	railways, casual labour
901000	66.4	14	0	6	spinning factory
807002	67.1	5	0	7	farm and non-farm casual labour
606100	67.8	1	18	3	cultivation, casual labour
814000	72.8	23	20	7	cultivation
805001	81.2	9	2	3	ropemaking, casual labour
571900	82.5	3	14	6	cultivation, casual labour
711092	83.8	8	0	7	farm and non-farm casual labour
804000	85.1	8	0	3	domestic work
807001	89.3	5	0	7	farm and non-farm casual labour
982990	92.3	0	0	4	rickshaw pulling
708000	94.9	0	0	7	railways, steel polishing
816000	100.6	23	24	7	cultivation, oil press
301000	103.6	0	0	3	casual labour, selling leaves
810002	118.2	8	12	5	cultivation, casual labour
704100	118.8	4	4	7	shopkeeping, casual labour
808000	121.3	10	15	5	cultivation, casual labour
607010	123.2	0	0	4	farm and non-farm casual labour
910001	144.0	1	0	8	sweeper, pulling rickshaw, shepherd
813002	146.1	0	0	3	casual labour
602002	183.1	0	4	3	farm and non-farm casual labour
704200	313.0	4	0	3	casual labour, steel polishing
Average	90.3	6	6	5	—
Village average	182.9	18	19	7	—

Note: See Table 8(d).

That current income has its problems as a measure of economic status is brought out, once again, by a comparison of Tables 8(d) and (e). The former represents the bottom 25 by current income per capita and the latter the bottom 31 households by observed means. The bottom household in Table 8(d) (1983–4) sharply illustrates the difficulties that can arise with this measure since it shows a negative income. With severe crop failure for a household and positive inputs such occurrences cannot be ruled out, yet we discussed in section 1.3 how the household in question was actually ranked in the seventh decile in terms of observed means. However, by comparing the household numbers in Table 8(d) and Table 8(e) we can observe that only 10 of the bottom 25 households by current (1983–4) income per capita fail to appear in the bottom two deciles of the observed means classification.

We look now at the other variables in the tables. In any one year a number of households with near average land holding are in the bottom 25 households so that being average in this respect is no guarantee against appearing amongst the very poor in this sense. And there are rather few households in the tables which own no land at all. Similar remarks apply to land cultivated. The degree to which land ownership or cultivation helps in identifying the poor is linked to the quality of the agricultural harvest in the respective years. We see for both 1957–8 and 1974–5, years during which the quality of harvest was about average or above, that the average, owned or operated, landholding of the poor was low relative to that of the village as a whole. In 1962–3 and 1983–4 this was much less clearly the case, because precisely those who were actively involved in cultivation in those years were most likely to have experienced depressed incomes.

Households of varying size appear scattered across the spectrum in each of the four years, and there certainly is no evidence that the poorer households were larger than average. This is in contrast to the commonly held view that poor households tend to be comparatively large. In Palanpur villagers often tend to regard large, particularly joint, households as amongst the better off. Such households have been able to avoid partitioning, and hence are able to retain economies of scale in consumption as well as any that may arise in production.

Amongst the occupations of the bottom group, cultivation occurs often, as one would expect since it is the dominant occupation in Palanpur. Involvement in casual labour is somewhat over-represented, bearing in mind that this occupation is much less common

than cultivation. Recalling that the caste numbers are roughly in decreasing order of social status (1, 2, . . . , 9) and that the household number begins with the caste number, we see that poverty occurs amongst all castes, although the lower caste numbers dominate with the Jatabs (number 8) particularly prominent. If we examine the proportion of all Jatab households among the bottom 25 households in each of the four survey years (referring to Table 7 as well as Tables 8a, b, c, d, e), we find that this has been rising steadily over the years from 25 per cent in 1957–8, to 38 per cent in 1962–3, to 43 per cent in 1974–5 and to 47 per cent in 1983–4. There is some indication, here again, that this group has been experiencing some downward mobility over time (in terms of economic status relative to other groups).

4. Income Mobility

Being poor in any one year could be regarded as less worrying if subsequent years saw higher living standards. Thus an examination of mobility is important to the interpretation of poverty. It is also of interest in its own right as part of the description of economic circumstances and development.

Income mobility in rural India has not received a great deal of attention, partly due to a paucity of appropriate longitudinal data.[412] However, one of the more interesting conclusions which has emerged is that when living standards are measured in terms of *income* then mobility, either between adjacent years or over longer periods, tends to be quite high. This has prompted some to suggest that the incidence of chronic poverty in rural India (in the sense of consistently low per capita income over many years for the same households) may not be as high as has often been thought. However, as we have already seen in earlier sections, one may question whether *current* per capita income in any particular year is a sensible criterion. On the basis of alternative indicators of living standards such as per capita expenditure, it is likely that less mobility would be observed. This points to the need to supplement income data with information relating to other indicators, such as expenditure, wealth, or occupation. We shall examine in section 5 the mobility of agricultural labour households, a group which has been found in previous sections to be consistently at high risk of poverty. We

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[412] Although see Swaminathan (1988b), Gaiha (1988), Gaiha and Deolalikar (1990), Chaudhuri and Ravallion (1994) and Walker and Ryan (1990).

suggest that in the face of considerable income mobility in the village as a whole, agricultural labour households tend both to have low incomes in any one year and to experience little occupational mobility over time. Hence, there are grounds for suggesting that agricultural labour households are likely to experience chronic poverty.

4.1 The Determinants of Household Income Mobility

To begin with, we examine the determinants of household income mobility by focusing on two income-based indicators: the 'long-term income' measure defined earlier based on 1974–5 and 1983–4 income data, and the corresponding measure based on 1957–8 and 1962–3 data. For convenience (and following the terminology introduced in section 1.4), these income indicators will be referred to as '1974–84 per capita income' and '1957–63 per capita income', respectively.

We proceed in this manner for two reasons. First, as we have already had many occasions to note, current income in any one year is significantly influenced by the harvest in that year. The two pairs of years are well-matched in that they both comprise one good year and one bad. Second, at least two of the big changes which have affected Palanpur's development over the survey period, namely technological change in agriculture and the expansion of outside jobs, first appeared during the interval between these two pairs of years (see chapters 2 and 3). Hence, there is some justification in seeing the first pair as describing the situation '*ex-ante*' and the second pair as providing an '*ex-post*' perspective.

Our analysis of income mobility in Palanpur is restricted to those households which were present in the village at the time of each of the survey years from 1957–8 to 1983–4. This restriction is necessary if we are to trace the economic circumstances of these households for the entire 26 year period covering the surveys, but has the disadvantage of omitting one important aspect of mobility — migration — from consideration. The sub-sample consists of 76 households in 1957–8, 84 households in 1962–3, 98 households in 1974–5 and 120 households in 1983–4 (compared with 100, 106, 112 and 143 households respectively for the total village population in the respective survey years). Growth in the number of households belonging to the continuing population is attributable to the process of households partitioning over time (e.g. married sons forming their own separate households). We attribute to each household which partitioned, the per capita income of the parent household in previous periods.

We consider the factors which influenced a household's proportional change in (real) per capita income across these two pairs of years by regressing the ratio of 1974–84 per capita income to 1957–63 per capita income on two sets of household characteristics. The first group consists of variables representing initial characteristics: the household's per capita landholding in 1957–8, a dummy for the Jatab caste, and a dummy indicating whether the household was primarily involved in agricultural labour in 1957–8 (at least 50 per cent of total household income deriving from agricultural labour). The second group reflects changes which occurred over the survey period, namely growth in family size, household partitioning, and acquisition of a regular outside job.

From the first column of Table 9 we see that per capita landholdings in 1957–8 were negatively related to the growth of per capita income across the two pairs of years. In other words, higher initial holdings of land, far from guaranteeing any advantage in the growth of income, resulted in slower growth. At the same time, households involved in a fairly major way in agricultural labour in 1957–8 experienced a significantly lower rate of growth in per capita income. For Jatab households, the point estimate suggests a lower rate of income growth, but this was not statistically significant.

Although not statistically significant, the point estimate indicates that households with higher growth in family size, unsurprisingly, experienced a lower growth rate in *per capita* income. However, households which partitioned (and therefore, at least in the short run, experienced a reduction in family size) significantly lowered their rate of growth in per capita income. Whether a household held an outside job in 1983–4 did not exercise a significant influence on its rate of growth of per capita income.[413]

In the second column of Table 9 we consider an alternative formulation. We average per capita incomes over the first three survey years (thus calculating 1957–74 per capita income) and regress the ratio of 1983–4 per capita income to 1957–75 per capita income on the same set of explanatory variables. In this specification, the strongly significant variables are per capita landholdings in 1957–8, the dummy indicating involvement in agricultural labour in 1957–8, and the outside job

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[413] Various specifications for these regressions were examined, including alternative variables indicating acquisition of an outside job — such as whether the household had an outside job in either 1974–5 or 1983–4, etc. — but no improvements in fit were obtained.

Table 9 : The Determinants of Income Growth

Ratio	1974–84 per capita income as a ratio of 1957–63 per capita income	1983–4 per capita income as a ratio of 1957–75 per capita income
Independent variables		
Constant	1.60	0.14
	(0.00)	(0.39)
Per capita land holding 1957–8	−0.07	−0.03
	(0.00)	(0.00)
Involvement in agricultural labour in 1957–8 (50 per cent or more of total income from this source)	−0.48	−0.30
	(0.04)	(0.04)
Household partition at any point during the survey period	−0.59	−0.11
	(0.00)	(0.38)
Growth in family size between 1962–3 and 1974–5	−0.10	-
	(0.49)	
Growth in family size between 1974–5 and 1983–4	-	−0.11
		(0.40)
Employment in regular outside job in 1983–4	0.22	0.62
	(0.24)	(0.00)
Jatab	−0.09	−0.27
	(0.73)	(0.11)
Adj R²	0.1665	0.331

Notes:

1. Figures in brackets denote probability values.

2. On the definition of intertemporal income averages, see text.

dummy. The Jatab caste dummy is now on the verge of significance. Per capita land and involvement in agricultural labour exercised the same influence as in the previous specification. Households with an outside job in 1983–4 were significantly more likely to have experienced higher growth in real per capita income between that year and earlier years. Jatab households saw a fall in per capita income. The remaining variables were no longer significant.

Because of the contrasting experience of 1974–5 and 1983–4 as agricultural years, it is difficult to point to a uniform set of determinants of household income growth. In sum, landholdings in 1957–8

did not appear to provide an advantage for future income growth but acquisition of an outside job indicated a clear rise in per capita income only in a year when the agricultural year was poor. Demographic factors such as family growth and household partitioning exercised some independent influence on per capita income growth, and there is a suggestion that Jatabs experienced downward mobility. Per capita income of households involved in agricultural labour in 1957–8 grew more slowly than those of other households. We return to this observation in section 5.

4.2 The Degree of Income Mobility

An assessment of the degree of (relative) income mobility involves comparing the relative position of different households in the income scale in one period with their position in a second period. The extent to which households change their ranking over time is an indicator of the extent of income mobility. In examining mobility we concentrate directly on 'transition matrices' (indicating the relative positions of different households in the scale of per capita income in different years). These have the advantage of allowing us not only to assess the degree of mobility, but to consider *where* in the income distribution the mobility is occurring.

Table 10 presents 'transition matrices' showing the movement of households between different *quintiles* of the (per capita) income scale, from one survey year to the next. In these transition matrices, each *row* gives the distribution of households belonging to a particular quintile of the income scale for the initial year, in terms of their position in the income scale for the terminal year.[414] For instance, among households belonging to the poorest quintile in 1957–8, 17 per cent still belonged to the poorest quintile in 1962–3, 28 per cent belonged to the second poorest quintile, etc. Complete 'immobility' would generate an identity matrix (with 1 on each diagonal cell and 0 elsewhere), with all households in a particular quintile in one year remaining in the same quintile in the following year.[415]

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[414] The quintiles are ranked in ascending order of income level (e.g. the first quintile includes the poorest households).

[415] Strictly speaking, this statement applies only for a static population. The splitting of households over time can induce some apparent mobility on its own, in terms of these transition matrices. For example, if the only split occurred in a household of the poorest quintile and generated two households in the poorest quintile next period then some other household which would otherwise have remained in the poorest quintile will move up to the next one. See also the Notes to Table 10.

Considering, to begin with, income mobility between 1957–8 and 1962–3 (Table 10A), the picture is quite mixed. On the one hand, there is clearly some rigidity at the top of the scale, with as many as 63 per cent of households from the top 1957–8 quintile remaining in the top quintile in 1962–3. On the other hand, there is substantial upward mobility at the bottom of the scale, with more than half of the households initially in the bottom quintile ending up in one of the three top quintiles.

We can use a simple summary statistic for the movements embodied in this matrix, the 'distance measure' MD, which attempts to capture the degree of 'off-diagonalness'.[416] For the transition matrix in Table 10A, MD takes the value of 0.23. For the intervals 1962–3 to 1974–5, and 1974–5 to 1983–4, mobility appears to be higher, at least according to the distance measure. The values of MD are 0.35 and 0.32 for these respective intervals.[417] This increase in income mobility seems plausible, given not only the greater length of these two intervals but also the fact that considerable economic changes occurred after 1962–3, especially the expansion of outside employment and the introduction of new agricultural technologies.

We attempted to examine the question of the influence of harvest quality on mobility by adjusting agricultural outputs (and therefore farm revenues) in a given year to the 'norm' for that year (see also chapter 5). The adjustment, of course, varies across households but it was clear that much of the mobility observed prior to the adjustment remained and that we cannot attribute income mobility in Palanpur solely to the effect of variations in harvest quality.[418]

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[416] This summary measure of mobility attaches increasing weight to entries the further they are from the diagonal (See Swaminathan 1988b, for an application in a Tamil Nadu village). See Drèze, Lanjouw and Stern (1992) and Lanjouw (1992) for the formula.

[417] These figures for the distance measure MD can be compared with the results obtained by Swaminathan (1988b) when assessing wealth mobility in a Tamil Nadu village between 1977 and 1985. She found an MD of 0.094 for the household wealth matrix and 0.073 for the per capita wealth matrix (p. 124), indicating sluggish change in the distribution of wealth over the interval.

[418] See Drèze, Lanjouw and Stern (1992).

Table 10: Income Mobility in Palanpur

A. 1957–8 against 1962–3

Quintiles of the 1957–8 per capita income scale	Quintiles of the 1962–3 per capita income scale					Total households (1957–8)
	1	2	3	4	5	
1 (poorest)	0.17	0.28	0.28	0.22	0.06	16
2	0.31	0.44	0.19	0.06	0	15
3	0.20	0.13	0.20	0.33	0.13	15
4	0.21	0.11	0.32	0.21	0.16	15
5 (richest)	0.13	0.06	0	0.19	0.63	15
Total households (1962–3)	17	17	17	17	16	84/76

B. 1962–3 Against 1974–5

Quintiles of the 1962–3 per capita income scale	Quintiles of the 1974–5 per capita income scale					Total households (1962–3)
	1	2	3	4	5	
1 (poorest)	0.18	0.24	0.12	0.24	0.24	17
2	0.28	0.39	0.06	0.17	0.11	17
3	0.26	0.11	0.26	0.21	0.16	17
4	0.15	0.25	0.35	0.20	0.05	17
5 (richest)	0.17	0.08	0.21	0.17	0.38	16
Total households (1974–5)	20	20	20	19	19	98/84

C. 1974–5 Against 1983–4

Quintiles of the 1974–5 per capita income scale	Quintiles of the 1983–4 per capita income scale					Total households (1974–5)
	1	2	3	4	5	
1 (poorest)	0.16	0.20	0.36	0.28	0.00	20
2	0.42	0.23	0.04	0.08	0.23	20
3	0.08	0.20	0.20	0.20	0.32	20
4	0.27	0.23	0.23	0.14	0.14	19
5 (richest)	0.05	0.14	0.18	0.32	0.32	19
Total households (1983–4)	24	24	24	24	24	120/98

Notes:

1. Each row gives the frequency distribution of households from a particular quintile of the row year's per capita income scale in terms of their position in the column year's per capita income scale. Thus, the entries in each row add up to one.

2. The discrepancy which occurs between the totals of the terminal row and terminal column is due to the process of household partitioning.

3. Households which partitioned during the interval between the row and column year were each given the per capita income of the original households for the earlier year, against which their terminal year income was compared.

5. Mobility of Agricultural Labour Households

We saw in chapters 1 and 2, and also in previous sections of this chapter, that involvement in agricultural labour is strongly associated with poverty. We shall argue in this section that whilst there is some evidence of relative income mobility amongst agricultural labourers, at least some of this movement is due less to changes in per capita incomes of agricultural labourers than to changes in their position *vis-à-vis* cultivators whose incomes are more sharply influenced by the quality of the harvest. We shall also argue that for agricultural labourers occupational mobility is quite low, and that agricultural labourers who do experience upward mobility tend to be those who succeed in diversifying out of agricultural labour. We consider first the income mobility of agricultural labour households and then turn to their occupational mobility.

In Tables 11a–11c we focus on the income mobility of the 17 households which were originally involved in agricultural labour in 1957–8. Due to household partitioning there were 19 households in 1962–3 which could be traced to these original 17. Similarly, there were 23 such households in 1974–5 and 29 in 1983–4.

In all three tables we see considerable movement in the relative income space. This does not come as a great surprise for a number of reasons. First, the quintiles within which households are located in a particular year are on the basis of per capita income, and any demographic change occurring between two survey years can thus affect in a substantial way a household's ranking in per capita income terms. Second, the impact of harvest quality on cultivation income for cultivating households could alter the relative position of agricultural labour households (even if the absolute real incomes of agricultural labourers remain more or less the same). Finally, although we argue

below that occupational mobility among agricultural labour households is low, it is not absent.

Table 11a : Income Mobility of Agricultural Labour Households: 1957–8 to 1962–3

Quintiles of the 1957–8 per capita income scale	Number of 1962–3 agricultural labour households which belonged to that quintile in 1957–8a	Distribution of these households in the 1962–3 per capita income scalea (number of households in each quintile)				
		1	2	3	4	5
1 (poorest)	11 (3)	2 (1)	3 (2)	2 (0)	3 (0)	1 (0)
2	3 (3)	2 (2)	1 (1)	0	0	0
3	3 (3)	2 (2)	1 (1)	0	0	0
4	2 (2)	0	0	1 (1)	1 (1)	0
5	0	0	0	0	0	0
Total	19 (11)	6 (5)	6 (4)	3 (1)	4 (1)	1 (0)

Table 11b : Income Mobility of Agricultural Labour Households: 1962–3 to 1974–5

Quintiles of the 1962–3 per capita income scale	Number of 1974–5 agricultural labour households which belonged to that quintile in 1962–3a	Distribution of these households in the 1974–5 per capita income scale[a] (number of households in each quintile)				
		1	2	3	4	5
1 (poorest)	6 (5)	2 (2)	3 (3)	0	1 (0)	0
2	6 (4)	3 (3)	2 (1)	1 (0)	0	0
3	5 (4)	5 (4)	0	0	0	0
4	5 (5)	2 (2)	1 (1)	1 (1)	1 (1)	0
5	1 (0)	0	1 (0)	0	0	0
Total	23 (18)	12 (11)	7 (5)	2 (1)	2 (1)	0

[a]   In brackets, the number of households (within the same group) which were still involved in agricultural labour in 1962–3 (Table 11a) and in 1974–5 (Table 11b).

Note: If a household partitioned between 1957–8 and 1962–3 (see Table 11a), each of the relevant household units in 1962–3 is considered to have belonged to the same quintile of the per capita income scale in 1957–8 (namely, the quintile where the unpartitioned household was placed in that year). Similarly, in Table 11b, if a household partitioned between 1962–3 and 1974–5, each of the relevant household units in 1974–5 is considered to have belonged to the same quintile of the per capita income scale in 1962–3.

Table 11c : Income Mobility of Agricultural Labour Households: 1974–5 to 1983–4

Quintiles of the 1974–5 per capita income scale	Number of 1983–4 agricultural labour households which belonged to that quintile in 1974–5[a]	Distribution of these households in the 1983–4 per capita income scale[a] (number of households in each quintile)				
		1	2	3	4	5
1 (poorest)	16 (9)	4 (2)	3 (2)	5 (4)	4 (1)	0
2	9 (6)	4 (3)	1 (1)	0	2 (2)	2 (0)
3	2 (1)	1 (1)	0	1 (0)	0	0
4	2 (2)	1 (1)	1 (1)	0	0	0
5	0	0	0	0	0	0
Total	29 (18)	10 (7)	5 (4)	6 (4)	6 (3)	2 (0)

[a] In brackets, the number of households (within the same group) which were still involved in agricultural labour in 1983–4.

Notes:

1. Agricultural labour households are defined in Tables 11a, b, c, as those that derive at least some income from agricultural labour.

2. If a household partitioned between 1974–5 and 1983–4, each of the relevant household units in 1983–4 is considered to have belonged to the same quintile of the per capita income scale in 1974–5 (namely, the quintile where the unpartitioned household was placed in that year).

An immediate caveat to the impression of income mobility emerging from Tables 11a–11c is that in each respective comparison of relative income rankings, between a quarter and a third of income mobility occurs (upward or downward) between the first and second quintiles. This reminds us that movement in terms of per capita income rankings need not translate directly into movement out of, or into, poverty. Even among the chronically poor there can be considerable income mobility.

We have seen in earlier chapters (chapters 2 and 3) that there was considerable variation in quality of harvest across the four survey years. Actual crop yields in 1957–8 were roughly equal to 'normal'

or expected yields, but in 1962–3 a number of cultivators experienced harvest failures. The harvest was better than expected in 1974–5, but in 1983–4 the harvest was once again a poor one. It is interesting to examine the position of agricultural households in the relative income scale against this background of harvest fluctuations. Assuming that incomes of cultivating households are more directly linked to such harvest fluctuations than the incomes of agricultural labourers (which is reasonable to the extent that agricultural labourers derive a larger share of their income from activities, such as field preparation, which occur before the harvest), then one would expect to see upward mobility of agricultural labourers between 'good' years and 'bad' years. Similarly, we would expect to see downward mobility in moving from a year of bad harvests to a year of good harvests.

The pattern of income mobility of agricultural labourers, as illustrated in Tables 11a–11c, does indeed follow this path to some degree. Between 1957–8 and 1962–3 there was more upward mobility than downward mobility amongst agricultural labourers: 9 households improved their position while 6 dropped in ranking. This was reversed between 1962–3 and 1974–5, when 13 households experienced downward mobility and only 5 experienced upward mobility. And then between 1974–5 and 1983–4 there was once again a disproportionate amount of upward mobility amongst agricultural labourers, with 16 moving up in ranking and 7 moving down. There is thus some support for the notion that harvest quality was an important influence on the mobility of agricultural labour households, with the relative position of agricultural labourers improving in years of poor harvest. This suggests that at least a portion of the income mobility observed amongst agricultural labourers is associated not so much with underlying structural changes in their living standards as with agroclimatic fluctuations.

Of course, some of the income mobility observed in Tables 11a–11c is real. In addition to harvest quality, occupational change also contributes to income mobility of agricultural labourers. Whilst it is not easy to move away from agricultural labour, exit does occur and is generally associated with upward mobility. In all three tables, we see upward mobility occurring more frequently amongst households which had moved away from agricultural labour. Between 1957–8 and 1962–3, 7 out of 9 upwardly mobile households had done this. Again, 2 out of 5 upwardly mobile households between 1962–3 and 1974–5 had moved away from agricultural labour and only these two had risen

above the bottom 40 per cent of the population. Similarly, of the 11 households between 1974–5 and 1983–4 who had moved away from agricultural labour, only 1 dropped in relative position and 7 had moved up.

The tables presented here are based on a classification of households as 'agricultural labour' if any of their income came from agricultural labour. We have carried out similar tabulations and analysis based on a classification as 'agricultural labour', if at least 20 per cent of the income came from this source. The conclusions are similar.

Against this background, we now turn to the issue of *occupational mobility* among agricultural labourers. Remember that households generally have more than one income-earning activity and 'agricultural labour household' here means that the household obtains some income from agricultural labour. From Table 12, we can see how many of the households involved in agricultural labour in any particular year remained involved in agricultural labour in subsequent years. For instance, the first row indicates that 17 agricultural labour households in 1957–8 partitioned into 29 households by 1983–4, out of which 18 were still involved in agricultural labour. Since the total number of agricultural labour households in 1983–4 was 34 (last entry in the table), we can also infer that, between 1957–8 and 1983–4, 16 households 'entered' this occupational category.

It is important to point out that the 'occupational changes' suggested by Table 12 are attributable to very diverse factors, only some of which would be indicative of occupational mobility in the ordinary sense of the term. To illustrate, Table 13 provides a closer look at the occupational changes that have occurred between 1974–5 and 1983–4, concentrating specifically on the 14 households who have 'exited' from agricultural labour between these two years (see Table 12, third row, last column). Out of 11 households for which the method of exit could be ascertained, only 5 had actually adopted a new occupation. The others were attributable to one of the following causes: (1) household partition, resulting in apparent occupational change even if the individual occupations of the household members remained unchanged; (2) death or old age of an agricultural labourer; (3) classification uncertainties. Thus demographic events can play a prominent role in occupational classification, just as we have found in chapter 2 that they exert a profound influence on income and landholding.

The fact that only 5 out of 27 agricultural labour households

Table 12 : Occupational Mobility of Agricultural Labour Households

	1957–8	1962–3	1974–5	1983–4
1957–8	17	11 (8)	18 (5)	18 (11)
1962–3	–	13	12 (4)	12 (5)
1974–5	–	–	27	24 (14)
1983–4	–	–	–	34

Note: The diagonal entries simply indicate the number of agricultural labour households in the reference year. The entries further in the same *row* indicate how the occupations of the same households have evolved in subsequent years: the number inside brackets indicates the number of households that have moved out of agricultural labour. Note that the number of households increases over time, due to household partitions. Thus, 17 agricultural labour households in 1957–8 partitioned into 29 households in 1983–4, of which 18 were still involved in agricultural labour in that year. The reference population in this table is the 'continuing' village population (as in preceding tables).

Table 13 : Exit from Agricultural Labour: 1974–5 to 1983–4

Method of Exit	Number of Households
1. Old Age or Death of Labourer	2
2. Household Partition (Without Individual Occupation Changes)	3
3. Classification Difficulty	1
4. Obtained a New Job	5
5. Single Reason could not be Ascertained	3
Total	14

managed to quit this occupation over a 9 year period (1974–5 to 1983–4) is indicative of some rigidity in the occupational structure, in contrast with the high degree of income mobility discussed earlier. Each of these 5 cases occurred as a result of obtaining wage employment outside the village.

In Table 14, we present the results of probit estimations which bring out the relationship between household characteristics and the probability of being involved in agricultural labour. For each of the

three survey years for which this relationship has been examined (1962–3, 1974–5 and 1983–4), the probability of involvement in agricultural labour increases very significantly if the household in question was involved in agricultural labour in the preceding survey year. If we take all other variables at their means, and calculate the probability of a household being involved in agricultural labour depending on whether it was or was not involved in this occupation during the preceding survey year, we find that the probability of involvement is higher in the former case by 59 percentage points for 1962–3, 67 percentage points for 1974–5 and 46 percentage points for 1983–4.[419]

Table 14 : Probit Analysis of the Characteristics of Agricultural Labour Households

Dependent variable: 0–1 Variable taking the value 1 if a household is involved in agricultural labour.			
	Model		
Explanatory variable	1962–3 (84 obs.)	1974–5 (98 obs.)	1983–4 (120 obs.)
Household Partition since the preceding survey year (dummy)	−0.32 (0.64)	0.17 (0.70)	−0.22 (0.53)
Education	−0.04 (0.77)	−0.43 (0.19)	−0.08 (0.04)
Involvement in agricultural labour in the preceding survey year (dummy)	2.45 (0.00)	1.71 (0.00)	1.42 (0.00)
Land Cultivated	−0.05 (0.18)	−0.03 (0.03)	−0.02 (0.03)
Landlessness (dummy)	−0.70 (0.43)	−0.15 (0.83)	−0.25 (0.60)
Number of adult males	0.47 (0.11)	0.45 (0.02)	0.23 (0.08)
Jatab caste (dummy)	−1.25 (0.12)	1.95 (0.00)	−0.02 (0.97)
Intercept	−1.79 (0.03)	−1.37 (0.00)	−0.80 (0.03)

Notes:

1. In brackets, the probability that the estimated parameter is equal to zero.

2. The reference population in this regression is the 'permanent' village population.

For 1974–5 and 1983–4, the other significant variables in these probit regressions are: (1) the amount of land cultivated, with increasing land operated having the expected negative effect on the probability of involvement in agricultural labour; (2) the number of adult males in the household, with the expected positive sign; (3) the level of education of the most educated household member (significant in 1983–4 only), with a negative sign as expected; (4) the dummy indicating membership of the Jatab caste (significant in 1974–5), with a positive sign. For 1962–3, none of these other variables are significant. The occupational data (as other data) for 1962–3 are likely to be less reliable than for other years, and this may be the reason for the poor regression results for that year.

These regression results confirm the limited occupational mobility of agricultural labour households, especially if we remember that these regressions give the same treatment to *all* sources of (upward and downward) occupational 'mobility', including some quite spurious ones (e.g. household partition). Taken together with the high incidence of poverty in this group (discussed in section 2 and section 3), this observation represents an important qualification to the finding of high mobility in the space of current incomes for the village as a whole.

6. Concluding Comments

An analysis of poverty should involve at a very early stage asking the basic question: 'Who are the poor?'. This requires specifying definitions of poverty and the poor which can be used in applied analysis, and identifying who are the poor

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[419] This is found by calculating the 'z' value from the probit equation when all variables are at their means, except the dummy variable representing earlier involvement in agricultural labour. We can then obtain the probabilities from the standard normal table.

under the different definitions. One can then ask how policy can be designed so that the economic status of the poor may be advanced, together with the cost and efficiency, appropriately defined, of the different possible policies. Indicators that can be used for applied research may not be feasible for policy administration. The emphasis in this chapter has been on the first set of questions although our answers to them for Palanpur do have implications for the second.

We have concentrated on two indicators of economic status for the

purpose of examining who the most vulnerable are. The first is the 'observed means' index constructed by Jean Drèze and Naresh Sharma on the basis of their close knowledge of village households in 1983–4. The second is income, both current and 'long-term' where the latter refers to a simple average over survey years. Although it has not been our objective here to explore in detail the precise meaning and content of economic status and/or the standard-of-living (see for example, Sen 1987), we have been concerned, via the observed means index, with indicators which go beyond income.

The index of 'observed means' was constructed only for 1983–4. The relationship between other income measures and the 'observed means' criterion was explored. Generally, the changes in the picture resulting from the different measures ('observed means', current income, and 'long-term' income), together with the volatility of income, confirm the inadequacy of income, in its short-term sense, as a basis for identifying the poor. This conclusion is strengthened if we consider that 'noise' in an income measure may systematically bias our conclusions regarding the incidence of poverty among different groups.

Absolute poverty in Palanpur, as measured by Dandekar and Rath (1971) standards (based on nutritional norms), has declined from around 40–50 per cent in the 1950s and 1960s to around 20–30 per cent in the 1970s and 1980s. However, the variability in incomes across years implied that in a bad year such as 1983–4 poverty defined with respect to current income was as high as 42 per cent compared with a medium-term level of (probably) below 30 per cent whereas in a good year 1974–5 it was misleadingly low at 13 per cent. In Palanpur, during each of the four survey years, a number of households were found with incomes substantially below the absolute poverty line. This points to the importance of avoiding treatment of the poor as a homogeneous group and reminds us that for any poverty line some households will be more severely deprived than others.

Aspects of economic status other than income, such as asset holdings, have an association with 'observed means' but are far from perfectly correlated with it. Whilst landlessness is linked to poverty the link is not overwhelmingly strong. Outside jobs, traditional occupations, and remittances help to protect households from poverty. The phenomenon of household partition also clouds the landlessness picture. If sons retain entitlement to the use of their fathers' land after

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household is partitioned, a sharp rise in landlessness should not necessarily be associated with a dramatic increase in poverty.

Involvement in agricultural labour is strongly associated with poverty. Conversely, those households with regular outside employment are unlikely to be poor. The other group with highest 'poverty risk' is the Jatab caste, which ranks lowest in the caste hierarchy of Palanpur. Whilst education in Palanpur is unevenly distributed and illiteracy is common, it remains striking that the Jatabs are almost entirely illiterate.

We saw that mobility in Palanpur, based on current income, is substantial and has been increasing over time. The measurement of high and increasing mobility appears to survive adjustments to take into account overall variation in agricultural incomes from year to year. However, the strong association of agricultural labour with poverty is compounded by their lack of mobility out of that occupation and out of poverty. Against a background of considerable movement and real improvements in living conditions for some households, one sizeable and clearly defined group of households in Palanpur has remained largely on the sidelines.

Chapter 5 Inequality

Peter Lanjouw and Nicholas Stern

Introduction

In this chapter we examine how the distribution of income and land has altered under the influence of the demographic, technological, and economic changes described in previous chapters, taking into account how processes and outcomes relate to the operation of village markets and institutions. The analysis is based on data from the first four household surveys of the village, between 1957–8 and 1983–4 (hereafter 'the reference period'). Although we are in a position to follow the fortunes of families over time, the work described here involves mainly a comparison of the distributions of income corresponding to each survey year rather than a detailed analysis of the panel aspects of the data. These will, however, be invoked from time to time and will play an important role in some of the arguments. Some panel aspects were discussed, in the context of mobility, in the preceding chapter.

The previous chapter focused primarily on households in lower deciles of the income scale. While we were careful not to treat the poor as a homogeneous group, we found that in terms of caste, occupation, family composition, and exposure to risk, the poor could often be seen as a fairly well-defined group. In this chapter, we widen the focus to examine the distribution of income as a whole. Examining the forces which shape the distribution of income (such as the quality of harvest, the distribution of cultivated land, and employment in non-agricultural jobs) provides insights into the broad determinants of poverty and living standards in the village. In addition, economic inequality is an important issue in its own right, in so far as it influences village organization and politics.[420]

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[420] Some of the relevant links are discussed in chapters 1 and 2.

1. Changes in the Palanpur Economy and Their Effects on Inequality

The essential features of our analysis of changing inequality are now discussed briefly, to provide a structure for the more detailed discussion that follows. A summary of the picture of economic change in the village over the reference period is presented in Table 1 (see appendix to chapter 2 for a more detailed version). The growth in the village population over the 26-year period averaged 2.3 per cent per annum, a rate close to, but slightly higher than, that for India as a whole. As discussed in chapter 2, there has been a slow but steady increase in real per capita income over this period, perhaps of the order of 1.5–2 per cent per year. There has also been some increase in real agricultural wages (particularly towards the end of the reference period). Real wages for regular outside jobs rose rather faster than real income per capita. Average wheat yields approximately tripled. We note that 1957–8 and 1974–5 were average or better years for agriculture, while 1962–3 and 1983–4 suffered from poor harvests.

Table 1 : Broad Indicators of Economic Change in Palanpur (1957–84)

	1957–8	1962–3	1974–5	1983–4
Population	528	585	757	960
Village real income (Rs)	85,166	88,935	208,024	186,432
Real income/capita (Rs)	161.3	152.0	274.8	194.2
Price index	1.07	0.98	3.78	5.28
Index of real agricultural daily wages (1962–3=100)	123	100	123	158
Agricultural daily wages (kg wheat/day)	2.5	2.25	3.1	5.0
Index of real wages for regular outside jobs	n.a.	100	122	193
Wheat yields, actual kgs/bigha	40	41	114	101
Wheat yields, normal kgs/bigha	40–50	50	100	150–60

Notes:

1. The price index is taken from the Consumer Price Index for Agricultural Labourers (CPIAL) in Uttar Pradesh. See Appendix to chapter 3 for further details.

2. 'Normal' yields correspond to the perceived normal yield for Palanpur in the respective year.

We shall see that the arrival of 'Green Revolution' practices and technologies in Palanpur coincided, at least initially, with a reduction in income inequality (the new agricultural technologies were first introduced between the 1962–3 and 1974–5 surveys). Two factors appear to have been involved. First, irrigation reduces variability in yield and thus has an equalizing effect on incomes. This effect seems to have been particularly strong in a good agricultural year (1974–5) — in such a year 'errant' farming practices may be less heavily penalized. Second, the distribution of land cultivated in 1974–5 was somewhat more equal than in other years. This occurred as the result of a combination of three factors. First, there was some decline in the proportion of land owned by one group of land owners — namely the Thakurs. Insofar as the relative decline of the Thakurs as landowners, and the corresponding rise in the position of the Muraos was hastened by the new technologies that emerged around this time, it could be argued that at least initially, these

technologies contributed to the reduction in income inequality. Second, some of the largest land ownership holdings *within* this group were broken up due to family partitioning.[421] Third, there was a tendency in 1974–5 towards the equalization of cultivated holdings through tenancy and sharecropping transactions as households with high ownership endowments leased out land, while those with smaller endowments did the opposite.[422]

This equalizing effect of tenancy on the distribution of agricultural holdings faded by the end of the reference period, as a number of larger landholders (particularly Muraos) started leasing in land while others with very small plots gave up agriculture. As is discussed further in chapter 8, this development partly reflected the greater capital intensity of agriculture, which reduced the comparative advantage of small farmers (who have less equipment and borrowing power) on the tenancy market. In terms of income distribution the increasing dispersion in land cultivated may have been compounded by the more adverse climatic conditions which led to greater dispersion in yield per acre in 1983–4.

Growing diversification in the economy of the village brought additional sources of income inequality. In particular, the large

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[421] On the decline of Thakurs as landowners and the role of family partitioning in changing the distribution of land ownership see also section 2.1 and 3.2 in chapters 2 and 3 respectively.

[422] On this point, see also chapter 8.

increase in off-farm employment between the surveys in 1974–5 and 1983–4 had its impact on the overall distribution of income. Towards the end of the reference period, the relative involvement of higher caste and better-endowed households in outside employment significantly increased (on this see chapter 2). The large share of outside job incomes in 1983–4 (partly due to the low agricultural incomes in that year, and partly as a consequence of the increased number of villagers with such jobs) led to wage earnings outside agriculture becoming a source of inequality of similar importance to agricultural incomes even though outside jobs represented only one-third of total income.[423] Taken together, these changes in agriculture and in non-agricultural employment led to some resurgence of income inequality between 1974–5 and 1983–4, though the level of income inequality in 1983–4 (based on the most common measures) remained below the 1957–8 and 1962–3 levels.

Movements in the inequality of land ownership seem to be much smaller than those in income inequality. On average less than 1 per cent of the village land is sold in any one year whereas one-quarter to one-third of the land would be under tenancy. Other sources of change in land distribution, such as the process of inheritance and partition, did not have a marked effect on inequality either. On the whole, the distribution of land owned has been remarkably stable during the reference period. Landlessness increased a little between 1974–5 and 1983–4 but this was almost entirely due to the early division of certain households in the sense that a number of sons decided to live separately from their fathers before the land was divided and thus became temporarily landless (see chapter 2). Other movements in land ownership were connected with distress sales brought about by such factors as ill-health or dissipation, and not by agricultural failure. Those who bought land tended to be those who were successful in agriculture. As we have noted the more successful groups were also taking more land under tenancy.

The remainder of this chapter provides the analytical evidence underlying the general picture we have described here. In the next section

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[423] In this chapter, as in earlier chapters, the terms 'outside jobs' and 'outside employment' refer to wage employment outside the village, and may be considered as more or less synonymous with non-agricultural wage employment. The calculations of *earnings* from outside jobs actually exclude *casual* labour outside the village; this component of total outside earnings, however, is very small.

we examine inequality of income, decomposing it into contributions from its main elements, agricultural income and outside job income. In section 3 we consider the expansion of outside employment. Section 4 contains an analysis of the impact of agricultural change, considering first the distribution of land and then agricultural incomes. Some concluding comments are offered in section 5.

2. Income Inequality

2.1 Trends in Income Inequality

Inequality in the distribution of income, as measured in the four surveys between 1957 and 1984, did not follow a monotonic path.[424] In Table 2 we see that between 1957–8 and 1962–3 inequality increased according to a range of summary measures. If we take the individual as the basic unit and, where household size is *m,* attribute household income divided by *m* to each household member, we find that the Gini coefficient of income inequality rose from 0.336 to 0.390.[425]. Given ranges of Gini coefficients in other contexts, this can be regarded as a substantial increase. From Figure 1, we see that the Lorenz curve of per capita incomes for 1962–3 lies outside that of all other years, implying that a wide range of plausible inequality measures would identify the 1962–3 distribution as being the most unequally distributed (Atkinson 1970). Between 1962–3 and 1974–5, inequality as measured by the Gini coefficient fell dramatically from 0.390 to 0.253, and between 1974–5 and 1983–4 it rose again to 0.307. Most summary measures of inequality would present the 1983–4 distribution as more equal than the 1957–8 distribution. However, from the Lorenz curves in Figure 1, we see that the 1983–4 curve lies below the 1957–8 curve at the lower end of the per capita income scale, implying that the poor in 1983–4 received a lower share of total income than the poor in 1957–8. For this reason an Atkinson index with high 'inequality aversion' (a parameter greater than or equal to 2 in Table 2) ranks 1983–4 as more unequal than 1957–8.

The calculations presented in Table 2 are based on the distribution of individual income, where the attribution from households to individuals is in the manner described in the preceding paragraph. Inequality in household income itself is not a particularly useful

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[424]   See Appendix to chapter 3   for a discussion of the measurement of income.

[425]   See below for a discussion of the treatment of household size and composition.

Figure 1: *Lorenz Curves for the Four Survey Years*
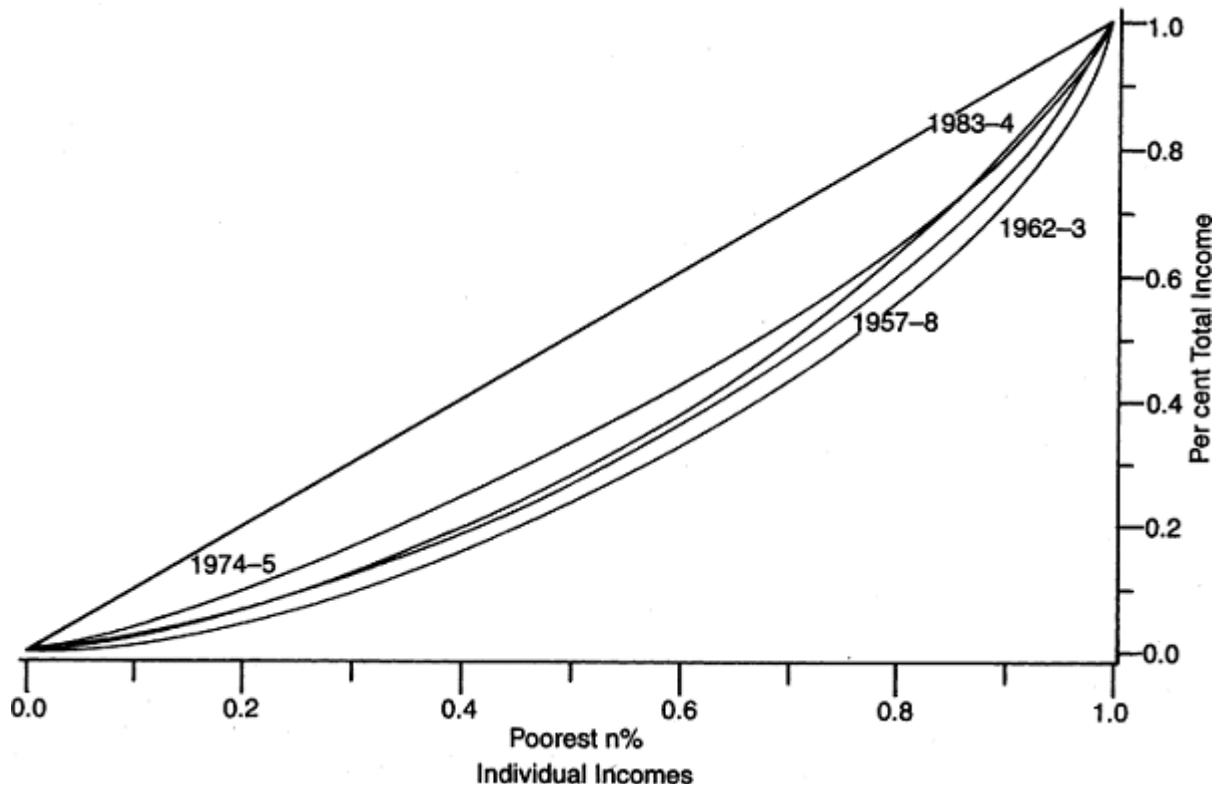
Table 2 : Inequality of Individual Incomes

	1957–8	1962–3	1974–5	1983–4
Gini Coefficient	0.336	0.390	0.253	0.307
Coefficient of varia-tion	0.649	0.871	0.504	0.545
Atkinson $\varepsilon = 1$	0.178	0.251	0.105	0.158[a]
$\varepsilon = 2$	0.338	0.485	0.206	0.342
$\varepsilon = 5$	0.647	0.821	0.483	0.741[a]
No. of observations	528	585	757	960
(No. of households)	(100)	(106)	(111)	(143)

Note: Individual income is household income divided by household size.

[a] The Atkinson measure with $\varepsilon = 1$ cannot be computed for 1983–4 because one household recorded a negative income in that year. The figures provided here correspond to the population of 142 households (954 individuals) with positive incomes.

Higher values of ε in the Atkinson class represent greater inequality aversion, see Atkinson (1970).

concept when households vary in size (see Cowell 1984a).[426] Experiments with dividing household income by 'adult equivalent members' to correct for the lower consumption requirements of children made little difference to the analysis presented here. In Table 3 we show the effect on measured inequality of using three different sets of equivalence scales. The effect of using different equivalence scales turns out to be small regardless of the choice of equivalence scales or inequality measure. Further, whether measured inequality goes up or down on the introduction of these equivalence scales, depends on which equivalence scales are used. For example, if we consider the Atkinson measure with $\varepsilon = 2$, inequality rises from 0.319 to 0.328 if we use the equivalence scales provided by Paul (1989), and falls from 0.319 to 0.316 if we use the scales proposed by Jaramillo and Pinstrup–Andersen (1986). Similar findings apply when households rather than individuals are taken as the basic unit. Given that there is no unambiguously superior set of equivalence scales in our context

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[426] Cowell (1984b) presents an additional argument for using individual incomes which is particularly pertinent to Palanpur. He argues that the occurrence of household splits makes the household a potentially misleading unit of observation. See below for further discussion of the impact of household splits on the Palanpur economy.

and that their use does not seem to have much effect on measured inequality, we have chosen to keep things simple by not adjusting for 'equivalent units'.

Table 3 : Impact of Different Equivalence Scales on Income Inequality

Inequality measure	Unadjusted income inequality	Inequality of equivalent income for different equivalence scales		
		ICRISAT	Jaramillo and Pinstrup-Andersen	Paul
Gini coefficient	0.307	0.305	0.305	0.305
Atkinson Class				
$\varepsilon = 2$	0.319	0.312	0.316	0.328
$\varepsilon = 5$	0.739	0.719	0.729	0.758
General Entropy				
c = 2	0.149	0.146	0.145	0.146

Notes:

1. This simulation is carried out using income data for 1983–4 only. As in Table 2, the individual is the basic unit of analysis; individual 'equivalent income' is household income divided by the number of 'adult equivalent members'.

2. The ICRISAT equivalence scales were provided in a private communication from staff at ICRISAT in Hyderabad, Andhra Pradesh; the Jaramillo and Pinstrup-Andersen equivalence scale is taken from Jaramillo and Pinstrup-Andersen (1986); the Paul scales are taken from Paul (1989). As an example, the Pinstrup-Andersen scale gives weights of 0.34, 0.59, 0.79 and 0.92 respectively (*vis-à-vis* adult males) to children below age 1, children aged 1–5, females aged above 5, and boys aged 5–15. The first two sets of scales are 'needs-based' in that they attribute individual requirements based on some external assessment of needs. The Paul (1989) equivalence scales are based on observed household behaviour.

3. The General Entropy measure with c=2 is ordinally equivalent to the coefficient of variation, see Cowell (1995).

The overall levels of income as well as the distribution of relative incomes are of relevance in assessing income distributions and in Figure 2 we combine these considerations. Following Shorrocks (1983) we present generalized Lorenz curves for the distributions for

Figure 2: Generalized Lorenz Curves for the Four Survey Years
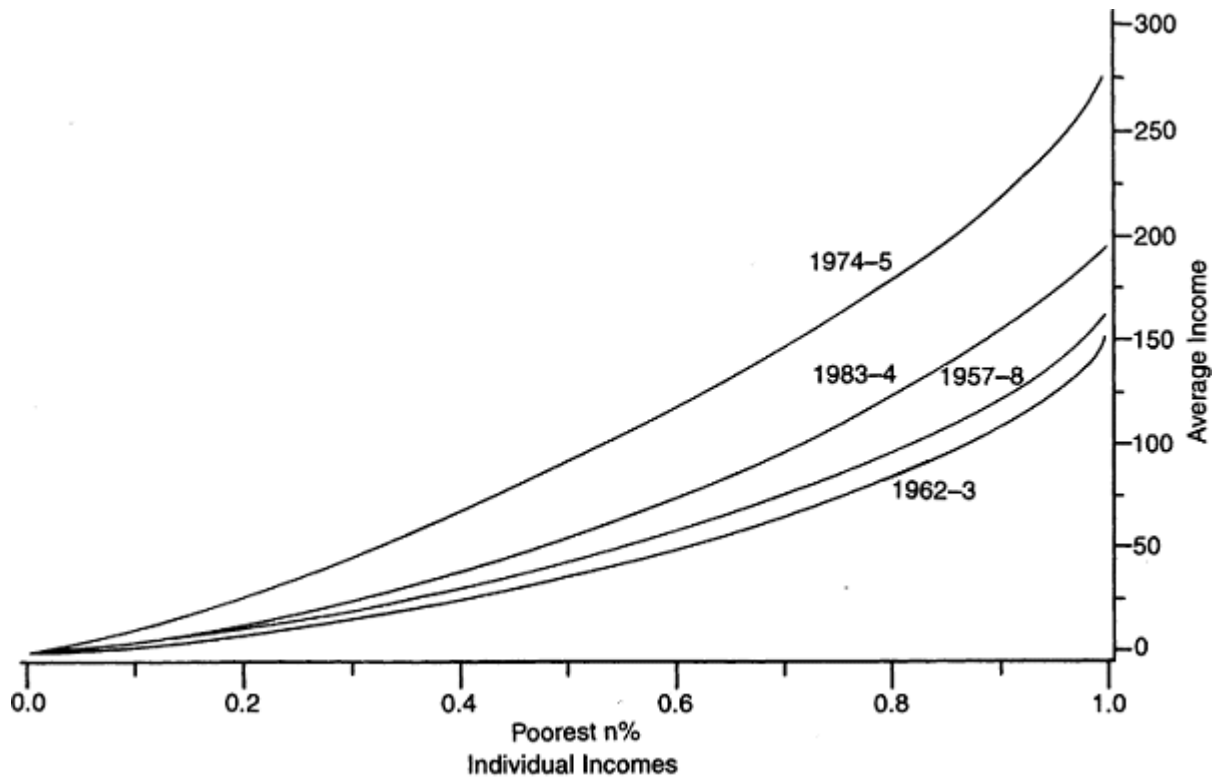
each of the four years. Generalized Lorenz curves are constructed by simply scaling the Lorenz curves for different distributions by their mean. Shorrocks shows that if a generalized curve for a particular distribution lies everywhere above that of another, then one can say that welfare in the former distribution, as represented by a fairly wide class of social welfare functions, is unambiguously higher.[427] It can be seen that although average income in 1983–4 is greater than in 1957–8 and 1962–3, the generalized Lorenz curve for 1983–4 does not lie everywhere above that for 1957–8, and hence we cannot rank 1983–4 higher than 1957–8 in terms of social welfare, irrespective of the weights assigned to different income groups. It is a feature of the generalized Lorenz curve approach to welfare comparisons that for a distribution to dominate another, it must have a higher (or no lower) minimum income. In 1983–4 one household reported a *negative* income, due to crop failures.[428] Consequently, even if all other incomes in 1983–4 had been very high and equally distributed, the generalized Lorenz curve for that year would not be able to dominate those of the other years.[429] The curve for 1974–5 clearly lies above that for all three other years.

One problem that arises in the interpretation of inequality trends over the reference period is that the composition of the village in terms of households is different in each survey year, for several reasons (see also chapters 2 and 3). First, households may partition over time. Second, between 1957–8 and 1983–4 a few households joined the village while some others left. Third, sometimes a particular household was away for one of the survey years and could not be interviewed. For all these reasons, there is no simple one-to-one correspondence linking all the households in one survey year to those of another survey year.

In order to examine whether changes in village composition affect the picture of inequality trends, a subset of the village households was considered, consisting of those which could be traced through all four survey years. Any newcomer or departing household was ignored but

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[427] The social welfare functions are assumed to be increasing in incomes, Schur-concave, and to satisfy the property of anonymity. The latter assumption is particularly

[428] A negative income also invalidates Atkinson inequality measures with parameter values greater than 1 (see Note 1 to Table 2).

[429] Howes (1993) proposes a modified approach of 'restricted dominance' whereby minimum income levels do not exert such an influence in welfare comparisons.

splitting households were retained. We will refer to this subset of the village population as the 'continuing population' (see also chapter 3). It turns out that inequality of income within this group basically mirrors the experience of the population as a whole, although in all years inequality is a little lower. Changes between the years seem to be of roughly the same magnitude.

Table 4a : Caste and Incomes (4 Survey Years)

	Per capita real income (Rupees)			
Caste	1957–8	1962–3	1974–5	1983–4
Thakur	186	164	355	200 (217)
Murao	254	209	365	231 (217)
Dhimar	115	91	202	181 (74)
Gadaria	188	197	242	202 (83)
Dhobi	236	686	154	159 (27)
Teli	108	98	204	147 (92)
Passi	175	264	275	218 (79)
Jatab	149	104	195	85 (118)
Others	129	96	256	184 (53)

Notes:

1. Figures in brackets correspond to number of individuals in each caste in 1983–4.

2. Per capita income figures correspond to average per capita income (total caste income divided by total number of individuals per caste).

Table 4b : Inequality Between Castes (4 Survey Years)

	Theil Index T(Y)	Within component	Between
1957–8	0.1858	0.1438 (77)	0.0419 (23)
1962–3	0.2742	0.2201 (80)	0.0541 (20)
1974–5	0.1106	0.0825 (75)	0.0281 (25)
1983–4	0.1510	0.1126 (75)	0.0384 (25)

Notes:

1. The decomposition is based on the same caste grouping as in Table 4a.

2. The Theil index is defined in Cowell (1995), see also Sen (1973).

3. Percentage within brackets.

Finally, in Table 4a we present mean per capita incomes for the different castes in Palanpur. Following Shorrocks (1980) and others (Cowell 1980 and Bourgignon 1979) we decompose inequality between castes, using the Theil Index, to assess the extent to which total income inequality is due to between-caste and within-caste differences. We see in Table 4b that the bulk of inequality in all four survey years can be attributed to the within-caste component. Nonetheless, roughly 25 per cent of inequality as represented by this particular summary statistic is the result of between-caste differences in all four years. There appears to have been little change in this respect over the reference period.[430]

2.2 Inequality and the Components of Income

[430] While the between-caste component here seems low, it should be noted that it is higher than that found in some similar studies in other contexts. For example, in an investigation of inequality in Malaysia in the 1970s, Anand (1983) notes that perceived racial inequalities had prompted an extensive range of government policies favouring Malays *vis-à-vis* Chinese, Indians, and Europeans. Yet he found that less than 10 per cent of individual income inequality could be attributed to the between-race component in his decomposition of the Theil index.

One objective of this chapter is to arrive at some understanding of the causes of changes in income inequality in Palanpur over the four survey years. Our analysis will focus on the different components of income principally cultivation income and earnings from jobs outside agriculture.[431] Agricultural labour income is treated separately and may be negative for households which hire in labour. The main source of income besides agriculture is wage employment outside the village, although some small nonagricultural income is earned inside the village. The contribution of these three different components to total income, for each decile of the per capita income scale in each survey year, is provided in Tables 5(a)–(d).[432] The proportions vary both across years and by decile. For the village as a whole in 1983–4, outside jobs contributed 34 per cent of total village income, the proportion

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[431] It should be noted that agricultural income as we have defined it is not solely the difference between output and costs on land cultivated by the household. It also incorporates share-rents received by households on land which they have leased out, and paid by tenants on the land they have leased in (see Appendix to chapter 3).

[432] These tables do not include a residual income component, which includes incomes from such sources as remittances, customary payments, self-employment, and casual non-agricultural employment.

Table 5(a): Components of Income by Decile

	Average value for different deciles of the per capita income scale[a] (1957–8)										village average (%)
	d=1	d=2	d=3	d=4	d=5	d=6	d=7	d=8	d=9	d=10	
Income components											
pcrinc	41.70	72.59	87.23	110.74	133.51	158.20	183.41	227.04	292.86	446.73	161.32 (100)
pcra-ginc	23.30	32.89	65.78	89.08	80.41	136.72	134.80	212.62	236.59	363.50	126.63 (79)
pcrou-tinc	0.00	8.48	9.54	0.00	20.49	16.55	6.47	15.67	30.59	36.85	13.09 (8)
pcra-glab	6.74	23.96	9.58	13.38	26.53	4.98	35.51	0.00	11.01	12.82	14.21 (9)
Household characteristics											
HH size	5.5	6.7	4.7	5.1	5.4	6.1	5.2	7.3	3.3	3.5	5.3
Adm	1.1	1.5	1.6	1.5	1.5	2.1	2.2	2.6	1.4	1.4	1.7
education	1.0	0.4	0.6	1.0	1.6	2.6	1.8	2.9	1.0	0.6	1.4
jobs	0.0	0.2	0.1	0.0	0.2	0.1	0.1	0.2	0.1	0.2	0.1
pc land	1.75	1.57	2.55	4.63	2.94	5.93	4.40	7.93	12.03	13.26	5.20
pc cult	2.04	1.52	4.23	3.51	3.65	4.26	4.58	6.38	6.45	10.43	4.41

[a] The deciles are arranged in increasing order of per capital income (d=1 is the poorest decile and d=10 is the top decile).

pcrinc = per capita real income (Rs/year)

pcraginc = per capita real agricultural income (Rs/year)

pcroutinc = per capita real outside job income (Rs/year)

pcraglab = per capita real casual wage labour income (Rs/year)

HH size = household size

Adm = number of adult males in household

education = years of schooling of most educated member of household

jobs = fraction of households with outside job (%)

pc land = per capita land owned (bighas)

pc cult = per capita land cultivated (bighas)

Note: The list of income components omits a small residual category which accounts for up to 4 per cent of per capita real income (pcrinc) in different survey years.

Table 5(b): Components of Income by Decile

	Average value for different deciles of the per capita income scale[a] (1962–3)										village average (%)
	d=1	d=2	d=3	d=4	d=5	d=6	d=7	d=8	d=9	d=10	
Income components											
pcrinc	26.19	58.99	80.88	98.07	121.13	147.39	179.47	222.21	290.98	502.74	152.05 (100)
pcra-ginc	36.38	47.83	68.69	75.22	87.66	114.20	110.46	177.35	193.73	486.17	122.11 (80)
pcrou-tinc	0.00	0.00	0.00	15.06	13.41	13.06	67.66	37.53	55.51	0.00	18.76 (12)
pcra-glab	6.24	5.76	14.87	9.03	9.10	16.12	0.00	0.00	7.73	0.00	7.43 (5)
Household characteristics											
HH size	6.1	5.3	6.4	5.5	5.4	6.8	6.1	6.2	3.3	3.9	5.5
Adm	1.7	1.2	2.0	1.5	1.8	2.1	1.7	2.4	1.2	1.7	1.7
education	0.8	2.7	1.8	2.2	2.0	3.8	2.1	3.1	0.4	2.3	2.1
jobs	0.0	0.0	0.0	0.2	0.3	0.1	0.5	0.2	0.5	0.0	0.2
pc land	4.85	3.17	3.27	3.30	2.80	4.59	3.02	6.27	5.45	13.38	4.65
pc cult	4.76	4.03	3.50	3.43	3.29	4.56	3.21	5.82	5.09	13.21	4.76

Note: See Table 5(a).

Table 5(c): Components of Income by Decile

	Average value for different deciles of the per capita income scale[a] (1974–5)										village average (%)
	d=1	d=2	d=3	d=4	d=5	d=6	d=7	d=8	d=9	d=10	
Income components											
pcrinc	98.58	153.89	193.87	222.27	242.11	267.86	296.95	328.15	412.89	616.25	274.77 (100)
pcra-ginc	48.58	114.30	123.23	188.44	153.00	217.30	293.80	261.17	371.19	605.44	227.40 (83)
pcrou-tinc	26.44	30.22	37.36	22.03	90.94	55.91	10.19	46.51	46.88	37.67	41.48 (15)
pcra-glab	21.11	7.28	20.41	11.80	−1.83	−5.35	−7.05	3.39	−5.18	−26.86	2.32 (1)
Household characteristics											
HH size	5.9	7.4	6.7	7.5	7.5	8.2	6.0	7.5	6.1	5.5	6.8
Adm	1.8	1.9	2.2	2.2	2.1	2.0	1.7	2.5	1.7	1.9	2.0
education	0.3	0.5	0.5	0.8	0.8	1.0	0.8	0.5	1.2	1.1	0.8
jobs	0.4	0.4	0.2	0.2	0.7	0.5	0.1	0.5	0.3	0.3	0.4
pc land	1.05	1.58	1.93	3.04	2.00	3.39	3.80	3.25	5.51	8.95	3.30
pc cult	1.20	2.11	2.29	2.73	2.29	3.00	4.55	3.80	4.10	7.29	3.22

Note: See Table 5(a).

Table 5(d): Components of Income by Decile

	Average value for different deciles of the per capita income scale[a] (1983–4)										village average (%)
	d=1	d=2	d=3	d=4	d=5	d=6	d=7	d=8	d=9	d=10	
Income components											
pcrinc	35.86	77.17	101.86	130.10	151.66	186.49	213.36	253.34	308.64	394.84	194.17 (100)
pcra-ginc	20.75	40.60	58.26	80.30	85.29	99.232	126.51	148.06	205.40	178.19	109.65 (56)
pcrou-tinc	2.37	17.91	18.81	23.52	38.24	57.51	76.12	95.39	86.51	202.55	65.61 (34)
pcra-glab	12.52	12.85	15.01	12.90	10.24	5.90	1.03	5.00	0.21	4.59	7.58 (4)
Household characteristics											
HH size	5.3	5.7	4.9	7.4	7.6	6.0	7.7	7.6	7.8	7.3	6.7
Adm	1.3	1.3	1.5	2.0	2.7	1.4	2.5	2.2	2.3	2.8	2.0
education	3.4	2.1	3.9	3.6	4.7	6.2	4.6	4.9	6.2	6.2	4.5
jobs	0.1	0.5	0.3	0.3	0.4	0.4	0.7	0.6	0.6	0.7	0.5
pc land	2.14	1.15	2.77	3.10	2.37	3.30	3.32	3.09	2.92	2.59	2.70
pc cult	2.61	1.72	2.09	2.72	1.92	2.27	3.53	3.57	3.19	3.46	2.76

Note: See Table 5(a).

being as high as 51 per cent for the top decile. For the three earlier surveys agriculture was the dominant source of income for all deciles.

The comparatively low inequality of income observed for the 1974–5 survey year is apparent from the ratio of the average per capita income for the top decile to that of the bottom decile: The richest ten per cent of the population had incomes that were six times higher than those of the poorest ten per cent in 1974–5. For the other three survey years, however, the corresponding ratio was over 10, and rose to nearly 20 for 1962–3. Tables 5(a)–(d) also show that the poorest benefited disproportionately relative to other parts of the income spectrum from the exceptionally high average incomes in the village in 1974–5. Although the top decile in 1974–5 did enjoy the highest average per capita income amongst top deciles in the survey years, a more striking observation is that average per capita income for the poorest decile in 1974–5 was more than twice as high as in any of the other survey years.

The surveys are essentially snapshots of the village in the respective survey years. Agricultural conditions for the village and for individuals vary greatly from one year to the next and we therefore need to consider how far inequality may arise from these variations. As we have noted in section 1, the harvests in 1957–8 and 1974–5 were generally regarded as average or good while those in 1962–3 and 1983–4 were below average. One idea which we investigated was that these fluctuations might explain a considerable portion of the rise in inequality between the last two survey years. In the last year outside job income had become particularly important. It could be argued that a poor harvest might increase inequality by widening the gap in income between those whose income derives mostly from agriculture and those with outside jobs. In Tables 5(a)–(d) we saw that the proportion of total per capita income from agricultural activities was around 80 per cent in the first three years, but only 56 per cent in 1983–4. We tried an adjustment to current agricultural income for harvest quality by scaling output value up in 1962–3 and 1983–4, and down in 1957–8 and 1974–5 (see Table 6). Because inputs in cultivation are generally applied some time before the harvest and with the expectation that the appropriate levels will correspond perhaps to some 'average' of recent past harvests, it seems reasonable to scale output value while leaving costs unchanged. This approach assumes that good or bad harvests at the village level do not have any marked effect on output prices, and that the reason for the bad or good harvest does not appear until late

Table 6 : Impact on Inequality of Scaling Cultivation Revenue Up or Down

Inequality measure	Unadjusted individual income inequality	Scaling Factors (%)				
		10	15	20	25	30
I. Scaling Cultivation up to Adjust for Bad Harvests (1962–3 and 1983–4)						
1962–3						
Gini coefficient	0.390	0.387	0.385	0.384	0.384	0.383
Atkinson class						
ε = 2	0.485	0.460	0.452	0.445	0.440	0.436
ε = 5	0.821	0.788	0.776	0.765	0.757	0.750
General entropy						
c = 2	0.379	0.381	0.383	0.385	0.388	0.391
1983–4						
Gini coefficient	0.307	0.307	0.308	0.309	0.310	0.311
Atkinson class						
ε = 2	0.319	0.321	0.322	0.324	0.326	0.328
ε = 5	0.739	0.747	0.750	0.754	0.758	0.762
General entropy						
c = 2	0.149	0.149	0.150	0.150	0.151	0.152
II. Scaling Cultivation Down to Adjust for Good Harvests (1957–8 and 1974–5)						
1957–8						
Gini coefficient	0.336	0.337	0.337	0.338	0.340	0.342
Atkinson class						
ε = 2	0.338	0.335	0.334	0.335	0.336	0.339
ε = 5	0.647	0.627	0.619	0.611	0.605	0.601
General entropy						
c = 2	0.210	0.210	0.210	0.212	0.213	0.216
1974–5						
Gini coefficient	0.253	0.247	0.244	0.241	0.239	0.238
Atkinson class						
ε = 2	0.206	0.198	0.194	0.190	0.187	0.184
ε = 5	0.483	0.476	0.473	0.471	0.471	0.471
General entropy						
c = 2	0.127	0.120	0.117	0.114	0.110	0.108

Note: The General Entropy Measure with c = 2 is ordinally equivalent to the coefficient of variation, see Cowell (1995).

in the season (often but not always true). Alternatively, the scaling exercise can be thought to encapsulate a combined output-price effect. In any case, these adjustments have little effect on inequality indices and no effect on the ranking of different survey years by inequality level. Note also in Table 6 that scaling up output value in 1983–4 does not reduce inequality as we would have expected from the above arguments concerning outside jobs but *increases* inequality. Similarly, scaling down cultivation incomes for 1974–5 *reduces* measured inequality. We can see the reason for this and also the reasons for the differences in inequality by looking more carefully at the components of income.

2.3 Decomposing Inequality by Source of Income

In Table 7 we present the Gini coefficients for the four income distributions in the survey years, decomposed by income components.[433] Following Shorrocks (1982) the Gini coefficient, *G,* can be obtained as a weighted average of 'pseudo-Gini' coefficients G_k^* for each component, where the weights are given by the share α_k of component income in total income:[434]

$$G = \alpha_1 G_1^* + \ldots + \alpha_k G_k^* + \ldots + \alpha_n G_n^*$$

5.1

The 'pseudo-Gini' coefficient for an income component is similar to the Gini coefficient for that component but with the modification that individuals are ranked in terms of their total income rather than component income.[435]

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[433] Unlike in Tables 5(A)–(D) the breakdown of income in Table 7 is into three exhaustive components: agricultural income, outside job income and other income.

[434] Similar techniques for decomposition by factor components have been discussed in Fei, Ranis, and Kuo (1978), Pyatt, Chen, and Fei (1980) and Anand (1983).

[435] The Gini coefficient can be defined as $G = 2/n^2 \mu \Sigma_i [r_i - (n + 1)/2] Y_i$ for n households indexed i, where r_i is the rank of income i in total incomes. The *pseudo-Gini,* G_k^*, is obtained in the same way except with Y_{ki} the kth component of income replacing total income Y_i. The 'pseudo-Gini' for a particular component divided by the true Gini for that component can be shown to be equal to the rank correlation coefficient between incomes from the component and total incomes. The lower is this ratio, the more uncorrelated are incomes from that component with total incomes. We could consider the Gini as a sum, component by component, of the product of three terms $\alpha_k . R_k . G_k$ where R_k is the rank correlation and G_k is the component Gini (see Table 7). Note also that the 'pseudo-Gini' can take a value less than zero.

Table 7 : Inequality Decomposition by Income Components

Year	Agricultural income	Outside income	Other income	Total income
Pseudo-Gini coefficient $(G_k^*)^3$				
1957–8	0.390	0.350	0.012	0.336
1962–3	0.394	0.410	0.318	0.390
1974–5	0.321	0.065	−1.052	0.253
1983–4	0.293	0.446	−0.095	0.307
Share of total income (α_k)				
1957–8	0.79	0.081	0.134	1
1962–3	0.80	0.123	0.073	1
1974–5	0.83	0.151	0.021	1
1983–4	0.56	0.340	0.097	1
Gini coefficient (G_k)				
1957–8	0.463	0.897	0.962	0.336
1962–3	0.509	0.872	2.000	0.390
1974–5	0.372	0.739	2.328	0.253
1983–4	0.487	0.691	0.889	0.307
Coefficient of rank-correlation between component income and total income: $(R_k \equiv G_k^*/G_k)^6$				
1957–8	0.842	0.390	0.013	1
1962–3	0.774	0.470	0.159	1
1974–5	0.863	0.088	−0.452	1
1983–4	0.602	0.645	−0.107	1
Contribution to overall Gini coefficient[a]				
1957–8	0.308 (92)	0.028 (8)	0.002 (1)	0.336
1962–3	0.315 (81)	0.050 (13)	0.023 (6)	0.390
1974–5	0.265 (105)	0.010 (4)	−0.022 (−9)	0.253
1983–4	0.164 (53)	0.152 (49)	−0.009 (−3)	0.307

[a] This can be calculated as the product of the corresponding entries in (1) the first two rows, *or* (2) the second, third, and fourth rows. In brackets, proportion (%) of the overall Gini coefficient.

Notes:

1. Gini coefficient $G = \Sigma\ \alpha_k\ G_k^*$, where α_k is the share of component k in total income.

2. The Gini coefficient can also be decomposed as $G = \Sigma\ \alpha_k\ (G_k^*/G_k)G_k$.

3. When $G = 2/n^2\mu\ \Sigma_i\ [r_i - (n + 1)/2]Y_i$, for n households indexed i, where r_i is the rank of income i in total incomes, then the *pseudo-Gini*, G_k^*, is obtained in the same way except with Y_k, the kth component of income for person i, replacing total income Y_i.

4. The *true* Gini coefficient (G_k) for component k is, in general equal to *neither* $\alpha_k G_k^*$, nor G_k^*.

5. The percentage contribution of inequality from component k to total inequality is $[\alpha_k G_k^*]/G$.

6. It can be readily shown that G_k^*/G_k is equal to the rank correlation between component income and total income, $R_k = Cov(Y_k, r_y) / Cov(Y_k, r_k)$, where r_k is income ranking of the kth component.

From Table 7 we see that for the first three surveys inequality is largely 'explained' by inequality in agricultural income whereas in 1983–4 only around half can be attributed to agricultural income with the other half coming from outside

jobs.[436] The 'pseudo-Ginis' for agricultural income showed a slight tendency to decline over time. For outside income, there was a striking increase in the 'pseudo-Gini' between the 1974–5 and 1983–4 survey year which, taken with the increase in share of income from this source provides the principal explanation for the increase in inequality from 1974–5 to 1983–4. The 'contribution' from this source goes up from 0.010 in a total Gini of 0.253 to 0.152 in a total Gini of 0.307. The increase in the pseudo-Gini for outside jobs comes not from the true Gini for this component (which actually declined) but from the higher rank correlation of outside income and total income in 1983–4 (see Table 7). This is an important conclusion (discussed further in the next sub-section) — in 1983–4 outside jobs seemed to be going to better-off households whereas this was much less clearly the case in other years.[437] We look more closely (sections 3 and 4 below) at the causes of inequality in the two main components of income, outside jobs and agricultural income.

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[436] We also investigated the decomposition of income inequality for 'adjusted' incomes in 1983–4 (where agricultural income was scaled up to adjust for the poor harvest in that year). A scaling-up of agricultural income by as much as 50 per cent still resulted in a contribution to total inequality from outside job income of 26 per cent (twice as high as the highest contribution in any of the other three survey years) and a contribution from agricultural income of 76 per cent (still lower than in all three of the other years).

[437] Although presumably part of the higher rank correlation comes from the increased importance of outside income in total household income.

If income inequality is decomposed in this way, one can readily see why re-scaling agricultural income by some factor may not result in a significant change in inequality.[438] Suppose we alter the distribution by considering changes in the income components which multiply each component by a scalar factor (so that G_k is unchanged) and which together are sufficiently small not to change the overall income ranking. Then G_k^*, the pseudo-Gini for component k, is unchanged. Suppose the share of component k changes from α_k to α'_k. Then the new Gini coefficient, G' may be written as:

$$G' = \alpha'_1 G_1^* + \ldots + \alpha'_k G_k^* + \ldots + \alpha'_n G_n^*$$

5.2 and

$$G - G' = (\alpha_1 - \alpha'_1)G_1^* + \quad \ldots + (\alpha_k - \alpha'_k)G_k^* +$$
$$\ldots + (\alpha_n - \alpha_n)G_n^*$$

5.3 In 1974–5, for example, we have very different pseudo-Gini coefficients for agricultural income and outside income (0.321 and 0.065, respectively), yet an increase of five percentage points in the share of outside income and a corresponding reduction in the share of agricultural income (a fairly large adjustment) would reduce the Gini coefficient (assuming G_k^* is unchanged) by 0.05 (0.321–0.065) = 0.013, small relative to the difference between the observed Ginis for 1974–5 and 1983–4.

In general, the change in the overall income inequality brought about by a scaling up or down of income from a given source will be smaller the closer the pseudo-Gini coefficient for that source is to the overall Gini. To see this, suppose we decompose income into two components (this involves no loss of generality):

$$G = \alpha_1 G_1^* + \alpha_2 G_2^*, \text{where} \alpha_1 + \alpha_2 = 1,$$

5.4 so for a given change in income from the first source,

$$G' = \alpha'_1 G_1^* + \alpha'_2 G_2^*, \text{with} \alpha'_1 + \alpha'_2 = 1.$$

5.5

The elasticity of the Gini coefficient with respect to a change in income from component 1 can then be shown to be:[439]

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[438] Although note that in the adjustments described above we were scaling up output value (holding costs constant) rather than scaling up agricultural income.

[439] Since $\Delta \alpha_1 = - \Delta \alpha_2$, this implies that

$$\Delta G = - \Delta \alpha_1 (G_2^* - G_1^*).$$

5.6 From the decomposition of G above we have

$$G_2^* - G_1^* = \frac{(G - G_1^*)}{\alpha_2},$$

5.7 and thus the change in G can be written as

$$\Delta G = - \left(\frac{\Delta \alpha}{1 - \alpha_1}\right)(G - G_1^*).$$

5.8

$$\varepsilon_1{}^G = \frac{\frac{\Delta G}{G}}{\frac{\Delta \alpha_1}{\alpha_1}} = -\left(\frac{\alpha_1}{1-\alpha_1}\right)\left(\frac{G - G_1{}^*}{G}\right)$$

5.9

The smaller the difference between the pseudo-Gini coefficient and the overall Gini coefficient, the smaller will be the impact on inequality from a change in income from that source. The pseudo-Gini coefficient for agricultural income in all years is fairly close to the overall Gini in the respective years (particularly in 1983–4), and therefore small changes in agricultural income would not influence overall inequality by much. However, as the pseudo-Gini coefficient for outside income is very different from the overall Gini coefficient (particularly in 1974–5 and 1983–4), changing incomes from this source could have an important influence on the overall level of inequality (although the elasticity is also a function of the share of outside job income in total income which, in 1983–4, was only as high as a third). Note that in 1974–5 an increase in outside income on the margin (which left total income rankings unchanged) would have had the effect of reducing overall inequality while in 1983–4 a rise in outside incomes would have led to a rise in overall inequality. We shall investigate the role of outside jobs more closely in the next section.

3. Outside Jobs

The growing importance of outside jobs in Palanpur over the reference period can be seen both in terms of the rise in the number and variety of occupations and in the increasing proportion of income from outside jobs in total income. In Table 7 we saw that the share of outside earnings in the total rose from about 8 per cent of total income in 1957–8 to 34 per cent by 1983–4.

The number and types of jobs outside agriculture were discussed

in chapter 3 of this volume. Our concern here is with their distribution in the population, particularly on the income scale. As discussed in chapter 3, there were 9 villagers with regular employment outside the village in 1957–8 and another 4 villagers with semi-regular jobs outside Palanpur. By 1983–4 the number of regular jobs had risen to 57 and 17 villagers were employed in semi-regular jobs. The expansion of outside jobs occurred primarily after 1962–3, with increasing employment in occupations (such as the railways) which had already existed in 1957–8, and also with villagers finding new employment opportunities, such as in a bread factory or cloth mill. Not only did the number of outside jobs rise over time, but incomes earned by households with outside employment also rose substantially. This is not just the result of rising wage rates in outside employment, but also due to the fact that by 1983–4 several households had more than one member earning outside income.

As we saw in our discussion of Table 7 outside income had a differing impact on the distribution of total income in different years. In 1974–5, for example, the pseudo-Gini for outside income was 0.065. This meant that income from outside jobs was measured as very evenly distributed when villagers were ranked in terms of *total* per capita incomes. In 1983–4, on the other hand, the pseudo-Gini was 0.44. With the share of outside income in total income reaching 34 per cent in 1983–4, the contribution of inequality in outside income to total income inequality reached 50 per cent by that year.

The very different contribution made by outside income to income inequality in 1983–4 from that in the earlier survey years is further illustrated in Table 8. In the earlier years, households earning outside income were not highly represented among the richest households in the per capita income scale. In 1974–5 only three out of the ten households earning the most outside income were among the richest (in per capita terms) twenty households in the population as a whole. Another three households out of these ten were among the bottom 50 per cent of the population. For 1962–3, we can see that only one of the top ten households in terms of outside income was in the top 20 in the per capita income distribution. And in 1957–8 only three households were. This is in marked contrast with 1983–4, when no less than six of the ten households with the most outside income were among the top twenty households in the per capita income distribution and not one of the remaining four households was below the mean 1983–4 per capita income.

It is interesting to note the changing caste structure and social status of households with the greatest outside job income in the different years. In the first three survey years not one Thakur household was among the top ten households in terms of income from outside jobs. Only one Murao household was among the top ten outside-income-earning households in 1957–8 and 1974–5 and none in 1962–3. By 1983–4 there were two Thakur and two Murao households among the top ten outside-income-earning households. There is therefore some evidence that outside jobs were becoming increasingly attractive (and available) to the higher-ranked castes in the village (on this, see also chapter 2).

Throughout the study period, Passi households were actively involved in outside employment, and this is confirmed by the large number of these households among those receiving the greatest income from outside employment in all four survey years (in 1974–5, five of these households were Passis). The Passis had arrived relatively recently to Palanpur, during the time of the railroad construction shortly before and during the Second World War, and appear to have maintained their closer links with the outside world.

Of the households receiving the greatest outside incomes in each survey year, most had members who retained some involvement in cultivation. Some actively continued to lease in land. This suggests that for Palanpur the phenomenon of outside employment expansion has generally led to the diversification of household activities in which households are involved, as opposed to the complete withdrawal from one occupation on entry into another. This process of diversification has generally received less emphasis in the literature on the subject than the analysis of discrete occupational shifts.

4. Agricultural Change

4.1 The Distribution of Land

The distribution of land owned is shown in Figure 3 for the whole population in each year. As was done for the income analysis an equal proportion of a household's land is attributed to each member. The Lorenz curve for 1983–4 can be seen to lie marginally outside that for the other years (though it becomes indistinguishable from other Lorenz curves at the two ends). However, if we take the 'continuing population' described in section 2.1 and merge the households which split over the 26-year period, so that we are

Table 8 : List of Ten Households With Highest Earnings from Outside Employment in Each Survey Year

Household number	Caste	Real outside income Rs/ year (per capita rank)	Real total income Rs/year (per capita rank)	Household size	Land owned (cultivated) bighas	Outside jobs
1957–8						
711	Passi	1009.35 (99)	1944.86 (83)	7	28 (28)	railway employee
906	Other	1009.35 (97)	1336.45 (60)	8	0 (0)	mechanic
705	Passi	1009.35 (97)	3337.38 (95)	8	34 (34)	railway employee
401	Gadaria	975.70 (98)	1543.93 (73)	7	15 (20)	railway employee
402	Gadaria	919.63 (95)	1085.98 (46)	8	8 (6)	railway gangman
303	Dhimar	448.6 (92)	748.60 (30)	8	20 (20)	chowkidar (guard)
310	Dhimar	373.83 (94)	367.29 (17)	5	6 (0)	chowkidar
409	Gadaria	336.45 (100)	346.73 (63)	2	9 (0)	permanent servant
218	Murao	280.37 (93)	1828.04 (96)	4	46 (35)	guard in factory
302	Dhimar	194.39 (90)	474.77 (20)	6	0 (0)	domestic servant
Average		655.70	1301.40			
1962–3						
9060	Other	1224.78 (105)	1224.78 (70)	7	0 (0)	mechanic
7110	Passi	1224.78 (105)	1436.06 (81)	7	15 (15)	railway employee
4010	Gadaria	1126.80 (101)	2519.99 (95)	8	31 (31)	railway employee
4020	Gadaria	1004.33 (100)	1422.79 (71)	8	8 (8)	railway employee
7030	Passi	979.83 (98)	1223.76 (56)	9	5 (0)	spinning factory
7062	Passi	734.87 (106)	734.87 (73)	4	0 (0)	policeman
3100	Dhimar	612.39 (102)	675.68 (69)	4	6 (6)	chowkidar
8070	Jatab	551.16 (99)	831.83 (68)	5	10 (20)	unspecified
8100	Jatab	551.96 (96)	635.86 (44)	6	11 (8)	unspecified
3030	Dhimar	469.50 (95)	878.78 (52)	7	20 (11)	unspecified guard
Average		847.96	1149.05			
1974–5						

90600	Other	3015.87 (111)	3015.87 (57)	12	0 (0)	mechanic and clerk
70410	Passi	2093.92 (104)	2332.58 (26)	13	3 (0)	service outside
70300	Passi	1984.13 (105)	2906.47 (62)	11	3 (23)	mill employment
70620	Passi	1746.03 (106)	2100.93 (46)	9	4 (0)	railway employment
40102	Gadaria	1251.59 (101)	3567.86 (94)	9	23 (30)	mill employment
30500	Dhimar	1230.95 (100)	2337.04 (47)	10	7 (19)	spinning factory
21440	Murao	1111.11 (112)	2624.39 (109)	4	26 (26)	teacher
60701	Teli	1049.21 (107)	1784.74 (90)	5	0 (25)	spinning factory
76100	Passi	952.38 (110)	1333.33 (85)	4	14 (0)	spinning factory
90100	Passi	952.38 (110)	1597.88 (95)	4	13 (0)	mill employment
Average		1538.75	2360.11			
1983–4						
706200	Passi	3750.40 (143)	3952.69 (143)	8	1 (6)	railway employee; chowkidar; steel polish shop
116010	Thakur	3490.51 (139)	6667.16 (139)	16	29 (32)	railway; spinning factory; police; bread factory
271900	Murao	2500.00 (140)	2752.18 (131)	8	10 (0)	spinning factory
703000	Passi	2198.60 (136)	2950.53 (135)	8	11 (11)	steel polish shop
403020	Gadaria	2114.07 (133)	3478.67 (132)	10	12 (32)	spinning factory
103000	Thakur	1931.82 (137)	3222.10 (142)	7	5 (44)	railway; spinning factory
702000	Passi	1718.37 (124)	2170.80 (97)	10	47 (36)	steel polish; spinning factory
906001	Other	1647.73 (130)	1647.73 (91)	8	0 (0)	liquor factory
218000	Murao	1590.91 (127)	2399.62 (111)	9	3 (3)	chowkidar
605010	Teli	1477.27 (132)	1621.74 (105)	7	8 (4)	security guard
Average		2241.97	3086.42			

Note: Household rankings range from 1 to N in each year, where N refers to the total number of households in the village for the respective year. The higher the rank the higher the income level. N corresponds to 100, 106, 112 and 143 for 1957–8, 1962–3, 1974–5 and 1983–4 respectively.

Figure 3: *Lorenz Curves for Landholdings*
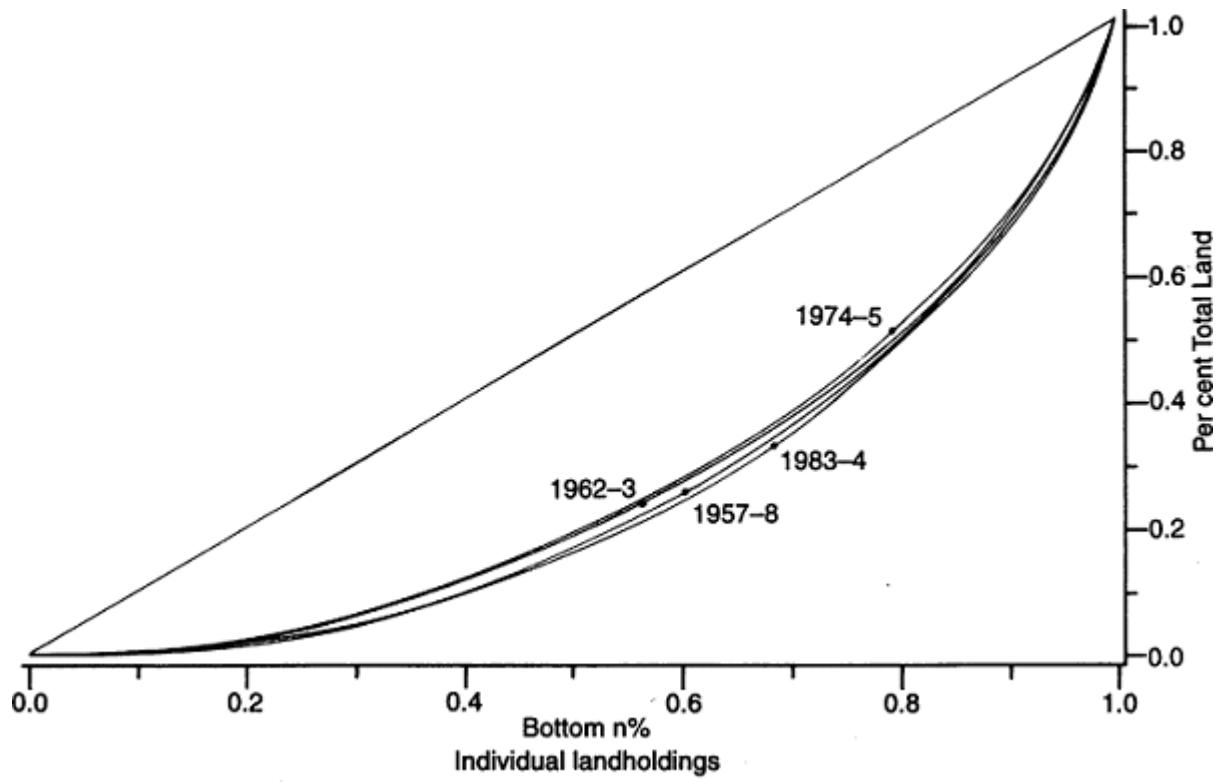
Figure 4: *'Continuing Population': Lorenz Curves for Landholdings*
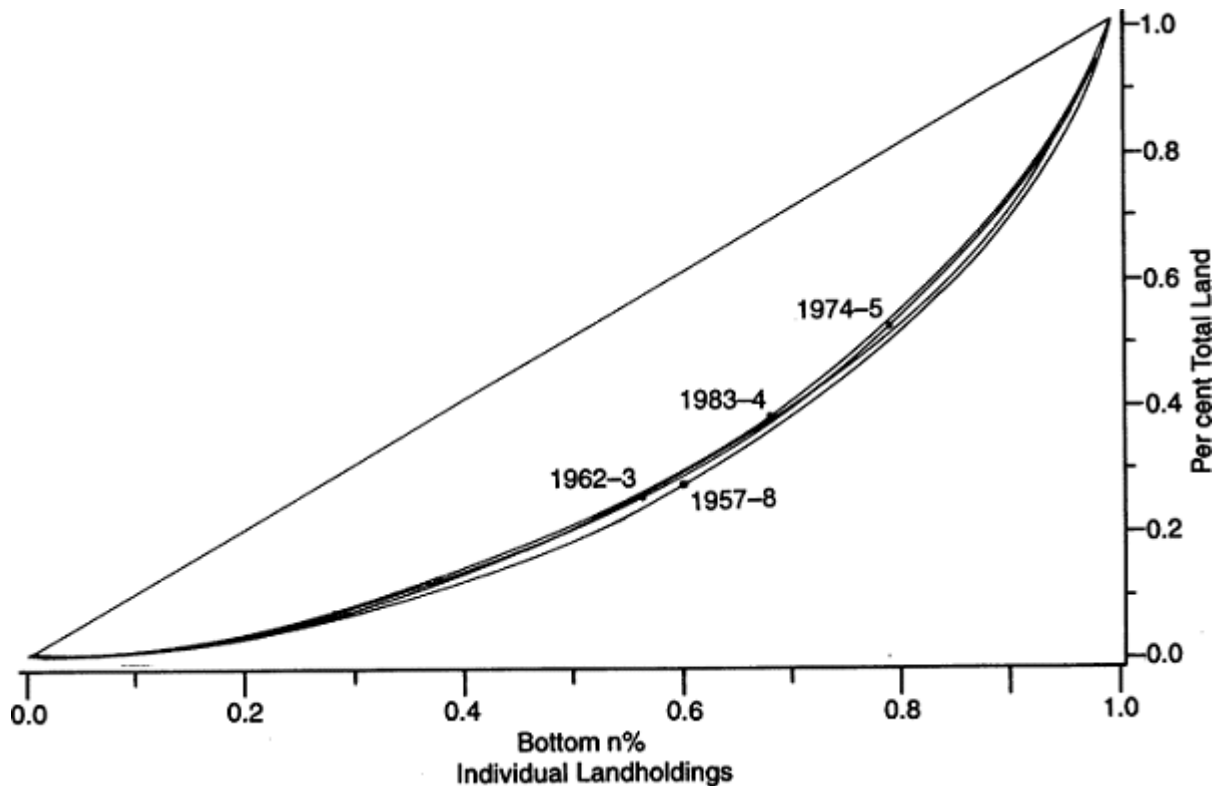
effectively considering the distribution of land between 'dynasties', we see that much of the difference in the distribution of land between the survey years is eliminated (Figure 4). In particular, in Figure 4 the 1983–4 Lorenz curve for 'dynasties' in the 'continuing population' lies inside (at least partially) that for the other years. It is clear therefore that the main determinant of changes in the distribution of land over time has been the phenomenon of household partitioning. The market for land in Palanpur is not very active, and land sales played a minor role in the changing distribution of land (on these issues, see also chapter 2).

Table 9 : Size Distribution of Land Holdings

Land holding size (bighas)	No. of ownership holdings				No. of operational holdings			
	1957	1962	1974	1983	1957	1962	1974	1983
> 100	4	3	0	0	6	3	0	2
75–100	4	4	3	6	5	4	1	3
50–75	6	6	12	5	8	9	8	4
40–50	6	7	4	4	6	6	4	8
30–40	12	14	5	11	8	14	16	22
20–30	21	24	31	24	16	27	35	18
15–20	4	4	10	12	5	9	8	9
10–15	11	14	15	12	9	5	6	9
5–10	17	14	9	23	9	8	9	9
2.5–5	0	0	8	12	0	1	4	7
0.1–2.5	1	1	4	7	1	0	2	6
0	14	15	10	27	27	20	18	46
No. of observations	100	106	111	143	100	106	111	143
Average	27	26	22	18	27	26	22	19
Gini coefficient	0.49	0.47	0.49	0.50	0.48	0.45	0.44	0.52

Notes:

1. 6.4 bighas = 1 acre; 2.5 acres = 1 hectare.

2. The Gini coefficients are calculated at the individual level with land holding of the individual equal to the per capita holding of the household.

Since we are interested in *tenancy* here, and this is measured for a household by land operated minus land owned, we contrast in Table 9, the distribution of land ownership and land operated (or

operational holding) throughout the reference period. For the first three survey years, the Gini coefficients for the distribution of land operated were lower than for land owned. This was particularly pronounced for 1974–5. In 1983–4 tenancy no longer had an equalizing effect on operational holdings, with the Gini coefficient on operational holdings higher than on land owned. As indicated in Table 9, in that year, unlike in 1974–5, some larger landowners were leasing in land while a greater number of smaller households were leasing out land (see chapter 2, Table 5 for details).

4.2 Agricultural Incomes

Some authors have suggested, for a number of reasons, that the Green Revolution benefited large landowners more than small farmers (see Lipton and Longhurst 1989, for a useful survey). Large farmers may have greater access to the credit market and are therefore better able to acquire the seed varieties, fertilizers, and capital goods (largely for irrigation) that the more intensive cultivation practices require. Large farmers, it is argued, may also be able to reap economies of scale from cultivating intensively by more efficient utilization of their capital stock on larger plots of land. They may be also quicker to adopt the new practices because they are less risk-averse and have better opportunities to diversify risks between different plots of land and activities.

In chapter 3 we described how new farming practices and seeds were introduced in Palanpur between 1962–3 and 1974–5. Average income per capita from agricultural activities changed little between 1957–8 and 1962–3, but between 1962–3 and 1974–5 it grew by 86 per cent (see also Tables 5(a) to 5(d)). Average real income per capita from cultivation of the poorest 30 per cent in 1974–5 (ranked by total per capita income) was 87 per cent greater than that of the poorest 30 per cent in 1962–3 (ranked by total per capita income in that year). Average real income per capita from cultivation of the richest 30 per cent in 1974–5 was 44 per cent higher. However, average real income from cultivation of the middle 40 per cent was 120 per cent higher in 1974–5 than in 1962–3. The effect of the new farming practices seems to have been spread over the income distribution, with the largest rise among those around the median.

The changes in the distribution of agricultural income, which came with changing practices between 1962–3 and 1974–5, can be seen in Table 7. The Gini coefficient for agricultural income fell from 0.509 to 0.372 between 1962–3 and 1974–5, suggesting an

(initially) equalizing influence of the new methods. Having suggested that agricultural change between 1962–3 and 1974–5 did not exacerbate agricultural income inequality (although it remains difficult to disentangle fully the influence of technological change from that of varying harvest quality), it is necessary to consider why some of the inequality-enhancing mechanisms suggested in the literature may not have applied strongly to Palanpur.

Agricultural change in Palanpur between 1957–8 and 1974–5 took various forms. In 1957–8, about half of the village land was irrigated. Most of it was single-cropped and cultivation consisted largely of sowing and harvesting. By 1974–5 double-cropping was common-place. The use of Persian wheels and diesel pumpsets was widespread and almost all the village land was irrigated. An active market for the services of existing Persian wheels and pumpsets developed alongside the rise in their numbers. High yielding varieties (HYVs) of wheat had been introduced and were widely used.

In considering the influences on the changing distribution of agricultural income we may think of agricultural income as determined by a combination of three factors: first, land cultivated, second, inputs per acre; and third, an 'unexplained' contribution to output per acre which we may associate with skills, land quality, luck, and the like. The dispersion in land cultivated was discussed in section 4.1 above and we saw that in 1974–5 this was indeed lower than in other years. The relationship between output and land cultivated is explored in Table 10(a). We can see from the regressions of the logarithm of output on the logarithm of land cultivated and that of the logarithm of cultivation costs on the logarithm of land cultivated that for all four years there is near proportionality of both output and cultivation costs to the area cultivated.

The proportionality result is also reflected in the small covariance of the logarithms of output per bigha and land cultivated (Table 10(b)). Hence we may investigate the dispersion of output in terms of the dispersion of land cultivated and of output per bigha. From the variances presented in Table 10(b) we see that the more important is that of the logarithm of land cultivated but that the variance of the logarithm of output per bigha also plays an important role, particularly in the last year. This latter variance was low for the two good years (1957–8 and 1974–5) and higher for the two bad years; it was particularly low in 1974–5 (the best agricultural year) and high in 1983–4 (the worst year). It is possible, as we have remarked before, that in good years a fairly intensive agriculture (with irrigation in general use)

Table 10 : Outputs, Inputs, and Farm Size

10(a) Output and Land				
Model: Log (output) =	Log (land cultivated) + intercept + residual			
	1957–8	1962–3	1974–5	1983–4
Land cultivated	0.93	1.08	1.12	0.95
	(0.072)	(0.087)	(0.040)	(0.071)
Intercept	3.30	2.81	3.60	3.68
	(0.228)	(0.285)	(0.126)	(0.223)
R^2	0.672	0.640	0.898	0.669
Model: Log (cultivation costs) = Log (land cultivated) + intercept + residual				
Land cultivated	0.932	1.10	1.15	0.836
	(0.163)	(0.089)	(0.134)	(0.067)
Intercept	0.830	1.30	3.61	2.99
	(0.547)	(0.292)	(0.441)	(0.211)
R^2	0.356	0.635	0.519	0.640

10(b) Variance/Covariance Matrices of Log (output/bigha) and Log (land cultivated)		
	Log (output/bigha)	Log (land cultivated)
1957–8		
Log (output/bigha)	0.258	−0.077
Log (land cultivated)	−0.077	0.520
1962–3		
Log (output/bigha)	0.304	0.038
Log (land cultivated)	0.038	0.467
1974–5		
Log (output/bigha)	0.049	0.012
Log (land cultivated)	0.012	0.323
1983–4		
Log (output/bigha)	0.454	−0.079
Log (land cultivated)	−0.079	1.109

10(c) Output and Costs				
Model: Log (output/bigha) =	Model: Log (output/bigha) = Log (cultivation costs/bigha) + intercept + residual			
	1957–8	1962–3	1974–5	1983–4
cultivation costs	0.257	0.562	0.143	0.622
	(0.067)	(0.085)	(0.039)	(0.083)
Intercept	2.980	2.160	3.935	2.019
	(0.071)	(0.146)	(0.042)	(0.216)
R^2	0.192	0.327	0.153	0.383

Notes:

1. Cultivation costs in 1957–8, 1962–3 and 1983–4 include costs of seeds, fertilizer, fodder, and irrigation, while in 1974–5 the only cultivation costs available were fertilizer costs.

2. Figures in brackets denote standard errors.

3. Output is in rupees and land cultivated in bighas.

leads to more equality in yields with errant practices being punished less, but that in bad years it leads to more inequality in yields as better farmers use techniques which are more robust to adverse conditions. Protection can take the form of timely planting, appropriate techniques for irrigation and fertilizer (including timing of operations, the intensity of irrigation, and the intensity and mix of fertilizers), pesticides, weeding and so on. Those with poor techniques may suffer very low (or even negative) net incomes as a result of the expenditure they incur on irrigation and fertilizers.

Finally, we regress the logarithm of output per bigha on the logarithm of cultivation costs per bigha to see how far the latter accounted for the variation in the former (Table 10(c)). We see that the fits in the bad years are indeed higher than those in the good years, the R^2 being as high as 0.38 in 1983–4 and about 0.33 for 1962–3. It should be emphasized that we have greater faith in the data for 1974–5 and 1983–4 with respect to the issues discussed here than for the earlier years. Finally we note that there is still a sizeable variation in output per bigha after allowing for variation in input costs.

We conclude that the most important determinant of agricultural output is, perhaps unsurprisingly, land cultivated. But output per bigha is not related to farm size either before or after the Green Revolution, a result which contrasts sharply with some of the arguments in the literature. Further, whilst variation in output per acre

is strongly related to input per acre, in bad years, there is a great deal that remains unexplained. This, we take it, corresponds (apart from the usual problems of modelling and of data) to household effects (better and worse farmers), land quality, and 'genuine' stochastic factors (for example, pests do not strike uniformly).

In Palanpur the distribution of land cultivated has had an important impact on the distribution of income through its direct link to agricultural output. Although rental payments are included in our definition of agricultural income (see also the appendix to chapter 3), and these counteract to some degree the distributional impact of land cultivated, their effect was not sufficient to offset the equalizing role of large landowners leasing out land in 1974–5, and the disequalizing impact of large landowners leasing in land in 1983–4. Fears that the introduction of Green Revolution technologies and practices would result in a widening income distribution, had not manifested themselves by 1974–5. Against the background of further agricultural intensification, however, the distribution of land cultivated did exert a disequalizing impact in 1983–4 (between 1974–5 and 1983–4 the Gini coefficient for agricultural incomes rose from 0.372 to 0.487). Of the other mechanisms which have been postulated as part of the influence of the Green Revolution on income distribution, e.g. better access of large farmers to credit, and lower costs to taking on risk, it appears that their impact in Palanpur was relatively muted (at least by 1974–5). In part this may be due to factors such as the operation of the credit market in Palanpur (see chapter 9) and the fact that few farmers in the village are so large that they can adopt behaviour in the face of uncertainty which is substantially less risk averse than small farmers.

In short, the Green Revolution in Palanpur has not been a major force of rising inequality. While some aspects of technological change have had disequalizing effects (e.g. by inducing large farmers to lease in more land), there is no evidence of any overall influence of technological change in the direction of increasing inequality. Further, the intensification of agriculture ushered in by the Green Revolution, together with expanded opportunities outside agriculture, has led to increased employment levels and higher agricultural wages. As was described in chapter 2, real agricultural wages roughly doubled over the reference period (see also Table 1). This played a major role in enabling the relatively poor to share in the benefits of the Green Revolution.

5. Concluding Comments

We shall be brief since a summary of economic change in Palanpur and its effects on inequality was provided at the beginning of this chapter. If we divide the four survey years into two pairs of adjacent years (noting that the 'Green Revolution' may be associated with the period between the two pairs of years), we can say that income inequality decreased between the first two and last two survey years. Within each pair however, inequality was greater in the later year, coinciding with a relatively poor agricultural harvest in 1962–3 and again in 1983–4.

Inequality in the distribution of cultivated land decreased monotonically over the survey years prior to 1983–4. This was partly due to the splitting of some large households and the division of their land. However, the growing practice of sons living separately from fathers before division of the land did lead to an increase in landlessness over time. Many such sons retained usufruct rights to part of their father's land and eventually did inherit their share, so the rise in landlessness was in part only an emerging life-cycle phenomenon. Tenancy also exerted an equalizing effect in the years before 1983–4 as farmers amongst the larger landowners with stronger interest in, or commitment to, agriculture had not yet begun leasing in on a substantial scale. Prior to 1983–4 outside jobs were becoming important but had not yet become a major source of income inequality.

The rise in income inequality within the second pair of years modifies the impression, gained by looking only as far as 1974–5, that the 'Green Revolution' had a dampening impact on inequality in Palanpur. Agricultural intensification continued throughout the 1970s and 1980s in Palanpur, and there was a rise in inequality between 1974–5 and 1983–4 with the result that inequality was not much lower in 1983–4 than during the years before the new technologies had been introduced. Between 1974–5 and 1983–4, however, the strongest component in the rise in inequality was associated with the continuing growth of outside jobs which had now become distributed more strongly towards the richer households. In addition, the traditional cultivating caste (Muraos), and several major land-owners, were farming more intensively and leasing in land. Inequality was further increased by the effect of a poor agricultural year. Adverse conditions do not affect farmers uniformly, for example pests may ravage some fields and leave others relatively unaffected. Farmers

may differ in their abilities to withstand poor rains through, for example, greater application of irrigation or greater skill. Timely planting can protect against frosts at sensitive periods in plant growth.

What emerges from our study is that the links between economic change and the distribution of income in Palanpur are diverse and often quite subtle. It is difficult to reconcile the evolution of inequality with a simple story of either polarization or convergence of living standards over time.[440] Inequality has not moved in a clear trend, nor has the influence on inequality of a particular institutional feature of the economy, such as outside employment or tenancy, been uniform over time. What does seem clear however, is that the big changes described in development stories, namely agricultural advancement, the decreasing relative role of agriculture, and population growth, have indeed exerted major effects not only on the level of income in Palanpur but also on its distribution.

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[440] See also the discussion in chapter 2   of income inequality alongside the distribution of wealth.

Chapter 6 Nutrition[441]

Jocelyn Kynch

Introduction

This chapter is about nutrition in agricultural households in Palanpur, particularly among children. We investigate how anthropometric data for Palanpur should be interpreted in relation to poverty, environment, selective deprivation, and production or reproduction in the village. The analysis is conducted within the framework of 'cooperative conflict' in households, in the context of a year of poor harvests.[442]

Our main data set derives from a nutrition survey we conducted in Palanpur between 25th September and 9th October 1984, as a supplement to the main 1983–4 survey conducted by Jean Drèze and Naresh Sharma.[443] The nutrition survey involved collection of anthropometric data on weight, height, and mid-upper arm circumference.[444]

Although the sample size is small, we find evidence of high levels of undernutrition in Palanpur, and of a particularly high incidence of severe undernutrition among young girls. The latter finding is consistent with independent evidence of excess infant female mortality in

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[441] This chapter is based on collaborative work with Mike Maguire (Kynch and Maguire 1986, 1989). I am grateful to Jean Drèze, Naresh Sharma, and S.S. Tyagi for their help with the field work, and to Jean Drèze, Raghav Gaiha, Mary Griffiths, Peter Lanjouw, Michael Lipton, and Nicholas Stern for comments on earlier drafts.

[442] On cooperative conflict, see Sen (1990), Drèze and Sen (1989), and especially Kabeer (1991) who critically develops this framework.

[443] A pilot survey was conducted in February 1984, when data were collected mostly from children in the village. This pilot survey is used in section 4.

[444] Anthropometric indicators have several significant interpretations. In particular, they provide: a description of physical growth achievement; the 'best general proxy for constraints to human welfare of the poorest'; and 'strong and feasible predictors . . . of subsequent ill-health, functional impairment and/or mortality' (Beaton *et al.* 1990, p. 2).

the younger age groups, in the form of low juvenile female-male ratios.[445]

There are many possible reasons for the prevalence of high levels of undernutrition in Palanpur. First, as has been seen in earlier chapters, average incomes are not high. Second, 1983–4 was a year of poor harvests — by October 1984 this was already clear. Third, environmental hazards (such as those linked to poor sanitation, disease, and occupational hazards) are widespread. This could raise nutritional requirements, or result in higher exposure (or lower resistance) to certain diseases, leading in turn to an inefficient use of food intake. Fourth, nutrition may have a relatively low priority in household budget decisions, and some food expenditures may be directed at items which are not particularly nutritious (Walker and Ryan 1990). Fifth, available nutritional resources may be poorly utilized due to inadequate information and an absence of complementary medical resources. Finally, the nutritional needs of particular household members may receive low priority.

A number of limitations should be mentioned in relation to this study. First, there is no previous information with which to compare our findings, since earlier surveys did not include nutrition data. Second, the absence of detailed information on variations in individual nutritional needs (for example due to pregnancy, lactation, illness, or disability) complicates the interpretation of anthropometric data. For instance, there is the possibility that anthropometric indicators overstate the true nutritional status of pregnant women; this is one reason for concentrating primarily on child nutrition in this chapter. Third, rather than surveying the entire population, as was done for other data collection exercises, we drew a sample of households. This sample was drawn exclusively from the 108 'agricultural' households (defined as households either cultivating or involved in agricultural labour), and is therefore not strictly representative of the whole village. In particular, with the omission of certain non-agricultural households, such as households without a fit adult male, our sample is likely to under-represent some of the poorest households in the village.

The outline of the chapter is as follows. In the next section, we look

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[445] The juvenile female-male ratios in Palanpur are presented in the appendix to chapter 2.   The phenomenon of excess female child mortality and low female-male ratios is widespread in north India; see chapter 1,   and the literature cited there.

at the domestic economy and environment of Palanpur, and consider how these affect access to, control over, and utilization of food. Section 2 discusses the methodology and data, and presents the main survey findings. The final section offers some concluding remarks.

1. Environment and Domestic Economy in Palanpur

Human growth and nutritional achievements are best seen in the context of the domestic economy, with particular attention to factors such as sanitation, epidemiology, morbidity, division of labour, and food availability and distribution. Although limited information is available on these subjects from the successive Palanpur surveys, this section draws together a description of some aspects of the domestic economy based on field observations and complemented by other studies (see also chapter 2).[446] The reader is referred to part 1 of the book for a general description of the village environment.

1.1 Morbidity and Attitudes to Illness

Ill-health in Palanpur was widespread and quite debilitating. Both the household and work environments exposed villagers to disease and hampered their recovery from illness. Health hazards within the household included exposure to water-borne parasites and communicable diseases; exposure to irritants such as smoke; inadequate drainage of waste water flowing from private handpumps; and lack of warm clothing during the winter. Malaria was fairly common and continuous discomfort for some villagers from parasites, viruses or bacteria acted to sap their vitality and their ability to perform even routine tasks (including parental care).[447] Men working in nearby towns faced additional accidental, infectious, or occupational hazards, including, for example, exposure to toxic dust in the case of those working in cloth mills and steel-polish workshops.

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[446] Much of the literature on the domestic economy of rural Indian households has come from women's studies (for example, Sharma 1980, Hartmann and Boyce 1983, Jeffery, Jeffery and Lyon 1984, 1987, 1989), and is specific to particular villages in north India. On wider issues of interactions within households, see also Agarwal (1986, 1988, 1991), Harriss (1987), Singh and Kelles-Viitamen (1987), Kabeer (1990, 1991), Sen (1990), and the literature cited in these studies.

[447] See, for example, Jelliffe and Jelliffe (1989), Pacey and Payne (1985). On the limited evidence of the effects of irritability and decreased activity in children, see Ferro-Luzzi in Blaxter and Waterlow (1985).

The functioning and development of a child's immune system (which provides resistance to disease after exposure) is altered by poor nutrition (Thomas 1992, McKeown 1979). In Palanpur variable immunocompetence, widespread morbidity, and a hazardous environment contribute to a potent synergism between hunger and ill-health which is characteristic of deprivation. In fact, instances of bad health and bad nourishment were often difficult to separate in Palanpur. Many symptoms of illness (fever, 'not thriving', 'won't eat', fretfulness, diarrhoea) are also common in cases of protein-energy malnutrition (Jelliffe and Jelliffe 1989, Peel 1979, de Ville de Goyet et al. 1978).

In many households, however, there seemed to be greater awareness of health problems than of nutrition problems. This also applied to the respective means of treatment. For example, while we knew of patients who travelled to distant urban centres with other family members in search of medical help, undernourishment rarely received such attention. In the only obvious case of marasmus in the village, an infant girl called Shobha Devi, her family appeared more concerned about the prospect of illness than about her malnourished state. It is also the case that children like Shobha Devi, who appeared to require hospitalization for intensive feeding, were generally unable to get proper medical care readily or freely. In the government hospital in Moradabad there was no special children's unit to treat cases of malnutrition, and our impression was that few, if any, such cases were brought to the hospital.

Apart from the 'supply' failure, there is reason to doubt strong 'demand' for hospital treatment among villagers, who generally disliked the hospital (on this, see also chapter 2). Writing about the adjacent district of Bijnor, Jeffery, Jeffery and Lyon (1989) record features which echo our impressions. They write that rural women

> find many aspects of [government medical services] unpalatable. . . . Landless people should obtain free services, but few believe that this entitlement really operates. . . . In addition, medical treatment may be provided in a very demeaning and threatening manner . . . patients are accused of being dirty, incapable of following instructions . . . and of exaggerating their poverty to avoid paying . . . (Jeffery et al. 1989, p. 217).

People from Palanpur did not view the hospital in Moradabad any more favourably. The consequences were often stark. For instance, in cases of untreated malaria villagers stood to lose valuable days of employment with concomitantly severe nutritional consequences for themselves and their families.

1.2 Food Supply and Diet

Real incomes in Palanpur have risen over the last 25 years, though with sharp short-run fluctuations. The poor harvest in 1983–4 was one such fluctuation, with wide variation in yields between different households and a corresponding dispersion of direct food entitlements. The basic diet is meant to be *dhal* (lentils) eaten with *roti* (a small, flat bread, usually of wheat). We were told that *khichri,* rice mixed with dhal, was a good weaning food because unlike roti it did not swell the stomach. In reality, families most frequently ate rotis with a simple, spicy vegetable dish — usually based on potato. Such a high fibre diet, if there is malabsorption (especially from bouts of diarrhoea), can lead to low digestibility (Dasgupta and Ray 1990). This problem may have been exacerbated in an unusually lean season. Assessed against local standards, in 1983–4 many families in Palanpur were eating a diet which would indicate household poverty (Kabeer 1989).

In 1983–4, there was a crop-specific problem which may have had further adverse effects on diets. During preceding seasons a caterpillar had ravaged the pulse (dhal) crops. Since the main sources of proteins are cereals (mainly wheat) and pulses, the loss of this crop was potentially serious, even though we have no precise information on the importance of dhal in the diet in ordinary years.

Another source of calorie intake in Palanpur was alcohol. This affects health and nutrition both directly and indirectly. Among its pleasant effects, alcohol can be a source of calories and micronutrients. Its main disadvantage is that it can sharply reduce cash availability in households. Drink in Palanpur was bought, not brewed, and it was expensive. At Rs 30 per bottle (or Rs 5 per tipple), a modest drinking bout once a month could significantly reduce household cash holdings. Appetite depressants, such as tobacco in the form of bidis, were only visible when men smoked them. If women smoked, it was in private.

1.3 Food and Gender Divisions in the Household

In Palanpur, men exercised the basic control over the supply of food to the family through cultivation and market transactions, while women affected the quantity of provisions through the domestic economy and the quality of food through its processing.[448]

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[448] Palanpur households tend to organize their cash flows on the basis of a 'single household accounting system', which can be distinguished from a system in which individuals within a household keep and dispose of some or all of the product of their own labour (Kabeer 1991). The single accounting system is primarily (though not exclusively) controlled by men in most households.

As a general rule, men did the buying and selling of food items with women stating their demands for food and other household goods at home rather than directly purchasing them in the market. In 1983–4 exceptions to this were some lower-caste women who did the shopping, and the presence of some women at the weekly vegetable market in Palanpur.

Women were responsible for largely homebound activities such as domestic tasks, care of livestock, and food processing — including that of marketable dairy products like milk and ghee. Women and girls also collected fodder and fuelwood, looked after livestock, made fuel from dung, engaged in weeding (which provides fodder and sometimes vegetables for meals), and were responsible for processing, preparing, and cooking food. These domestic activities account for an overwhelming proportion of women's work (see chapter 1).

As women had little direct access to resources or markets, they had little alternative to seeking and keeping 'the protection of their men; through the adoption of attitudes of submissiveness, propriety and self-sacrifice' (Kandiyoti, quoted by Kabeer 1991). The gender division of labour influenced nutritional needs. Women in Palanpur had a long and burdensome routine of domestic work, but may have had more opportunities than some men to adapt to lower food intakes, either through the reduction of basic metabolic rate or ergonomically. By 1984, women rarely had to grind wheat, an energy-consuming task, because a flour mill was available for hire in the village. The highest energy demands came from outside jobs or supervised agricultural labour, activities almost exclusively performed by men. The period of our survey was the ploughing season, a time of heavy labour for cultivators. The work-related energy demands on adult men and women were thus certainly very different.

Another significant gender difference relates to post-marital residence. As described in chapter 1, marriage in Palanpur is patrilocal and village exogamous, i.e. women from Palanpur marry into other villages and the women in Palanpur households are almost all from elsewhere. The effects of patrilocal residence and patrilineal inheritance upon women's status in Uttar Pradesh are wide ranging and significant (Jeffery, Jeffery and Lyon 1984, 1989; Agarwal 1988;

Drèze 1990a). We highlight two effects which can influence women's nutritional status. First, in contrast with the nutritional status of men, which reflects the influence of a single birthplace and village upbringing, for women different childhood environments, nutritional practices, and other local circumstances may have produced more variation in their adult status.[449] Second, while boys 'belong' in a household from birth, and typically remain with the household into adulthood, girls may be neglected in household calculations (including those relating to food and health care) before marriage. The initial neglect of the girl child, the trauma of marriage, the responsibilities of the young bride, and the problems of widowhood in one's adopted village make women's life cycle very different from men's (see also chapter 1, and Kishor 1993).

2. The Nutrition Survey

2.1 The Sample

At the time of the village census at the beginning of the 1983–4 survey year, Palanpur had 143 households and 960 individuals. The nutrition survey focused on a sample of agricultural households (that is, households which either owned or leased land, or sold agricultural labour).[450] The 108 cultivating households in the village were ranked by area of owned land, and every third household was selected for inclusion in the sample. This procedure ensures a balanced representation of households in different land ownership groups. The nutrition survey covered 239 persons in the 36 sample households. The age and sex distribution of individuals from the sample households is quite similar to the corresponding distribution in the village as a whole (on the latter, see chapters 1 and 2).

The nutrition data were collected in two parts: a pilot survey in February–March 1984, when we measured some sample household adults and children, and most other children in the village; and the main survey in the fortnight ending on 9th October 1984, when all members of sample households and adults and children who requested

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[449] Local crises and nutritional practices can differ even between nearby villages (Sen and Sengupta 1983). However, because most marriages are arranged, many characteristics of the natal homes are likely to be quite similar (Bliss and Stern 1982).

[450] Some individual members of agricultural households worked outside agriculture.

it were measured. Unless stated otherwise, all anthropometric data presented in this chapter are based on the main survey.

2.2 Collection of Data

Standard anthropometric data such as weight, height, and mid-arm circumference were collected. Initially, we weighted small children in a basket suspended from a spring balance and a pole and carried a board for measuring height. This caused some embarrassment and disruption. We looked, it was remarked, as though we were going fishing. We then resorted to platform scales and tape measures, with better results. We checked the scales daily, and visited the households with a minimum of fuss.

Only one Murao household refused to cooperate. The spokes-woman, the elderly head's daughter-in-law, made it clear that she considered being 'measured' a waste of time and bad for health. She said her father-in-law (who had already been weighed) was an old fool, if he wished to be measured, so be it, anyway he was going to die soon. This articulated a not uncommon suspicion of measurement. In particular, Jelliffe and Jelliffe (1989) note that in India, 'weighing may be disliked and avoided for various cultural reasons'.[451] The dissenting household was replaced by another using the same sampling method.

On the other hand we also faced a strong demand for weighing, particularly from young Thakur men keen to check their weight several times a day. In addition, the father of one very underweight little girl who 'wouldn't eat', the relatives of an orphaned family, and the mother in one of the better off non-cultivating households also asked us to measure the children.

After completing the survey of the 36 sample households, we returned to those households where some person was very wasted or underweight, or had a mid-arm circumference below the recommended international standard, and discussed this, usually with the father. These discussions revealed the complexities of perceived nutritional requirements and risks of mortality. On more than one

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[451] We should remember that intentions in the study of human growth have not always been benign (Tanner 1981). Gopalan (1990), while emphasising the key role of weighing machines in growth monitoring, also notes 'unfortunate aberrations which have grown around the growth-monitoring operations and the ridiculous limits to which these are being pushed to the detriment of balanced integrated childcare'.

occasion we were bluntly told whose nutritional status was of least importance in the family.[452]

2.3 Uses of Anthropometric Data

In this section we first discuss which anthropometric indices are best suited to interpret the status and risks faced by village children. We then consider the use of appropriate reference data and the best method of analysing differences between the villagers' indices and reference data.[453]

Anthropometric data can be used to compare the growth of village individuals with statistical tables of 'reference data' which provide a value for the full genetic potential of a healthy population. 'Weight-for-height', 'height-for-age', 'weight-for-age' indices may be derived and compared with the median or mean of a reference distribution for a particular age and sex. Cut-off points such as a percentage or number of standard deviations below indicate the presence of 'risk'. In this context risk is defined as a sharp increase in the probability of an undesirable outcome such as an impairment of survival chances, psychological development, immunocompetence, physical activity, or body growth.

There are three main anthropometric indicators of nutrition:

  a) 'Weight-for-height' (weight/height) measures short-term thinness or wasting;
  b) The 'body mass index' or 'Quetelet index' (weight/height^2), measures adult risks of morbidity or reduced capacity to work;
  c) 'Weight-for-age' or 'height-for-age' (weight or height relative to age) capture 'stunting', or child growth relative to potential.

Weight-for-height is a good index of the extent of recent nutritional deprivation or poor utilization of food, but tells us little about long-run deprivation or damage.[454] For the survey period, this index proved important as it provided information about who bore the nutritional consequences of reduced income in a season of poor local harvests and adverse terms of trade for cultivators.

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[452] Jeffery, Jeffery and Lyon (1989: Appendix 1) record similar observations in the adjacent district of Bijnor.

[453] For wide-ranging reviews of the uses of anthropometry, see Jelliffe and Jelliffe (1989) and Beaton *et al.* (1990) ; also Tanner (1981).

[454] See, for example, Jelliffe and Jelliffe (1989), Beaton *et al.* (1990), Harriss *et al.* (1990), Davidson *et al.* (1979), Peel (1979) and de Ville de Goyet *et al.* (1978).

Thinness, or wasting, provides the most visible sign of ill-being (Wheeler 1984). It is therefore the obvious starting point from which to compile a local distribution. We found that the scatter of individual thinness was quite normally distributed. However, we need to be careful in interpreting village thinness. For while this index could be calculated for all age groups, varying dangers from wasting in children, teenagers, and adults make it a misleading predictor.

We also computed the widely-accepted body mass or Quetelet index (McNeill *et al*. 1987, Pelletier *et al*. 1991), which is based on Quetelet's observation that the weight of well-nourished adults is proportional to the square of their height. This height-corrected measure of weight is used as a nutrition indicator for adults on the grounds that height *per se* is unrelated to health risk among adults who have achieved their growth potential. This was useful in assessing the adult risk of ill-health or incapacity to work in Palanpur.

The main problem with the weight-height indices is that they disguise stunting. Stunting is the failure of an individual to achieve his/her potential growth. For this height-for-age is the best indicator. In the absence of reliable height data, weight-for-age, a combination of the indicators of wasting (W/H) and stunting (H/A) is also useful.

The costs of 'adapting' to mild stunting remain unclear (Sukhatme and Margen 1982, Gopalan 1983, Payne and Lipton 1988, Blaxter and Waterlow 1985, Dasgupta and Ray 1990, Pelletier 1994). Some authors, such as Seckler (1982), argue that mild stunting implies no risk, and that 'small is healthy'; but others note that such adaptation is purchased at a cost (see Dasgupta and Ray 1990). 'The cost involves, among other things, a reduction in the capacity for sustained physical and mental activities, and a greater susceptibility to infection and disease' (Dasgupta and Ray 1990, p. 193). In this chapter we shall suggest that the costs of adaptation in Palanpur are particularly high for young girls.

We now turn to the choice of reference data. We use two sets of reference data for weight and height indices. The National Center for Health Statistics data advocated by the World Health Organization (hereafter NCHS/WHO) are the internationally accepted standards.[455]

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[455] These have replaced the Harvard standards which were derived from small numbers in the 1930s (Jelliffe 1966) ; these were used in Kynch and Maguire (1986, 1989). The NCHS/WHO data are statistically sounder, but probably come from a heavier and more obese population (Jelliffe and Jelliffe 1989).

We compared our weight-for-height index to NCHS/WHO reference data and computed standard deviation scores, usually called Z-scores (Weisell and Francois 1982, Pelletier *et al.* 1991).[456] We also compared weight-for-age and height-for-age to tables based on NCHS/WHO reference data for children (Jelliffe and Jelliffe 1989, Appendix 9) in order to assess both the degree of stunting and growth achievements. The second reference data set is the Indian classification of weight-for-age (ICCW 1983) which is used for most child welfare work in India.

Finally, data on mid-arm circumference was used for children. The mid-arm circumference of a normally nourished child remains fairly constant from 18 months to five years. Any child with a measurement less than 12 cm 'can be said to be malnourished to some degree' (Peel 1979, p. 6).

In this chapter we have adopted the recommended method of assessing a population by reporting the children's anthropometric measurements in relation to the international reference values by standard deviation scores as well as a percentage of the median (Beaton *et al.* 1990, Annex C; see also Harriss *et al.* 1990, Garcia and Alderman 1989).

We computed the percentage of international reference weight-for-height (W/H) for all measured members of the 36 agricultural households, by using the equations in Weisell and Francois (1982).[457] While calculating this index yields information about how thin the subjects are, and how thinness (a visible sign of hunger) is distributed in the village, this exercise does not capture variations in individual risk for a given weight-for-height shortfall. The predictive power of the index is fairly constant over the adult age range, but varies greatly with age in children. Furthermore, the distribution of weight-for-height in healthy reference children is less dispersed than a corresponding distribution for adults, so that it is important to assess risks to children only from reference data Z-scores (Weisell and Francois 1982).[458]

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[456] Weisell and Francois (1982) report the computation of age and sex specific polynomial equations from birth to 19 years. For persons aged 20 years and over, the sex-specific equations for 20–4 year-olds were used to avoid distortions by middle-age obesity in the western reference population (Pelletier *et al.* 1991).

[457] The coefficient on the cubic term for 0–23 month males was changed to negative (Pelletier *et al.* 1991).

[458] Z-score == [(weight-for-height of child) − (median reference)]/[(median reference) − (reference at - 1SD)]. Separate computations for children above or below the median reference weight-for-height were used, as recommended by Waterlow *et al.* (1977).

To summarize, we calculate weight-for-height or BMI for all villagers and look at the distribution as an indication of the village standard of thinness. Children's weight-for-height, height-for-age, and weight-for-age are used to assess risks of growth impairment. We shall interpret the anthropometric status in relation to estimated cut-off points from the international reference data, below which the risk of damage to growth, health, or working ability is significantly enhanced.

3. Nutritional Achievements

In this section we first outline the nutritional achievements of villagers in the 36 sample households. We then look at the nutritional process in Palanpur through the anthropometric status of children. We show that children, even in their earliest years, are stunted *vis-à-vis* international or Indian reference data. The observed degree of stunting and wasting could affect adults' work and reproductive capacities.

3.1 Nutritional Achievements: Adults

Most villagers in Palanpur are small and thin. The median height of adult women above 20 years was 148 cms (the range being 134 to 162 cms), and that of adult men 159 cms (range 152 to 180 cms). Such low values for the median height imply that 50 per cent of adult women and 38 per cent of adult men in Palanpur *fall below the lower bound* of NCHS/WHO reference data (Jelliffe and Jelliffe 1989; FAO/WHO/UNU 1985).[459]

Similarly, according to the international reference data, the body mass index (BMI) of adults was low on average. The most common international standard suggests normal values for women between 18.7 and 23.8, and for men between 20.1 and 25.0 (FAO/WHO/UNU 1985, Annex 2). The average BMI for all but two age and sex groups of adults in Palanpur were below these recommended values. The exceptions were women of childbearing age, between 21 and 40 years, and women over 60 years. The average BMI of 17.1 for men aged 21–30 years in Palanpur was below the corresponding

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[459] Stunting in child-bearing women, usually defined as height of less than 151 cms, carries the particular risk of low birth-weight babies, by which a cycle of malnutrition can cross generations in poor populations.

figure for Uttar Pradesh (18.4), and the average BMI for women was the same at 18.9 as that for Uttar Pradesh (NNMB 1981). Table 1 shows the number and percentage of adult men and women in the 36 sample households below various cut-off points, corresponding respectively to normal body mass, risk of undernutrition, severe risk to health, and low ability to perform agricultural labour. More than half the adults (59 per cent) were underweight, a condition which has been related to immunological deficiency, and over a third (41 per cent) faced a severe risk to health (Harris *et al.* 1990). Nearly a quarter were below the 'low labouring ability' threshold (Payne and Lipton 1988).[460]

Table 1 : Body Mass Index for Adults in Palanpur: Men and Women Below Alternative Cut-Offs

Cut-off	men (n=48)		women[*] (n=53)		total adults	
	number	%	number	%	number	%
FAO/WHO/ UNU (1985) men: 20.1[a] women: 18.7[a]	47	97.9	27	50.9	74	73.3
Payne (1987) adults: 18[b]	36	75.0	24	45.3	60	59.4
Harriss *et al.* (1990) adults: 17[c]	25	52.1	16	30.2	41	40.6
Shetty (1984) adults: 16[d]	12	25.0	11	20.8	23	22.8

[a]   Lower limit for *normal* adult BMI
[b]   Cut off for indicator of *adult undernutrition*
[c]   Cut off for indicator of *severe risk to health*
[d]   Cut off for indicator of *low labouring ability*

*   'Women' include pregnant and lactating women — the cut-off points may be too low for such women.

Table 1 suggests that the male body mass index was uniformly low. Only one man had a body mass index within the internationally accepted normal range. Half of the men were at a severe risk to health even though they may have been able to function satisfactorily as

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[460]   Shetty (cited by Payne and Lipton 1988)   found agricultural labourers performing work adequately with a BMI of 16. Other recommendations interpret BMI < 16 as 'severe underweight'.

farmers or agricultural labourers. For these men, the loss of working ability is more likely to be perceived as illness than as a result of undernutrition (see section 1.1).

The BMI data in Table 1 also suggest that adult men suffer more wasting than adult women. This finding, however, is difficult to interpret in the absence of information on pregnancy and lactation, morbidity, and energy use. The relationship between anthropometric status and the position of an adult in the household (e.g. as a cultivating husband or child-bearing wife) has been explored elsewhere (Kynch and Maguire 1989, Kynch 1994; see also Kabeer 1991, Folbre 1986).

We found no significant relationship between average thinness (average W/H) in households and household characteristics. This may have been because our sample size is small and lacks sufficient variation in relevant characteristics for differences to be found; or because low anthropometric outcome results from a synergism between undernutrition and morbidity; or because age, gender, family size, birth order and interval, and sibling sequence were more important determinants of nutritional status (on these different possibilities, see Harriss *et al*. 1990, Garcia and Alderman 1989).

The smallness and thinness of adults in Palanpur illustrates the seriousness of undernutrition in the village. The growth achievements of many adults are associated with high risks of ill-health and impaired work ability. We now turn to the growth process among children.

3.2 Nutritional Achievements: Children

Basic Findings: The process of children failing to grow as well as the state of their having failed to grow is a matter of particular concern. It is both well-documented that 'almost all of the growth retardation . . . in poor societies has its origins in the first 2 or 3 years of life' and that complete catch-up growth is unusual, although partial catch-up may occur (Beaton *et al*. 1990, p. 6). Table 2 presents some data on nutritional achievements among Palanpur children (up to the age of ten). The findings should be interpreted with caution, in the light of the small size of the sample. However, even for a small sample we find a fairly consistent pattern of undernourishment, especially among young girls.

The table suggests that Palanpur children are far too thin by international standards. The status of young boys (aged 0–60 months,

Table 2 : Weight-For-Height of Children in 36 Agricultural Households

	Males			Females		
Age	n	W/H	Z-Score	n	W/H	Z-Score
0–60 months	8	91.9	−0.93	14	87.0	−1.57
5–10 years	14	86.8	−1.21	17	92.3	−0.71

W/H: Percentage of median reference (NCHS/WHO) weight-for-height.

Z-score: Standard deviation score (see footnote 17).

Z-score −0.9) could be construed as 'mild' undernourishment;[461] but the low Z-score of young girls (−1.6) invites further investigation. Table 3 shows details of individual weight-for-height for children aged 0–36 months — a crucial period for child growth.

Table 3 : Weight-For-Height of Individual Children Aged 0–36 Months in 36 Sample Households

	Male Children			Female Children		
Household	Age (months)	W/H	Z-Score	Age (months)	W/H	Z-Score
108	25	75.1	−2.8	—	—	—
109	—	—	—	36	107.3	0.9
112	—	—	—	19	59.9	−4.8
213	—	—	—	16	80.8	−2.3
305	14	107.2	1.0	—	—	—
306	25	92.0	−0.7	—	—	—
401	—	—	—	18	71.6	−3.5
403	—	—	—	34	93.9	−0.8
615	1	101.6	0.2	—	—	—
802	—	—	—	6	79.1	−2.0
ALL	20	94.0	−0.6	19	79.7	−2.3

W/H: Percentage of median reference (NCHS/WHO) weight-for-height.

Z-score: Standard deviation score (see footnote 17).

The number of children aged 0–36 months is too small for statistical inference of differential health risks among boys and girls. Details from individual children in Table 3 show that seven of the ten children (including five out of six girls) are below the international reference median, and that the shortfalls are more severe among girls. On average, young boys fall within 10 percentage points of the median W/H international median; but young girls fall about 20 percentage points below the international median.

Cases and Interpretation:

A Z-score of less than −2 indicates that in terms of the international reference data a child is very wasted. While among the girls, only two were not very wasted, only one boy, Sukh Pal (Z-score −2.8, household 108 in Table 3), was very wasted. Sukh Pal gained no weight between February and October 1984. An only child, he belonged to a large family which included his parents, his father's mother, and four brothers and sister. The family house had an imposing brick courtyard and a well; they were neither very poor nor rich and they had access to milk. The family members said

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[461] A Z-score of −2.0 is normally used as a cut-off point to discriminate between predicted impaired and unimpaired growth.

that Sukh Pal had 'stomach problems' which were probably caused by worms. The two youngest boys in the family were above international reference standards.

Turning to severely wasted girls (Z-score below −2 in Table 3), the most wasted child was Ganga Singh's third daughter Shobha Devi (see also section 1.2). By every criterion (including a Z-score of −4.8), she was in urgent need of intensive feeding. At 19 months, she was still fully dependent on breast-milk; her father said she would not eat. He also said that she had fever every two days, a possible sign of malaria. An exceptional survivor, Shobha Devi was still alive in 1993.

An 18-month-old little girl, Pushpa (Z-score = −3.5), was the fifth daughter of Triloki, a relatively well-off household. Her weight and mid-arm circumference had fallen from February to October when she appeared to be ill.

The brother's infant daughter in Lakshman's household had a slightly better Z-score (−2.3) than his four-year-old son, but had gained no weight and had lost mid-arm circumference since February. The household owned a tractor (the only one in Palanpur), but said they had no milk.

The fourth severely wasted girl (Z-score = −2.0) was the six-month-old second daughter of Mahavir, a poor landless labourer. Three other children in the household had died.

Most of these girls were the youngest of several daughters, which possibly increased the likelihood of their being selectively discriminated against (Das Gupta 1987). It is also possible that girls are more likely to suffer severe setbacks in the growth process at very young ages. For example, there is some evidence of the gap between male and female mortality having widened over time between 1957–8 and 1983–4.[462] Scrutinizing Palanpur survey data for the 0–5 year-olds in each of the four survey years up to 1983–4 reveals that identifiable male deaths fell from 22 to 5 per cent, while identifiable female deaths fluctuated between 17 and 19 per cent (Kynch and Maguire 1989). The reason for the widening gap in Palanpur is a disproportionate fall in male infant mortality, ascribed by one village doctor to increased anti-tetanus immunization. According to Padmanabha (1981), tetanus accounted for 31 per cent of total infant deaths in Uttar Pradesh in 1979. Smucker *et al.* (1982) ascribe two-thirds of the rural neonatal deaths in two rural areas of Uttar Pradesh to tetanus, and suggest that exposure to the disease, especially because of the overall village health environment and ownership of large animals, explains the prevalence of tetanus. It may be that immunization and protection from exposure have been directed primarily towards male children in Palanpur; and similar biases in immunization, exposure, and care may have occurred for other diseases, for example, acute respiratory infections, which are major child killers.

The widening male-female gap may also be driven by economic considerations. Women are particularly vulnerable to poverty in the absence of a fit adult male in the household (Drèze 1990). It is therefore in the interest of women (e.g. for old-age security) as well as of men (e.g. to reduce marriage expenditure) to cooperate in the preferential treatment of boys (see also chapters 1 and 3).

The issue of gender bias was understandably a sensitive one in the village. Rather than discuss gender bias in treatment of illness we discussed patterns of food distribution with the villagers. Households with malnourished boys appeared interested in our visits. In contrast, one household with a malnourished girl told us outright that girls are better off dead.[463]

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[462] Jeffery, Jeffery and Lyon (1989) document similar findings for western U.P., despite an overall decline in mortality rates.

[463] This remark followed a visit to a household in which the 4-year-old fifth daughter had lost weight and arm circumference dramatically between February and October. She had been well-nourished in February, but had become ill with malaria. The household had invested heavily in housing during the year.

Further Evidence:

Additional evidence that the growth process of young girls is more impaired than that of boys arises from an examination of the different kinds of nutritional failure. In Table 4, following Jelliffe and Jelliffe (1989), we use the data on weight-for-age, height-for-age and weight-for-height to classify children aged 0–10 years as 'normal', 'stunted only', 'wasted only' and 'stunted and wasted'. We also give the numbers of children severely at risk according to the Gomez criterion (that is, children who are under 60 per cent of the reference weight-for-age).

Table 4 : Classification of Sample Children Aged 0–10 Years by Weight and Height

	Normal	Stunted only	Wasted only	Stunted & wasted	Total at risk	of which severely at risk
	(1)	(2)	(3)	(4)	(2+3+4)	(5)
Aged 0–60 months:						
Boys n=8	2	4	0	2	6	3
Girls n=14	2	6	0	6	12	10
Aged 5–10 years:						
Boys n=14	4	7	2	1	10	1
Girls n=17	4	10	3	0	13	2
Total number of children = 53.						

Note: The classification is based on Jelliffe and Jelliffe (1989), Figure 5.33; each category corresponds to a particular combination of shortfalls in terms of weight-for-age, height-for-age and weight-for-height (for instance, a child with Z-score below −2 for weight-for-age and weight-for-height, but above −1 for height-for-age, is considered as 'wasted only').

The first noticeable phenomenon in Table 4 is the extent of stunting — two-thirds of the children were stunted in some way. Nearly all the young girls (12 out of 14) were stunted, and half of these were also wasted. Among boys, wasting was less frequent.[464]

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[464] There is a surprising absence of wasting without stunting; the five wasted older children suffered only borderline wasting. This lack of wasting on its own (i.e. without stunting) appears to offer evidence of adaptation without obvious immediate impairment, although we have indicated possible costs in terms of adult functional impairment.

Among children aged 0–5 years, ten of the fourteen girls were severely at risk, compared with three out of eight boys. In later childhood, the incidence of 'severely at risk' children was lower, for girls as well as for boys, although surviving children did exhibit the scars of having been stunted. Evidence of sex bias became less pronounced. This finding is consistent with the evidence on mortality differentials, which shows that excess female mortality among north Indian children is concentrated in the 0–5 age group.

Table 5 : Weight-For-Age of Palanpur Children Aged 0–72 Months, February 1984 (Pilot Survey)

	Indian classification of weight-for-age			
	IV or III	II	I	O
	require hospital/severely malnourished	malnourished and requires feeding	slightly malnourished	well fed
Males				
(n=32)	4	9	16	3
	(12.5)	(28.1)	(50.0)	(9.4)
Females				
(n=54)	19	15	14	6
	(35.2)	(27.8)	(25.9)	(11.1)

Chi-square: 7.9375

Significance: .0473

Percentage within brackets

Source: Kynch and Maguire (1989).

We should add that our evidence on the weight distribution among children from the pilot survey carried out in February 1984 is consistent with little girls bearing the brunt of nutritional stress. Scrutiny of the pilot survey data also shows that the gender bias in undernourishment in terms of weight-for-age was not just a seasonal phenomenon, or a feature of agricultural households only. Table 5 shows the weight-for-age of 0–72 month-old children in broad status groups.[465] Ninety per cent of the 86 children in this age group were at least slightly

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[465] There are qualifications involved in the use of the pilot survey data: first, the pilot survey did not cover all children in the relevant age group (some children were not available, others did not cooperate); second, the age data are less accurate in the case of the pilot survey than in case of the October 1984 survey, when the ages of sample children were carefully cross-checked.

underweight. A possible reason for the poor nutritional status seen among the young children relates to the impact of maternal malnutrition on fetal growth and lactation. In Palanpur most mothers were short and a short mother has higher *percentage* increases in nutritional requirements for the same fetal growth, and for lactation. Furthermore, multiple pregnancies result in maternal depletion syndrome, leading, for example, to chronic anaemia and increased risks of contracting disease (ACC/SCN 1994).

Table 5 also shows that a significantly higher percentage of girls than boys were severely malnourished, by the weight-for-age criterion.

4. Conclusions

In nutritional terms, the villagers of Palanpur are quite typical of a deprived community, being stunted and wasted to some degree from early childhood. What is also distinctive in this north Indian village is the evidence of gender bias in the growth impairment and mortality of children, and of gender roles in explaining the observed outcomes. As discussed in other chapters of this book, some aspects of the society and economy of Palanpur have undergone profound transformation over time as a consequence of population growth, agricultural intensification, and occupational diversification. However, there has been relatively little change in gender relations (see chapter 2), including the gender divisions in responsibility for agricultural production, food provisioning, and child care.

This chapter has presented an attempt to describe the nutritional outcomes in the village, using anthropometric data for a sample of 36 cultivating households (in addition to the pilot survey). An accumulation of evidence indicates poor growth of young girl children, and greater nutritional risk among girls relative to young boys. The weight and height data, in particular, suggest that low anthropometric outcomes occur more frequently among little girls. Furthermore, the severity of growth impairment, especially through stunting, is markedly greater among girls.

These findings are not inconsistent with the phenomenon of boy preference, widespread in north India as well as in Palanpur (see chapter 1). They also remind us of the remark of one woman who had been asked whether all her children got the same amount of milk. She smiled and said, 'Of course, all the children get the same', and added after a pause, 'but the boys get a little more.'

II-C Economic Institutions

Anindita Mukherjee

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Chapter 7 Casual Labour[466]

Anindita Mukherjee

Introduction

This chapter discusses the basic features of casual labour in Palanpur. An attempt will also be made to relate the Palanpur findings with those of other studies of Indian villages, and to different theories of how rural labour markets operate.

The analysis is primarily based on data from the fourth survey of the village, with 1983–4 (hereafter 'the survey year') as the reference period. The broad findings on labour contracts, however, apply to other survey years as well. There have, of course, been changes in the relative importance of different activities, the size of the labour force, and related variables during the survey period. But the basic structure and functioning of the village labour market have not significantly altered.

This chapter is also informed by extensive discussions with labourers and employers, held in December 1986 and January 1987. A summary of these discussions can be found in the Appendix.

The next section presents a brief sketch of casual employment in Palanpur. Section 2 discusses some salient features of labour contracts, particularly (1) the 'isolation' of the village labour market, (2) the absence of labour tying or interlinkage, (3) the coexistence of daily-wage and piece-rate contracts, and (4) involuntary unemployment. The last issue is re-examined in section 3 in the light of various theories of rural labour markets. Section 4 presents some concluding remarks.

1. Background

Palanpur's economy, including its occupational structure, was introduced in chapter 1, and that ground will not be covered again here. For our purposes, the following features are noteworthy. First, Palanpur is basically a village of small and medium farmers, with a relatively small landless population (13 per cent of the total village population in 1983–4), and wage employment as the main occupation other than cultivation. Second, the main source of wage employment consists of regular and semi-regular jobs outside the village (particularly in Chandausi and Moradabad). This chapter, however, is concerned with *casual* wage employment, which involves labourers being hired on a daily basis.[467] Third, almost all casual labour is done by adult men. Women and children in Palanpur rarely work for wages outside the period of the wheat harvest (see Table 1). Fourth, the main period of peak agricultural activity in Palanpur is the wheat harvest, lasting for about a month in April–May. During the rest of the year, short periods of intensive activity (e.g. in November, when

Table 1 : Number of Days Worked by Casual Labourers in Palanpur

Season	Reference group	Number of days worked[a]	
		All casual labour	Casual labour within Palanpur
Off-peak	Adult males	3378 (9.9)	2204.0 (6.5)
	All labourers	3660 (10.8)	2346.0 (6.9)
Peak	Adult males	501 (19.3)	497.0 (19.1)
	All labourers	679 (26.1)	671.5 (25.8)

[a]   In brackets, the *average* number of persons employed each day during the relevant period.

Note: In this table, the 'peak season' is taken to be the wheat harvest, the period of maximum activity, which lasted for a little less than a month in 1983–4. Note that the off-peak period is much longer, hence the higher level of *total* employment in that period.

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[467]   The distinction between casual labour on the one hand, and regular or semi-regular wage employment on the other hand, is not always clear-cut in the case of employment outside the village. Most of this chapter, however, focuses on wage employment within Palanpur, where the distinction is quite straightforward (most employees being casual labourers, except for the village teacher and one or two others).

wheat sowing overlaps with the end of the kharif harvest) alternate with longer periods of relatively low activity.

Casual labour is not a major occupation in Palanpur. Among 285 adult males in 1983–4, 23 reported casual labour (agricultural and/or non-agricultural) as their primary occupation, and another 36 reported this as a secondary occupation. Nevertheless, casual labour has much social importance as one of the main income-earning opportunities of disadvantaged households. At the risk of some simplification, casual labour may be described as a 'fall-back' occupation, in the sense of an occupation that tends to be taken up by those who have no significant alternative (e.g. cultivation, regular employment, and productive self-employment). There are two qualifications to this characterization of casual labour. First, some persons do not even have the opportunity to participate in casual labour, due to disability, old age, or the gender division of labour. Second, casual labour is not quite at the bottom of the scale of activities, in terms of productivity and earnings. When a casual labourer is unemployed, he or she may take up activities of an even less rewarding nature, such as spinning at home.

Casual labourers work both within and outside the village. Casual labour outside the village mainly takes the form of unskilled work in Chandausi, some of the common employers there being masons and traders. Employment within the village accounts for about 70 per cent of all casual employment in terms of days worked (see Table 1), and is the main focus of this chapter.

Within the village, casual labour may be agricultural or non-agricultural. In agriculture, important sources of casual employment are sowing, weeding, harvesting, ploughing, and irrigation; but a casual labourer may be called to help with virtually any agricultural activity, or with a combination of activities over the same day. Non-agricultural casual labour is mainly employed in activities related to the construction, maintenance, and repair of buildings. While much of the discussion in this chapter is based on taking agricultural labour as the reference activity, it does cover non-agricultural casual labour (within the village) as well.

2. Aspects of Labour Contracts

2.1 Isolation of the Labour Market

The market for casual labour in Palanpur is quite 'isolated', in the sense that hiring of casual labour across village boundaries is

infrequent. This feature of the labour market has been observed in a number of other studies of Indian villages.[468] Inter-village labour hiring, when it does exist on a significant scale, often takes the form of seasonal migration of agricultural labourers. For instance, the seasonal migration of agricultural labourers from Bihar to Punjab for the wheat harvest, and from Maharashtra to Gujarat for the sugarcane harvest, is well documented (Gill 1984; Breman 1985). In Palanpur, even this phenomenon is extremely limited (although one labourer in 1983–4 reported going to Punjab for the rice harvest). While the absence of agricultural-labour migration in Palanpur is of some interest, my concern here is with isolation in the sense of an absence of labour hiring between adjacent villages.

This observation partly reflects the synchronic nature of agricultural operations and labour demand between nearby villages. But discussions with labourers and employers suggest that this is not the only relevant consideration. Both parties feel that contract enforcement is easier within the village community, where employers and labourers know each other well. It is also possible that local labourers resent outsiders being hired, and that employers are reluctant to provoke that resentment.

When labour is in excess demand within the village, as sometimes happens during periods of peak agricultural activity, farmers adjust by making greater use of family labour, or by accepting some delay in the progress of agricultural operations. In some cases, they do hire labourers from adjacent villages. In 1983–4, Palanpur farmers hired 45 days of outside labour, representing less than two per cent of total person-days hired. Even these 45 days were partly accounted for by the occasional need to bring in labourers with specialized skills.

Given the isolation of the village labour market, employment search takes place through simple personal contacts within the village. During the wheat harvest, when labour is in high demand, labourers are by and large free to make themselves available to any employer on standard terms (one-twentieth of the amount harvested). During most of the rest of the year, the search takes the form of employers going to the labourers' houses in the evening and calling

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[468] See Kandasamy (1964), Binswanger *et al.* (1984), Rodgers (1975), Hatti and Raagaard (1985). In parts of West Bengal, labourers actively prevent outsiders from working in the village (Rudra 1982a; Bardhan and Rudra 1986b).

them for work the next day.[469] In cases of extreme hardship, an unemployed labourer may approach one of the large farmers in the village and beg for work. But this is a rare situation. For the ICRISAT villages, Binswanger *et al.* (1984) report that 'Workers generally do not go and ask farmers for work. . . . It seems that asking for work puts one in a poor bargaining position.' Palanpur labourers express very similar sentiments.

2.2 Absence of Labour Tying and Interlinkage

Within Palanpur, almost all labour contracts take the form of casual labour, hired for the day or (in some cases) for an operation lasting a few days. The terms of employment are standard (see below), and we find no evidence of any linking of labour contracts between different periods (e.g. peak and slack seasons), as in models of 'labour tying'.[470] This does not preclude the possibility that some employers cultivate special relationships with particular labourers, and count on them being available during the peak season if required. But even these implicit arrangements, if they exist at all, are likely to be of minor significance, and do not affect the terms on which labour is hired between the concerned parties.

The virtual absence of labour tying in Palanpur can be viewed as a part of a general trend of 'casualization' of labour contracts in rural India, observed in many studies. One aspect of this is the decline of patron-client relationships, which used to be widespread in the pre-independence period.[471] Labour tying, however, is not synonymous with patron-client relations. Recent work by P. Mukherjee (1992) shows that the proportion of attached labourers has declined in many areas traditionally characterized by high levels of labour tying, whereas in other areas labour-tying is on the increase. The main reason for decline of labour-tying is the expansion of alternative income-earning opportunities for labourers, which not only raises their reservation wage but

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[469] For similar findings on patterns of employment search, see Hopper (1957), Rudra (1982a), Binswanger *et al.* (1984), Leaf (1984).

[470] For different models of labour-tying, see Bardhan (1984a), Guha (1989), Eswaran and Kotwal (1985b), Schaffner (1995), and Mukherjee and Ray (1995).

[471] On this, see Hopper (1957), Lewis and Barnouw (1958), Vyas (1964), Breman (1974), Béteille (1979), Gough (1981), Platteau (1995) among others. Some authors, particularly Ramachandran (1990), emphasize that labour-tying and bonded labour are still an important feature of rural labour markets in India, even though their incidence has declined in many areas.

also increases the probability of their defaulting on an intertemporal contract. The main causes of increased labour tying are: labour scarcity; greater need for timely completion of tasks with the introduction of multiple cropping; high labour demand associated with cultivation of certain labour-intensive cash crops; and increased need for labourers to carry out tasks involving skill and responsibility (such as driving tractors). These latter features are of limited importance in Palanpur. The period of peak agricultural activity and potential labour scarcity, for instance, is very short — a couple of weeks at the time of the wheat harvest, and a few shorter spells at other times of the year. And even during the wheat harvest, labour is actually available most of the time and recruitment costs are low.

According to theory, labour tying can profit farmers as long as there is a difference between the levels of risk aversion for farmers and labourers and there is sufficient seasonality in incomes in the labour market (see Mukherjee and Ray 1995). Apart from the risk premium, possible sources of profit to the farmer are savings in recruitment costs, improved effort from labourers due to better incentives, and higher nutritional status (and hence productivity) of the labourers. None of these considerations are likely to be particularly important in Palanpur, where, for instance, recruitment costs are low and family labour is usually available to supervise hired labourers.[472] While the benefits of labour tying are likely to be small, there can be significant costs associated with it. 'Hoarding costs' arise due to the employer's precommitment to provide employment at some future date when the need for hired labour may turn out to be low (Pal 1994). This is very likely in Palanpur, where most employers are small farmers who only need to hire in labour for a few days in the year. That labour tying usually entails payments at rates lower than market rates in the peak season, also leads to difficulties. During the wheat harvest in Palanpur, all labourers are paid at the standard rate of one–twentieth of the amount reaped, and deviations from this long-standing practice may invite resistance from labourers or prove difficult to enforce. Even if this could be enforced, the possibility of contract non-fulfilment by tied labourers needs to be ruled out by appropriate economic incentives,

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[472] As far as the nutrition argument is concerned, farmers may have little incentive to tie a labourer with a view to raising his nutritional status in a market where a labourer with low nutritional status is easily replaced by another with high nutritional status. For an elaboration of this argument, see Ray (1993).

which can be given only if the level of seasonality is sufficiently high (Mukherjee and Ray 1995). Given that the village land is fully irrigated and that double-cropping is widespread, the level of seasonality may not be high enough to ensure *any* intertemporal labour contracts, even if the commitment to provide employment is limited to the peak season.

Two or more contracts are said to be *interlinked* if they involve the same partners and their terms are jointly decided. In agrarian economies, interlinkage typically involves links between land, labour, and credit contracts. It is beyond the scope of this paper to review the evidence on interlinkage in India, which is somewhat inconclusive as things stand. Different forms of interlinkage have been observed in West Bengal, Kerala, Gujarat, and Karnataka (see Breman 1974, Bardhan and Rudra 1980a, Rao 1984, Platteau *et al.* 1985). In many other areas, interlinked contracts are relatively uncommon (Binswanger *et al.* 1984, Bell and Srinivasan 1985c, Taslim 1985). A better understanding of these regional variations and their causes is an important area of further research.

In Palanpur, we find no significant incidence of interlinkage. After one year of intensive field work in the village in 1983–4, the main investigators are unable to report more than a few isolated examples of situations that might be interpreted as interlinkage (Sharma and Drèze 1990). This diagnosis is also consistent with the survey data. To illustrate, Table 2 presents information on the number of days when casual labourers were employed by persons with whom they also had at least one credit or tenancy contract during the survey year. It can be seen that these accounted for a small proportion of total days employed. Further, (1) some employment contracts involving persons who also happen to be credit or tenancy partners would be observed even in the absence of interlinkage, (2) the observations of the field investigators suggest that very few of the multiple transactions must have been *simultaneous,* as required by the definition of interlinkage, (3) in most cases of employment involving tenancy or credit partners, the terms of employment were the *same* as for other labour contracts. Similar evidence on the absence of any significant interlinkage between credit and tenancy contracts in Palanpur is presented in Sharma and Drèze (1990).

One labourer, Ashok, did receive concessional credit from his main employer in 1983–4. The credit was repaid in the form of wage labour, based on the standard wage rate. Ashok, who is known as an able and

Table 2 : Interlinkage of Labour and Other Contracts, 1983–4

Reference group	Total number of days worked as casual labourer	Number of days employed by a credit partner	Number of days employed by tenancy partner
Labourers who worked for at least one day with a tenancy partner or credit partner	1982	309	139
Other labourers	1671	0	0
All labourers	3653	309	139

Note: A 'credit partner' is a person with whom the labourer had at least *one* credit transaction during the survey year; a 'tenancy partner' is a person from whom or to whom the labourer was leasing land in that year.

Source: Sharma and Drèze (1990). Note that the figures presented in this table are based on early tabulations of the Palanpur data on labour contracts; they are not strictly comparable with those presented in other tables, which incorporate some further corrections for initially missing data.

conscientious worker, was employed by this employer for 112 days during the survey year. The employer, Mohan (see chapter 9), owns a large amount of land and has no adult sons. He is by far the largest employer in Palanpur, and also happens to be a moneylender. This is a case where a mutually advantageous relation of informal patronage seems to have developed between Ashok and Mohan. In most other cases, when labourers happened to work for one of their creditors, they received the standard wage and repaid the loans in the usual way.

2.3 Systems of Payment

The coexistence of daily-wage and piece-rate labour contracts has been observed in a large number of Indian village studies.[473] These studies also bring out the respective advantages of these alternative contracts, and the considerations involved in choosing between them,

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[473]　See e.g. Muthiah (1970), Jose (1973), Bailey (1957), Rodgers (1975), Freeman (1977), Gough (1981), Leaf (1984), Rao (1984), Pal (1994) ; for a different pattern, see Rajaraman (1986), who finds no piece-rate contracts in rural Karnataka. For a theoretical analysis of the coexistence of daily-wage and piece-rate contracts, see Baland, Drèze and Leruth (1996).

including supervision costs, quality control, speed of operation, and recruitment costs (see particularly Cain and Mozumder 1980, Bardhan and Rudra 1981, Binswanger *et al.* 1984, Reddy 1985). The payment of harvest labourers in the form of a share of the produce harvested is an important example of piece-rate contract, observed in most regions of India. A number of studies (including Hopper 1957, Cain and Mozumder 1980, Rahman and Das 1982, Binswanger *et al.* 1984, Rao 1984, Hatti and Raagaard 1985, Reddy 1985) find variants of the 'pure' time-rate and piece-rate contracts, such as team work with the intermediation of contractors who employ daily-wage labour and are themselves rewarded upon completion of specific jobs. Some studies also observe labour contracts of an altogether different nature, such as exchange labour and bonded labour.

In Palanpur, most casual-labour contracts involve either daily-wage or piece-rate payments. Daily-wage contracts are more common, and will be discussed in some detail before we turn to piece rates.

Daily-Wage Contracts:

Under a daily-wage agreement, a labourer accepts a fixed wage payment for a day's work. The task involved is also mentioned at the time of hiring (i.e. on the evening preceding the day of employment). There is a common understanding of what 'a day's work' means, in terms of work hours, at different times of the year.[474] Occasionally, a labourer is hired for half a day. Daily-wage labourers are almost invariably supervised by a member of the household of the employer, who works along with them (though a Thakur employer sometimes watches the labourers without working himself).

Just as the length of the day is not a matter for bargaining, nor is the *wage rate*. An offer of employment on a daily-wage basis is usually understood to imply the standard rate of payment prevailing throughout the village at the time (hereafter the 'going wage'). The going wage applies to all adult males in the village for a day's work, irrespective of the identity of the partners involved. This applies in spite of known differences in the productivity of labourers which, according to the employers, are not entirely evened out through

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[474] Few labourers in Palanpur have watches, let alone functioning watches, but the passages of different trains provide convenient time markers. In the summer, for instance, a day's work involves starting soon after sunrise, working until the arrival of the mid-day train (scheduled for 12.00 a.m.), then taking a break until the passage of the 2.00 p.m. train, then working again until the arrival of the early evening train.

close supervision. If the proposed task is of a special nature, some deviation from the going wage may be mutually agreed upon. In 1983–4, for instance, some labourers who had to work for long hours in chilly winds during the winter were paid a little above the standard rate. But there was no ambiguity about the standard rate of remuneration, and the overwhelming majority of daily-wage contracts involved a 'normal' day and the going wage.

The going wage went up once during the survey year. From the beginning of the survey year in October 1983 until the wheat harvest in April 1984, the going wage was Rs 6 plus a mid-day meal (or Rs 7, in cases where a mid-day meal was not provided by the employer or accepted by the labourer). A higher wage (Rs 8 plus a mid-day meal, or Rs 9 without a meal) prevailed from shortly after the wheat harvest until — and beyond — the end of the survey year. The change from the lower to the higher wage involved a short transition period, immediately after the wheat harvest, when some labourers still accepted the old wage while others insisted on the new one.[475]

Table 3 : Number of Days Worked at Different Wages, 1983–4 (Daily-Wage Contracts Only)

Wage rate (Rs/day)[a]	Number of days worked[b]	
5.0	9	(0.7)
6.0	13	(1.0)
7.0	769.5	(60.5)
7.3	3	(0.2)
8.0	41.5	(3.3)
8.5	6	(0.5)
9.0	421.5	(33.2)
10.0	7	(0.6)
16.2	0.5	(0.0)
Total number of days worked	1271	(100)

[a]   *Inclusive* of the imputed value of the mid-day meal (Rs 1), if provided.
[b]   Percentage distribution in brackets.
     Note: This table focuses on off-peak casual labour in agriculture. The 'peak season' is defined here, as in Table 1, as the wheat harvest.

This pattern accounts for the bi-modal frequency distribution of daily wages paid in 1983–4, as shown in Table 3. Most of the wage payments below Rs 7 (inclusive of the imputed value of Rs 1 for the mid-day meal, if provided) were made to women and children, mainly for rice transplanting. Most of the wage payments at rates between Rs 7 and Rs 9 were made during the brief transition period when the standard wage was undergoing a change. The payments at rates higher than Rs 9 involved special skills, activities, or circumstances. The two modal wage rates (Rs 7 and Rs 9) account for 94 per cent of all daily-wage contracts.

Interestingly, when the field investigators revisited Palanpur in January 1986, they found that the going wage had remained at its late-1984 value of Rs 9 throughout the intervening period. This occurred in spite of significant price increases, and of seasonal fluctuations in labour demand. Similar evidence from subsequent revisits indicates that the going wage is quite sticky (in money terms) in the short-term, and changes in discrete steps at intervals of a few months to a few years.[476]

The preceding discussion applies to the *money* wage rate, and the real wage does vary with seasonal and other changes in prices. It would be quite a coincidence, however, if the changes in real wages induced by the combination of a constant money wage and moving prices also happened to correspond to the changes that are required to maintain labour-market equilibrium. In other words, the rigidity in the money wage translates into some real-wage rigidity as well.

[475]   During the wheat harvest itself, labour contracts were based on the traditional share payments, and there was (virtually) no hiring of casual labour on a daily-wage basis (see Table 4   below).
[476]   For similar observations in West Bengal, see Rudra (1982a).

The observation that a single 'going wage' applies to all (adult male) labourers in the same village, despite observable differences in productivity, has been made in many studies.[477] Its force ranges from tentative statements such as 'the daily rates . . . market appears to give everybody a chance to participate on nearly equal terms' (Binswanger *et al.* 1984: 146) to definite statements such as 'there is no scope for any wage differential, although a number of workers known for their physical

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[477] See Drèze and Mukherjee (1989), and the literature cited there; also Datt (1989, 1996), Kapadia (1993a), Jha (1995), for more recent evidence. There are occasional qualifications. For instance, employers who control large parts of the local labour market, or employers belonging to the higher castes, sometimes pay lower wages than others; examples can be found in Breman (1974), Bell (1991) and Sundari (1981). See also Rajaraman (1986), Harriss (1992) and Rogaly (1993).

strength and stamina are most sought after' (Verma 1964: 37). The issue of wage flexibility over time has been less widely studied, and generalization is therefore difficult. But the evidence, such as it is, does suggest that downward stickiness of the going wage is a common phenomenon in rural India.[478] As always, there are important regional variations in this respect, but the phenomenon appears to be sufficiently widespread to deserve further attention.

Piece-Rate Contracts:

While daily-wage contracts are more common than piece-rate contracts in Palanpur, the latter represent a significant proportion (about 45 per cent) of total casual-labour employment within the village. Under a piece-rate contract, a labourer is paid a given amount (agreed in advance) per task completed, rather than per day of work. For instance, a labourer may be paid Rs 5 per bigha for weeding a plot of land. Similarly, for harvesting wheat, a labourer receives one-twentieth of the amount harvested.[479]

For piece-rate contracts, there is no equivalent to the practice of a uniform 'going wage' applying to daily-wage payments. The practice of wheat-harvest labourers receiving one-twentieth of the amount harvested is a widely-accepted customary arrangement with a long history. In other cases, however, the reward per task is essentially a matter of mutual agreement between labourer and employer. One reason for this is that, in many cases, piece-rate payments are intrinsically difficult to 'standardize'. In the case of weeding, for instance, the amount paid per bigha weeded has to take into account the density of weeds in the relevant plot. In the absence of a standard rate of payment, individual employers and labourers often engage in active bargaining about piece-rate payments, leading to further variations in rates of payment between different contracts (even for the same task).

Piece-rate contracts obviate the need for close supervision, and provide strong incentives for rapid work.[480] These advantages can be important, particularly at times of peak agricultural activity, such as the wheat harvest (when piece-rate payments entirely displace

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[479]   There are subtle differences between these and other variants, e.g. the number of tasks to be performed may be fixed in advance (as when a plot of a given size is to be weeded), or may be a choice variable for the labourer (as with harvesting). But these need not concern us here.

[480]   Note that close supervision is a burden not only for employers but also for labourers, who apparently dislike being supervised (see Appendix).

daily-wage contracts). On the other hand, piece-rate contracts often entail serious problems of quality control. It would make little sense, for instance, to hire labourers to sow a field on a piece-rate basis: they would have little incentive to exercise care with the seed rate, depth of sowing, and related details (not to speak of the possibility that some might reduce the seed rate and appropriate some of the grain). Even for a more straightforward operation such as weeding, there are important quality-control problems, since a piece-rate labourer has an incentive to sacrifice quality for speed (e.g. by cutting the weeds at ground level rather than fully uprooting them). The relative importance of these considerations of work incentives and quality-control varies widely between different tasks. This is why the distribution of labour contracts between piece-rate and daily-wage contracts itself varies a great deal between different tasks, as

Table 4 : Number of Days of Casual Wage Employment Within Palanpur, by Activity and Contract Type (1983–4)

Activity	Number of days	
	Daily-wage contracts	Piece-rate contracts
Sowing wheat	129.5	0
Sowing and transplanting other crops	52.5	0
Harvesting wheat	3	620
Harvesting other crops	82.5	30
Activities related to harvesting	68.5	3
Digging sugarcane	49.5	127
Digging other crops	194	25.5
Weeding	220	96
Miscellaneous field work	439.5	0
Ploughing, employer's bullocks	82.5	0
All agricultural work	1321.5	901.5
Brick making	0	137
Construction work	136	225
Other non-agricultural work	206.5	90
All non-agricultural work	342.5	452
Total	1664	1353.5

Table 4 indicates. Piece-rate contracts are relatively frequent for agricultural activities such as weeding, digging, and harvesting. These are tasks for which quality-control is not a major problem. The incidence of piece-rate contracts for other agricultural tasks is relatively low, nil in the case of sowing, transplanting, and ploughing with the employer's draught animals.[481] In the case of nonagricultural work (within the village), which is mainly concerned with the construction and maintenance of buildings, piece-rate payments account for a majority of casual-labour contracts.

Table 4 also shows that different employers often choose different contracts for the *same* task. One reason for this is that the costs of supervision, and concern for work quality, are not the same for different employers. Considering the example of weeding once again, farmers with high standards of cultivation (many Murao farmers fall in that category) often avoid hiring piece-rate labour for this task, unless they are too busy to supervise daily-wage labourers. Note also that the same farmer may weed some plots with daily-wage labourers and others through piece-rate contracts, e.g. a tenant may use the former on his own land and the latter on leased land.

2.4 Seasonal Unemployment

Quinquennial surveys of the National Sample Survey Organization (NSS) are the most widely-cited source of estimates of employment and unemployment for India. Information on the social and economic conditions of rural 'labour households' are also collected by the NSS and published by the Ministry of Labour as the Rural Labour Enquiries (RLE). Judged from Palanpur, or indeed from the perspective of other village studies, the unemployment estimates obtained from these sources look quite low.

According to the NSS's *Survey of Employment and Unemployment: 1983,* the unemployment rate for rural males was only 7.5 per cent based on the 'daily status' criterion (NSS 1990). This percentage refers to the proportion of person-days on which an average individual in the male labour force did not find work, and is the 'most inclusive' rate of unemployment. The corresponding 'usual status' rate, covering only chronic unemployment, is only 2.1 per cent.

Unemployment rates are likely to be higher for labour households.

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[481] Ploughing services can also be hired out using one's own bullocks, and this is done on a piece-rate basis (e.g. Rs 4 per bigha in 1983–4). But this is not considered here as a form of casual labour.

According to the *Rural Labour Enquiry: 1983,* the average number of days of wage employment for male agricultural labourers from agricultural labour households was 238 in India and 244 in Uttar Pradesh (Government of India 1994b). The corresponding unemployment rate, estimated by us as the number of days when the average male agricultural labourer was available for work but did not find any gainful employment, was only 16 per cent for India and 10 per cent for Uttar Pradesh.

A rather different perspective on rural unemployment, for casual labourers at least, emerges from village studies. Village studies typically find that agricultural labourers obtain wage employment for no more than half of the year. Table 5 presents an illustrative sample of the findings of these studies. The number of days of wage employment is below 180 in all cases, and is much lower than the RLE average of 238. These lower estimates are consistent with our own observations in Palanpur. The definitions of employment and unemployment used in village studies are not always very precise, or consistent between different studies. Nevertheless, there does appear to be a basic contrast between the findings of these studies and the standard NSS/RLE estimates.

One possible explanation is that the latter are based on a misleadingly broad definition of 'employment'. In the NSS/RLE approach, any person who is engaged in gainful employment for *four* hours or more is considered employed for the entire day, and any person with gainful employment for *one hour* or more is considered as employed for half a day. Further, a labourer who is unable to find employment at the going rate, and engages in 'replacement activities' instead (e.g. fishing or repairing a roof) is counted as *employed* even if the replacement activities in question have a very low income-generation potential, as long as these activities can be counted as gainful employment of some sort.[482] This is in contrast with village studies, where low-income replacement activities are typically *not* counted as 'employment', leading to a picture of much higher unemployment rates. Clearly, the issue of how days spent without wage employment are apportioned between 'unemployment' and gainful (non-wage) employment (or non-participation in the labour force) is likely to play a major role in the estimation of unemployment rates.

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[482] There are further definitional problems in the case of female employment (e.g. concerning the status of 'domestic work'). For simplicity, the present discussion focuses on male labour.

Table 5 : Wage Employment of Rural Labourers: Evidence from a Sample of Village Studies

Village/Region	Reference Year	Reference group	Average days of wage employment per year		
			Men	Women	Men and women combined
Shirapur[a] (Maharashtra)	1979–84 average	casual unskilled labourers	146	64	–
Kanzara[a] (Maharashtra)	1979–84 average	casual unskilled labourers	150	75	–
Kadathuchery[b] (Kerala)	1979–80	agricultural labourers	51	42	–
Haryana[c]	–	casual labourers	–	–	159
Kumbapettai (Tamil Nadu)	1976	casual labourers	–	–	76–180
Kirippur (Tamil Nadu)	1976	casual labourers	–	–	60–110
Gokilapuram (Tamil Nadu)	1976–7	landless agricultural labourers	118	158	139
Maatisar[d] (Gujarat)	early 1980s	agricultural labourers	175	135	–

[a]   The figures relate to workers whose main potential source of labour income (subject to participation) was casual unskilled labour.

[b]   The employment estimates are for *one crop season,* thus one should expect annual employment to be about twice the reported numbers.

[c]   Average employment figures per labour *household* for casual labourers, averaged for the whole of Haryana.

[d]   Estimates of the number of days of local agricultural wage labour in a year of 'good rainfall' (Chen's survey was conducted in a drought year).

Sources: Bhende *et al.* (1992) for Shirapur and Kanzara; Nair *et al.* (1984) for Kadathuchery; Bhalla (1987) for Haryana; Gough (1983) for Kumbapettai and Kirripur; Ramachandran (1990) for Gokilapuram; Chen (1991) for Maatisar.

For Palanpur, we are unable to calculate unemployment rates, in the absence of adequate information on family labour. It is, however, instructive to take a look at the five agricultural labourers who (1) were effectively landless, either because they did not own any land or (in

one case) because the land had been mortgaged on a long-term basis, and (2) participated in the village labour market for most of the year.[483] Personal observations from the field investigators indicate that none of these five labourers have significant income-earning opportunities other than wage employment (and none of them live with an adult son). The number of days of wage employment obtained by them in 1983–4 were 171, 159, 129, 120, and 119 respectively. To put things in perspective, it should be noted that landless labourers who have found employment outside the village have higher employment rates.

There are at least three further indications that involuntary unemployment is common in Palanpur, particularly during periods of low agricultural activity. The first is direct observation. The agricultural labourer wandering cheerlessly in search of some useful activity or consoling diversion, or spending the day in 'gainful' activities of extremely low productivity (such as making ropes), is a familiar sight in Palanpur.

Second, there are telling personal testimonies in the same direction. Many labourers claim that they are willing to work at the going wage for every day of the year, but that employment is easily available only during the short periods of peak agricultural activity (mainly the wheat harvest). A particularly interesting testimony comes from Chote Lal, a Jatab labourer with some construction skills who is widely considered as one of the most skilful, hard-working, and reliable workers in Palanpur. Chote Lal's family cultivates 25 bighas of land, but there are three other adult males in the household, and Chote Lal claims that he would work for wages every day of the year if given the opportunity. There may well be some exaggeration in this, but even then it is revealing to find that Chote Lal, despite being in relatively high demand from many employers, only obtained 154 days of wage employment in 1983–4.

A third indication comes from comparing daily earnings from daily-wage and piece-rate contracts during periods of slack agricultural activity. This comparison is pursued in Mukherjee and Ray (1992), taking into account differences in speed and effort between different contract types. Their main findings may be interpreted as follows. Daily earnings from piece-rate contracts vary widely, as shown in Table 6. In normal circumstances, skilled and hard-working

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[483] Thus, I exclude landless agricultural labourers who worked for more than a few days outside the village, or withdrew from the labour force for a significant part of the year due to sickness or other reasons.

Table 6 : Piece-Rate Work in Agriculture During Off-Peak Periods: Distribution of 'Standard Daily Earnings'

Standard daily earnings (Rs/day)	Number of days worked
1.8	4
2.1	6
2.3	10.5
2.9	6
3.0	48
3.1	7
3.3	8
4.4	16
5.2	33
5.5	14
6.1	4.5
6.2	6.5
6.3	48
6.5	6
6.6	3
6.7	7
7.5	2
7.6	4
7.9	4
8.0	1.5
8.2	8
8.3	3
8.4	5
8.6	2
8.7	1.5
9.1	8
9.4	12
12.0	3
Total	*281.5*

Note: 'Standard daily earnings' are calculated by multiplying the piece rate (rupees per task) by the average speed (tasks per day) of workers employed at that rate.

labourers can earn a good deal more (per day) than the going daily wage by working on piece-rate contracts. During periods of slack agricultural activity, however, daily earnings from piece-rate contracts fall sharply. Consider, for instance, the slack period of the rabi season in 1983–4, when the going wage for daily-wage labourers was Rs 7 per day (inclusive of the imputed value of the mid-day meal). During parts of January and February 1984, when there was little activity in the fields, many labourers accepted piece-rate contracts that represented daily earnings of only Rs 4 or 5 per day, or even as little as Rs 2 or 3 in some cases. This is a clear indication that, for many labourers, the 'reservation wage' was well below the going wage in that period, i.e. they were involuntary unemployed.[484]

The finding that there is involuntary unemployment in Palanpur is not particularly profound or surprising. If I have discussed the evidence on this in some detail, it is because widely-cited evidence from the National Sample Survey and related sources suggests that the extent of involuntary unemployment in rural India is quite limited. The evidence on this point from village studies is far less comforting.

3. Theories of Rural Labour Markets and Palanpur

This section discusses the relevance of various theories of rural labour markets in the light of the preceding empirical observations. The literature on this subject is vast, and this section concentrates on some of the most influential analyses (see also Drèze and Mukerjee 1989). A convenient focus for comparison of different theories is what they tell us about the process of wage determination in rural labour markets.

The *subsistence wage* theory, which derives largely from the works of Ricardo and Malthus, is a theory of labour supply. It views the real wages at which labourers are willing to supply labour as being determined by norms largely independent of labour market conditions.

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[484] There are a number of possible qualifications to this reasoning, relating *inter alia* to differences in the speed of work between daily-wage and piece-rate contracts, and to the distinction between *ex ante* and *ex post* daily earnings from piece-rate contracts. These qualifications, however, do not undermine the basic conclusion that there was widespread involuntary unemployment of daily-wage labourers during the slack seasons in 1983–4; see Mukherjee and Ray (1992) for further discussion.

One weakness of this theory is that it lacks a convincing story about what precisely determines these norms, e.g. biological subsistence requirements or socio-cultural beliefs. Ricardo rightly argues that each of these plays a role in wage determination. He further claims that socio-cultural norms change over time, based on the actual standard of living enjoyed by the labourers, which is determined by market forces. Due to this circularity of argument, some economists have questioned whether the subsistence wage theory is a theory at all. Others prefer to ignore it.

It is, however, on empirical grounds that the subsistence theory has been most seriously questioned. The theory predicts that wages will not be responsive to market forces, even over relatively long periods. There is now considerable evidence, for India at least, that agricultural wages do respond to such forces, e.g. to labour demand.[485] In Palanpur, too, real wages exhibit seasonal responses to labour demand, e.g. in the form of a decline in piece-rate earnings during slack periods and higher wages (based on share payments) during the wheat harvest. And, as discussed in chapter 2, there has also been a sustained increase in real wages over the survey period, in response to the expansion of non-agricultural employment opportunities and increased labour demand in agriculture. The behaviour of real wages in Palanpur does not remotely conform to the predictions of the subsistence wage theory.

At the other extreme of the theoretical spectrum is the view that rural labour markets in India are 'perfectly competitive'. Proponents of this theory include Hopper (1965), Schultz (1964), Paglin (1965) and others who have claimed that the village economy achieves short-run allocative efficiency. That is, the marginal productivity of labour is equal to the real wage and there is no surplus of labour.

The demand-supply framework has some value in explaining wage variations over time and between regions in India, and variations over time in Palanpur. But there remains the basic question of how to reconcile perfect competition with the existence of widespread involuntary unemployment. Similarly, the simple competitive model cannot easily account for the wide differences in daily earnings from daily-wage and piece-rate contracts during periods of low agricultural activity. At the regional level, perfect competition is inconsistent with the existence of substantial wage differentials between neighbouring villages. There is, thus, a need to look beyond simple supply-demand

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[485] See e.g. Bardhan (1984a) and Binswanger and Rosenzweig (1984).

analyses to explain wage determination in Palanpur and elsewhere in India.

An important element of any convincing theory of wage determination in Palanpur would be an explanation for the short-run rigidity of the 'going wage', particularly in the form of downward rigidity during slack periods (in spite of involuntary unemployment). *Efficiency wage* theories provide one possible line of explanation. These theories essentially explore reasons why it may be in the interest of employers to keep wages above reservation wages.[486] The most commonly-analysed reasons arise from (1) the link between nutrition and productivity, and (2) asymmetric information.[487]

The basic idea of nutrition-based efficiency-wage theories is that employers may pay a wage above the labourers' reservation wage because of the productivity gains arising from a higher nutritional intake. In other words, lower wages would lower productivity sufficiently to raise unit costs. The details depend significantly on market structure. In Palanpur, it is reasonable to assume that no individual employer or labourer can influence market outcomes through unilateral action. Under these circumstances, with profit-maximizing farmers, the standard model is consistent with the emergence of involuntary unemployment and downward rigidity in real wages.[488] It also predicts that landless or asset-poor labourers, or labourers without alternative sources of income, will be more vulnerable to unemployment (Bliss and Stern 1978a, b, Dasgupta and Ray 1986, Baland and Ray 1991).

There are several difficulties in applying nutrition-based efficiency theories in Palanpur. First, casual labour contracts in Palanpur are *daily* contracts, and the notion that there might be an important link between wages, nutrition, and productivity on a daily basis is difficult to sustain (especially since wages are paid at the end of the day). The idea that an employer might refrain from offering a wage lower than the going wage out of concern that, if paid a lower wage, the labourer

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[487] For a concise and lucid introduction to the literature on efficiency-wage theories of the labour market, see Yellen (1984) ; also Akerlof and Yellen (1986).

[488] This result depends on certain assumptions, such as the absence of moral hazard and a correct awareness of the nutrition-productivity relationship on the part of employers. See Bliss and Stern (1978a, b) and Basu (1991) for further discussion.

might lower his productivity (despite close supervision and the provision of a mid-day meal, which conventionally involves allowing the labourer to eat as much as he likes), requires some suspension of disbelief. Second, there is clear evidence that, in Palanpur, resistance to wage cuts comes from *labourers,* not employers. In fact, employers are often observed to make (usually unsuccessful) attempts to persuade a labourer to work on a daily-wage contract for less than the going wage.[489]

The same reservations also apply to most efficiency-wage theories based on notions of asymmetric information. To illustrate, consider the idea that employers may offer a wage higher than the reservation wage in order to discourage labourers from shirking (Shapiro and Stiglitz 1984). A shirking worker, so goes the story, will be fired *after* the event, and the higher the wage the higher the utility loss involved in being fired. If the wage is high enough, the labourer has no incentive to shirk, and the employer may also gain as a result. This model may well have important applications in the context of long-term labour contracts, but it is hard to see how it could be credibly applied to casual labour in Palanpur.

The preceding comments lead us to focus on theories that include explicit arguments to explain why labourers resist wage cuts. The importance of this feature of rural labour markets in India has indeed been emphasized in several empirical studies.[490] Further, these empirical studies clearly point to the importance of notions such as fairness, labourer solidarity, and class consciousness in interpreting this observation. Several recent theoretical models pursue this line of enquiry.

Discussions with Palanpur villagers reinforce this point. Labourers

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[489] Dasgupta (1993) attempts to answer both objections on the basis of a model where employers set productivity at a given level, such that labourers themselves choose to work for the 'efficiency wage'. No employee undercuts the wage, because at a lower wage he will not be able to fulfil the productivity requirements. Dasgupta also mentions that all his results are in terms of piece-rate wages. While it may have some merit in other contexts, this model seems to have little relevance for Palanpur (where, for instance, piece-rate payments are highly flexible and it is the rigidity of the daily wage that requires explanation). For further evidence of the limitations of nutrition-based efficiency wage theories elsewhere in rural India, see also Walker and Ryan (1990), Swamy (1993).

[490] See particularly Rudra (1982a) for West Bengal, Kapadia (1993a) for Tamil Nadu, Datt (1989, 1996) for Madhya Pradesh, and Jha (1995) for Bihar.

and farmers largely respect village customs about maintaining wage uniformity, and, not accepting wage cuts in the lean season is as much due to sociological reasons as due to low elasticity of labour demand, as perceived by labourers. The fear of a fall in the general wage level was also a factor. Resistance to wage cuts cannot, however, prevent real wages from falling as prices rise, because there is no indexation. Unlike parts of India which have highly organized and unionized labour markets, Palanpur has no explicit collective bargaining or collusion. A labourer succinctly stated, '*hamare yahan meeting-feeting naheen hota*' ('In our place we have no meetings and such nonsense') and others expressed similar sentiments. Several farmers said that the time-bound nature of agricultural operations prevented effective collusion. Nominal wages increased, according to these people, in response to price changes or demands from labourers. Thus we see that supply and demand factors (elasticity of labour demand, wages in the neighbouring township, prices, etc.) matter, but there are other, sociological factors (wage uniformity as a social custom) which are important. (See the Appendix for further details.) In earlier research, I have argued that there is good reason to believe that the wage level in Palanpur is higher than reservation wages (Mukherjee and Ray 1991). The absence of formal institutional mechanisms to determine wages increases the necessity to examine various economic aspects of factors such as fairness and solidarity.

Osmani (1990) presents a game-theoretic model of collusion by labourers to resist wage cuts. If any labourer deviates from the going wage, other labourers retaliate and the wage is driven down to the reservation wage. The model yields a unique equilibrium wage, which is above the market-clearing level. The equilibrium wage rises with the elasticity of labour demand. While the empirical relevance of the details of this model require further scrutiny, it is useful as an illustration of the possibility of modelling downward wage rigidity as an outcome of collusion (implicit or explicit) on the part of labourers.[491]

Akerlof (1980) models a situation where a labourer's utility incorporates both social and economic considerations. The former, in this case, refers to the reluctance to accept wage offers below a minimum level, regarded as the 'fair wage'. This can lead to equilibrium

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[491] For a similar approach, based on bargaining theory, see Datt (1989, 1996).

unemployment. One major contribution of this paper is that it yields useful insights on the formation of social norms.

In a similar model, Mukherjee and Ray (1991) focus more closely on the economic pressures on labourers, and characterize the range in which the equilibrium wage will lie. While they do not provide a theory of formation of social norms, their framework allows each labourer to have his or her own notional fair wage. The framework, apart from providing an explanation for the coexistence of above-equilibrium wages and involuntary unemployment, also allows for the coexistence of short-run real-wage flexibility and money-wage rigidity which is a feature of the economy of Palanpur.

A related issue of some interest is why daily wages are sticky (in money terms), while piece-rate contracts appear to be far more flexible, with little downward rigidity in particular.[492] In this connection, it is worth noting that the notions of solidarity and fairness invoked in the preceding paragraphs in connection with daily wages are not so easy to apply in the case of piece-rate contracts. One reason for this is that a daily-wage contract involves a known payment for a known labour requirement, whereas in the case of piece-rate contracts, the labour requirement is to some extent uncertain (e.g. a labourer may agree to weed a field of a particular size for a particular sum of money without being certain of the amount of work involved). Also, unobservable differences in effort levels between different labourers working on piece-rate contracts complicate interpersonal comparisons of effort and reward. Since labourers working on piece-rate contracts work at different paces and earn different wages per day, it may be difficult to specify and enforce a particular norm of payment.[493]

These are some examples of recent theoretical models that seem to be looking in the right direction, judging from the empirical evidence

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[492]   On this, see also chapter 1.

[493]   Note also that the downward flexibility of piece-rate payments helps to explain why average daily earnings in Palanpur are lower for piece-rate contracts (excluding harvest shares) than daily-wage contracts, in contrast with the standard theoretical prediction. The literature generally accepts that piece rates are an incentive-compatible form of payment, which enables employers to screen out the better workers (e.g. Allen 1985) or to cut down on supervision costs (Roumasset and Uy 1980; Esfahani and Mookherjee 1995), leading to higher daily earnings on piece-rate contracts than daily-wage contracts in equilibrium.

on labour contracts in Palanpur and elsewhere in India. A major remaining gap is to develop models that take into account the coexistence of daily-wage and piece-rate contracts (another central feature of labour markets in rural India), and the interaction between the two.[494] This is an important direction of further research.

4. Concluding Remarks

In this chapter, I have described the casual labour market in Palanpur, and examined some of its key features. Particular attention has been paid to the related issues of absence of labour tying or interlinkage, coexistence of daily-wage and piece-rate payments, wage rate determination, and seasonal unemployment.

In comparison with recent theoretical models of rural labour markets, the labour market situation in Palanpur seems to be both simpler and more complicated. On the one hand, many aspects of the labour market are relatively easy to understand. There is no great difficulty, for instance, in understanding the predominance of daily casual labour over other possible labour contracts, or the respective roles of piece-rate and daily-wage contracts. Even the determination of the daily wage seems to be consistent with a simple story which combines some short-run wage rigidity with demand-supply adjustments in the longer run. In understanding these features of the labour market, there seems to be little need to invoke more sophisticated notions such as efficiency wages, interseasonal labour tying, interlinkage, separating equilibria, and two-tier labour markets. On the other hand, the short-run determination of the daily wage (and, relatedly, the phenomenon of involuntary unemployment) cannot be fully accounted for without focusing on some social dimensions of labour contracts that have only been partially explored in recent theoretical work on rural labour markets, such as worker solidarity, class consciousness, and fairness considerations. These dimensions are harder to comprehend, let alone model, but they do seem to be quite crucial in achieving a full understanding of rural labour markets.

Before concluding, I would like to dispel one possible misunderstanding. Much of this paper has focused on the related issues of involuntary unemployment and wage rigidity. This does not mean,

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[494] On this issue, see also Baland, Drèze and Leruth (1996).

however, that the latter is 'responsible' for the former, or that more labour-market competition is the way to eliminate rural unemployment. In fact, a good case can be made for promoting better collective organization of agricultural labourers (aimed *inter alia* at improved bargaining power and higher wages), as has already happened to some extent in regions such as West Bengal and even parts of eastern Uttar Pradesh; particularly so if labour demand in off-peak periods is relatively inelastic, as labourers in Palanpur believe it to be. Rather than attempting to drive down the real wage, a constructive way of dealing with involuntary unemployment in rural areas is to promote the growth of gainful employment opportunities through higher agricultural investment, economic diversification, improved human capital, more equitable distribution of resources, and related means.

Appendix: Summary of Discussions With Labourers and Employers

In December 1986 and January 1987, I had extensive discussions with labourers and employers in Palanpur about various aspects of labour contracts.[495] The respondents consisted of 14 labourers and 17 employers. The labourers interviewed consisted of all those for whom agricultural labour was a major occupation and who were available for discussion. The employers were selected informally, taking into account caste and other relevant characteristics, and also the rapport that had been established with different farmers by the main investigators of the 1983–4 survey. I interviewed one person at a time, and began the discussion with a small questionnaire. In this note, I shall attempt to summarize the main insights arising from these discussions.

In general, the employers seemed to have a better understanding of the issues involved than the labourers. However, astute observations came from both groups.

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[495] I use the term 'employer' (rather than, say, 'farmer') because a farmer may also be a labourer rather than an employer. But the reader should remember that most Palanpur 'employers' are small farmers, who hire labour on an occasional basis.

Selected Results of the Discussion Questionnaire

Question 1: Are Daily Wages the Same for All Labourers in This Village? Why?

Response	Number of respondents
Employers (17 responses)	
Yes: Village practice or ethic	6
Yes: Labourers will protest if we try to discriminate	5
Yes: Farmers can always pick the better workers anyway	3
Yes: Supervision ensures equal effort levels	1
Yes: Cannot tell why	2
Labourers (13 responses)	
Yes: 'Custom'; equal work gets equal pay; or cannot explicitly rationalize this long-standing arrangement	7
Yes: Farmers refuse to discriminate	2
Yes: Labourers will protest if farmers discriminate	1
Yes: Discrimination would be 'unfair'	1
No: Better skill can ensure higher wage; someone who is in distress may accept lower wage	2

Question 2: Do You Differentiate Between Different Labourers When They Work on Daily Wages?

Response	Number of respondents
Employers (16 responses)	
Yes: Good labourers are easier to supervise	11
Differentiate very little	5

Question 3: Does Undercutting of Wages Occur in This Village? Why?

Response	Number of respondents
Labourers (12 responses)	
No: Undercutting does not bring forth additional employment	3
No: Such behaviour would violate village norms	2
No: A labourer who undercuts would feel 'demoralised'	1
No: Rising prices prevent undercutting	1
Yes: Extreme distress can lead to an *attempt* to undercut, but this may not bring forth additional employment	5

Question 4: How Long Has the Daily Wage Been at the Current Level?[496]

Response	Number of respondents
Employers (17 responses)	
A few months	1
One year	2
Two or three years	5
'Many years'	6
Vague responses, or can't tell	3

Question 5: Does the Daily Wage Fall During the Slack Season? Why?

Response	Number of respondents
Employers (17 responses)	
No: Individual labourers refuse to accept wage cuts (they fear that it might lead to a fall in the general wage level)	7
No: Labourers can get employment in Chandausi	2
No: Farmers do not try hard to enforce a wage cut	1
No: No reason offered	1
Yes: No reason offered	4
Yes: Wages will fall this year!	2
Labourers (14 responses)	
No: It is the 'custom' that the going wage should continue to apply	3
No: Labourers would refuse wage cuts	2
No: The volume of employment is very small, so the wage level does not make much difference to the farmers	4
No: Cannot tell why	2
Yes: Distress leads to a fall in wages during the slack season	3

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[496] Survey data suggest that the correct answer is around two and a half years.

Question 6: Which Labourers Are More Likely to Get Employment During the Slack Season?[497]

Response	Number of respondents
Labourers (13 responses)	
Those who work harder	2
Those who accept low-paid employment	2
The better-skilled labourers	2
The stronger labourers	1
Those who have better 'connections'	1
There is no employment in the village during the slack season (work can only be obtained in the town)	2
Vague responses	3

Question 7: Do You Often Employ Labourers on Piece Rates? Why?

Response	Number of respondents
Employers (18 responses)	
Yes: Piece-rate labour is cheaper and there is no need for supervision	2
Yes: No supervision is needed	1
Rarely: Labourers employed on piece rates hurry too much, and the quality of work suffers	10
Never: The quality of piece-rate work is not satisfactory	5

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[497] Note that this question does not distinguish between daily-wage and piece-rate employment (or between agricultural and non-agricultural labour within the village); the answers should be interpreted accordingly.

Question 8: Do You Prefer Working on Piece Rates Rather Than for Daily Wages? Why?

Response	Number of respondents
Labourers (13 responses)	
Yes: Absence of supervision makes piece-rate work attractive	7
Yes: Piece-rate work makes it possible to achieve higher daily earnings	3
Yes: If the rates are good	1
No: One has to work too hard	1
No: Earnings under piece rates are too low	1

Question 9: Do Farmers Collude in Wage Matters? if not, Why?

Response	Number of respondents
Employers (16 responses)	
No: Time-bound nature of agricultural operations prevents collusion[498]	6
No: Cannot tell why	8
Yes	2
Labourers	
Most labourers found it hard to make sense of this question; this can be plausibly interpreted as further indication of the absence of explicit collusion on the part of employers.	

Question 10: Do Labourers Collude in Wage Matters? if not, Why?

Response	Number of respondents
Labourers (9 responses)	
No: The bargaining power of labourers is too weak	3
No: Cannot tell why	4
Yes: Labourers 'discuss' among themselves before demanding a higher wage	1
Yes	1

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[498] Three farmers said that an attempt to collude had failed.

Question 11: When and Why Do Wages Increase?[499]

Response	Number of respondents
Employers (16 responses)	
Wages rise at times of high labour demand (e.g. during the wheat harvesting season)	6
Wages rise in response to price increases	4
Wages rise because labourers ask for higher wages	4
Wages rise in response to wage increases in Chandausi	2

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[499] This question elicited ambiguous answers from most respondents.

Chapter 8 Tenancy

Naresh Sharma and Jean Drèze[500]

Introduction

This chapter presents an analytical description and interpretation of tenancy in Palanpur. We shall not attempt to construct this interpretation on the basis of a particular theoretical model of tenancy, although we shall examine the evidence in the light of earlier theoretical contributions and also discuss some of the implications of our findings for theory. The issues explored in this chapter include the motives for tenancy, the choice of tenancy contract, the rationale for equal shares in crop-share tenancy, the relationship between tenant and landlord, the efficiency of sharecropping, and interlinkage. The wider implications of this case study are also discussed.

Unless stated otherwise, the reference year for this chapter is 1983–4 (hereafter 'the survey year'). For that year, when both of us lived in the village as field investigators for the fourth Palanpur survey, particularly detailed information on tenancy contracts is available. Occasional use will also be made of similar information for earlier survey years, and a short update on the 1993 situation is included at the end of the chapter. As field investigators in 1983–4, we made a special effort to obtain reliable information on all tenancy contracts; for every contract, we cross-checked the details given to us by the landlord and the tenant and resolved all discrepancies through further enquiries. We also had extensive informal discussions on tenancy issues with Palanpur farmers and other local residents.

The rest of the chapter is divided into three sections. In Section 1, we describe the basic features of tenancy in Palanpur. Section 2 discusses their interpretation. The third section presents some concluding remarks.

1. Tenancy in Palanpur: Basic Features

1.1 Incidence of Tenancy

How important is tenancy for the economy of an Indian village? According to the National Sample Survey, the proportion of leased-in land to cultivated land in Uttar Pradesh was only 13 per cent in the early 1970s.[501] Tenancy, however, tends to be underreported in large-scale surveys of this type, and village studies usually produce higher estimates. In Palanpur, the proportion of cultivated land under tenancy was estimated at 10 per cent in 1957–8, 22 per cent in 1974–5, and 28 per cent in 1983–4.[502] The 1957–8 estimate, which is based on a single interview for each household, may well be on the low side, but the other estimates are quite reliable. In terms of land area, tenancy is clearly an institution of major — and possibly increasing — importance in Palanpur.

Another indication of the importance of tenancy in Palanpur's economy is the proportion of *households* involved in tenancy contracts, either as 'tenant' or as 'landlord' (or both). In 1983–4, this proportion was as high as 74 per cent, rising to 87 per cent among landowning households (see Table 1 for details).[503] Further, for some households tenancy contracts represent a crucial part of their economic opportunities. This applies, for instance, to landowning households without adult males, for which land rent is sometimes the only source of income.

Table 1 also presents some information on the incidence of tenancy by caste and land ownership class. Clearly, tenancy is important (both in terms of leasing in and in terms of leasing out) for all castes and land ownership classes. There are also some interesting heterogeneities between different groups. For instance, the contrast

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[501] See Laxminarayan and Tyagi (1977a, 1977b, 1983) and Swamy (1988).

[502] Strictly speaking, these percentages refer to the proportion of leased-in land to total cultivated land in Palanpur during the rabi (winter) season.

[503] Excluding tiny leases does not make such difference to these figures; for instance, among households leasing in, only four were leasing in less than half an acre.

Table 1 : Incidence of Tenancy in Palanpur (1983–4), by Caste and Land Ownership Class

	Proportion of households in the specified group (%)	Proportion of households leasing in (%)	Proportion of households leasing out (%)	Leased-in area as a proportion of operated area (%)	Leased-out area as a proportion of owned area (%)
Caste[a]					
Thakur	21	27	67	20	38
Murao	19	52	37	14	12
Muslim	14	60	20	63	18
Jatab	13	47	63	35	33
Others	33	23	47	49	39
Land ownership class (bighas)					
0	19	19	0	100	0
0.1–5	13	71	43	94	37
5.1–15	25	36	60	57	48
15.1–30	25	53	50	27	25
30.1–50	10	27	73	6	19
above 50	8	36	73	10	24
All households	100	38	48	28	26

[a]   In decreasing order of social status (except for the 'other' category); Muslims are listed as one of the 'castes', for convenience, but strictly speaking that term does not apply to them.

Notes: (i) Palanpur had 143 households in 1983–4. (ii) The tenancy information on which this table is based pertains to the rabi season; most tenancy contracts last for a whole year, but some last for a single season. (iii) In 1983–4, 16 households (11 per cent of all households) were leasing in *and* out; the proportion of households leasing in *or* out was 74 per cent.

between Thakurs and Muraos, discussed in chapter 1, reemerges here in the form of Thakurs having the highest proportion of households leasing out (and only a small proportion of households leasing in), and Muraos mostly cultivating their own land. Similarly, while tenancy is important in all land ownership classes, the tendency to lease in (out) is higher (lower) among small landowners, than among large ones. The characteristics of landlords and tenants will be considered in greater detail in section 1.4.

1.2 Types of Contracts

In Palanpur, as in most other Indian villages, several types of tenancy contracts coexist. At a general level, we can distinguish between (1) share contracts (where rent takes the form of a share of the harvest), and (2) fixed-rent contracts (where the rent is fixed in advance independently of the harvest). Within the category of fixed-rent contracts, an important distinction is whether the rent is paid in cash or in kind. Within the category of share contracts, several 'formulas' are possible, with different patterns of sharing of costs and outputs. In Palanpur, three formulas were in existence during the survey year, namely batai, chauthai and tihai (on which more below).[504] In addition to share contracts and fixed-rent contracts, one occasionally encounters a contract which does not fit easily in either category (e.g. what might be called 'usufruct mortgage', with the tenant cultivating the land in lieu of interest on a loan until the landlord repays the loan), but this residual category need not concern us here. Table 2 summarizes the characteristics and incidence of different tenancy contracts in Palanpur during the survey year.

Before commenting on this table, it may help to spell out the precise terms of each of these contracts. In each case, we shall consider that the duration of the contract is one year, and that the contract begins around June (just before the beginning of the kharif season). This is indeed the standard pattern, even though single-season leases (e.g. for a potato crop) and multi-year leases (e.g. for sugarcane) also exist.

(1) Fixed Rent in Cash: The rent is paid at the beginning of the year. Subsequently, the tenant is solely responsible for all aspects of cultivation. The amount of the rent is a matter of mutual agreement between

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[504] A fourth system, *sajha batai,* is essentially a simple variant of the batai contract.

Table 2 : Types of Tenancy Contract

Contract	Proportion of leased-in area under speci-fied contract[a]	Tenant's share of output (%)	Tenant's share of inputs (%)			Other features
			Labour	Seeds[b]	'Cash' inputs[c]	
Share Contracts						
batai	76 (21.3)	50	100	100	50	Costs are shared at the time of their occurrence.
chauthai	4 (1.2)	25	50	50	25	Costs are shared at the time of their occurrence.
tihai	0 (0.0)	33.3	100	50	50	The landlord provides the bullocks; the tenant main-tains and uses them.
Fixed-rent Contracts						
cash rent	11 (3.1)	100	100	100	100	Rent is paid in advance; amount is ne-gotiable.
kind rent	3 (0.9)	100	100	100	100	Rent is paid after the har-vest; amount is initially ne-gotiable.

[a]   In brackets, proportion of total operated area. Not included in this table is a residual category of 'other contracts' (e.g. usufruct mortgage), which accounts for about 5 per cent of total leased-in area.

[b]   For a few crops (e.g. sugarcane and vegetables), seeds are shared in the same way as cash inputs.

[c]   Mainly irrigation and fertilizer (see text for details).

landlord and tenant, and typically depends on the quality of the land, the availability of irrigation facilities, the bargaining power of the respective partners, and related factors.

(2) Fixed Rent in Kind: This has the same features as fixed rent in cash, except that the agreed rent is due *after* the rabi harvest, and that it is paid in kind (usually wheat) rather than in cash.

(3) Batai: Output is shared equally between landlord and tenant ('batai' means 'the act of dividing'). Variable input costs are also shared equally (with each partner making his or her contribution at the time when costs arise), except for labour and seeds, which are entirely provided by the tenant.[505] The tenant also has to use his or her own bullocks and implements. These contractual terms are not negotiable, even though negotiations may take place concerning cropping patterns, input levels, etc. For a few specific crops, the standard terms are modified, e.g. in the case of potato crops the seed costs are shared between both partners.

(4) Sajha Batai (literally 'Joint Batai'): This is very similar to a batai contract, except that instead of there being one landlord and one tenant, there are two co-tenants, with identical obligations and entitlements. Thus, each co-tenant provides one-fourth of input costs (one half for labour and seeds) and receives one-fourth of the output. The landlord's shares are the same as in an ordinary batai contract.

(5) Chauthai: There are two partners (landlord and tenant). The tenant receives one-fourth of the produce ('chauthai' means 'one fourth') and supplies one-fourth of the inputs (one half in the case of labour and seeds). One way of understanding this pattern of shares is to think of the chauthai contract as a sajha batai contract where the landlord is also one of the two co-tenants. The relationship between landlord and tenant, however, is quite different in a chauthai contract from what it is in either a batai or a sajha batai contract. Indeed, in a chauthai contract the landlord takes most of the important management decisions, while the tenant's position is not very different from that of a wage labourer.

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[505] The special question of farmyard manure will be discussed in the next section.

(6)   Tihai: The central feature of this contract is that the landlord supplies the draught animals (the tenant has to maintain them throughout the year). The tenant receives one-third of the crop ('tihai' means 'one-third'), and supplies the labour and half of the other inputs. There were no actual instances of tihai contracts in Palanpur in 1983–4, but the arrangement has not disappeared.

It is worth noting that all sharecropping contracts in Palanpur are essentially 'modelled' after the batai contract. For instance, sajha batai is really a batai contract with two co-tenants, and chauthai can be formally interpreted as a special case of sajha batai (where the landlord is also one of the two co-tenants). Batai is, therefore, clearly the central sharecropping contract in Palanpur.

Coming back to Table 2, several features of the data will require analysis in the second part of this chapter. First, share contracts are far more frequent than fixed-rent contracts (although the importance of the latter has increased since 1957–8, when they were practically absent). The typical tenancy contract in Palanpur is a sharecropping contract, and other types of contract are adopted only when special circumstances — to be discussed later on — make them particularly attractive.

Second, the terms of a sharecropping contract are typically not a matter of bargaining. Instead, landlord and tenant choose between a limited number of standardized contracts (namely batai, chauthai and tihai), each entailing pre-specified input and output shares. This is perhaps surprising, since one might have expected the terms of a sharecropping contract to be modifiable in accordance with the endowments of the concerned parties, the opportunity costs they face for different inputs, their respective bargaining power, and so on. In fact, sharecropping contracts are a typical example of 'standardized contracts' involving the same contractual terms for everyone in the village in spite of significant variations in relevant personal characteristics (see chapter 1).

Third, there is no corresponding 'standardization' of fixed-rent contracts. The amount of rent paid, in the case of such a contract, is a matter of mutual agreement between the respective partners.

Fourth, cost-sharing is a standard part of sharecropping contracts. Further, a partner's share of input costs is normally the same as his or her share of output (e.g. one half in the case of batai), the most important exception concerning labour. This is particularly interesting in view of the fact that, under standard assumptions, the equality

of input and output shares is conducive to productive efficiency (in the sense that it gives both tenant and landlord an incentive to equate marginal cost and marginal product for the concerned inputs).

The finding that the standard sharecropping contract is of the 'batai' type is by no means unique to Palanpur. The same observation applies in all the surrounding villages, and also in many other parts of north India. Although the precise terms of batai contracts vary from region to region, and even from village to village, the basic principle of equal sharing of outputs and non-labour inputs (with labour being provided exclusively by the tenant) is widespread.[506]

1.3 Secondary Contractual Terms

As we have already noted, the terms of a batai contract are standardized rather than personalized. The basic structure of such a contract is that output and non-labour inputs are shared equally between landlord and tenant, while labour is provided exclusively by the latter. This basic pattern, however, is supplemented (and, in some cases, modified) by a number of additional provisions of a comparatively minor nature, which might be called 'secondary contractual terms'. These secondary contractual terms, though usually standardized, tend to leave somewhat greater room for variations and adjustments.

One example is the provision of farmyard manure. In Palanpur, it is now customary for a tenant in a batai contract to supply farmyard manure at the rate of one bullock-cart per bigha of land, without any compensation from the landlord. This is the kind of concession which landlords or tenants as a group might be able to obtain for themselves, either due to the forces of supply and demand exerting their pressure on the terms of exchange, or due to some shift in the parameters of the collective bargaining process in which landlords and tenants are implicitly engaged.

Another example of departure from the basic structure of the batai contract concerns the sharing of seed costs. As was mentioned earlier, seeds are normally provided by the tenant at his own cost.[507] There are,

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[506] Personal observations made in various parts of Bihar, Gujarat, Rajasthan, and Uttar Pradesh (in West Bengal, the situation appears to be more complex, partly due to the influence of collective bargaining and land reform). For some statistical evidence, see Bardhan (1984a: chapter 9). See also the village studies of Bailey (1957), Lewis and Barnouw (1958), Khan (1963), Chen (1989, 1991), Kumari (1989), among others.

[507] We shall, from now on, refer to a tenant or landlord as 'he' rather than 'he or she' (correspondingly, 'his' will be used instead of 'his or her', etc.). There are no female tenants in Palanpur, and only a few female 'landlords'. The sexism of the village economy might as well be clear from the language used.

however, a few crops to which this rule does not apply, and for which seeds are shared in the same way as other inputs. These crops include sugarcane, potato, and other vegetables. One noteworthy feature of these crops is that, in each case, the seeds are purchased and involve substantial cash costs.

Sharing norms for threshing, harvesting, and ploughing costs also deserve mention. Traditionally, all three activities were based exclusively on human and animal labour, both of which are supplied by the tenant in a batai contract, and hence all three activities were the sole responsibility of the tenant. The technology of ploughing and harvesting has remained more or less unchanged (although one Palanpur farmer owned a tractor in 1983–4), but threshing is now fully mechanized. Accordingly, threshing costs are now shared equally between landlord and tenant, while harvesting and ploughing costs are still fully borne by the tenant.[508]

One aspect of the batai contract that leaves some room for bargaining between landlord and tenant is the *timing* of cost contributions. Normally, costs are shared equally at the time of their occurrence. However, a few landlords with a good liquidity position agree to pay the full costs at that time, and to recover them after the harvest. One possible motive is to ensure that the tenant does not underspend on inputs because of cash constraints. Making concessions of this kind can also be a way of attracting 'good' tenants.

The real domain of bargaining, however, lies in management decisions — especially the choice of cropping patterns and input levels. Landlords and tenants enter into a broad agreement on these decisions at the time of contracting, after which the task of day-to-day management is the responsibility of the tenant (with the landlord's involvement in supervisory functions varying from case to case). But it is not infrequent for disagreements to emerge later in the year, and the success — and renewal — of a tenancy contract depends to a great extent on whether tenant and landlord have a compatible understanding of farming practices.

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[508] If a tenant hires the tractor for ploughing, he has to bear the full costs of the operation.

1.4 'Landlords' and 'Tenants'

The relationship between landlord and tenant is often assumed to be inherently unequal and exploitative. This model may have much historical relevance, and may continue to apply in some parts of India. There is much evidence, however, that the modern landlord-tenant relationship has acquired a rather different character in many areas. This can be appreciated, in the case of Palanpur, by looking more closely at the actual characteristics of 'landlords' (households leasing land *out*) and 'tenants' (households leasing land *in*).[509] Some of the relevant characteristics are presented in Tables 3 to 6. The following points are particularly noteworthy.

Table 3 : Classification of Households by Tenancy Status

	Landless	Land-owning	
		Leasing out[a]	Not leasing out
Leasing in	Pure tenants (5)	Tenant-landlords (16)	Owner-tenants (33)
Not leasing in:			
cultivating	n.a.	Cultivating landlords (28)	Pure owner-cultivators (15)
non-cultivating	Landless non-cultivators (22)	Pure landlords (24)	n.a.

[a] 'Pure landlords' are those who lease out *all* their land.

n.a. = not applicable.

Note: The figures in brackets indicate the number of households (out of a total of 143 in 1983–4) with the specified tenancy status. The different categories are mutually exclusive and exhaustive.

First, in Palanpur there are 68 landlords and only 54 tenants (out of a total of 143 households). There is no less scope for competition among the former than among the latter.

Second, it is more common for a tenant to have several landlords than only one, and the typical landlord also has several tenants (Table 4). Many households have three or more tenancy partners, and there is also a great deal of 'turnover' from year to year (a particular tenancy contract may or may not be renewed after its expiry). Few households are likely to be 'at the mercy' of a particular landlord or tenant.

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[509] Note that a particular household can be *both* 'landlord' and 'tenant'; 16 households were in that category in 1983–4 (see Table 1).

Table 4 : Joint Distribution of Households by Number of Tenants and Landlords

Number of landlords	Number of tenants						Total
	0	1	2	3	5	6	
0	37	24	18	8	1	1	89
1	13	4	5	1	0	0	23
2	10	0	0	0	0	0	10
3	9	3	0	0	0	0	12
4	3	0	0	0	0	0	3
5	2	0	1	0	0	0	3
6	0	1	1	0	0	0	2
7	0	0	0	0	0	0	0
8	1	0	0	0	0	0	1
Total	*75*	*32*	*25*	*9*	*1*	*1*	*143*

Note: Each entry in the matrix indicates the number of households leasing in from the number of landlords specified by the row index, *and* leasing out to the number of tenants specified by the column index. For instance, 18 households have two tenants and no landlord, and 4 households have one tenant and one landlord.

Table 5 : Distribution of Tenants and Landlords by Land Ownership Class

Land ownership class (bighas)	Number of households belonging to the specified land ownership class[a]		
	'Landlord' households	'Tenant' households	All households
0	0 (0.0)	5 (9.2)	27 (18.9)
0.1–5	3 (4.4)	5 (9.2)	7 (4.9)
5.1–15	28 (41.2)	17 (31.5)	47 (32.9)
15.1–30	18 (26.5)	19 (35.2)	36 (25.2)
30.1–50	11 (16.2)	4 (7.4)	15 (10.5)
above 50	8 (11.7)	4 (7.4)	11 (7.9)
Total	*68 (100)*	*54 (100)*	*143 (100)*

[a]   Percentage distribution in brackets.

Note: A 'landlord' is a household leasing out land; a 'tenant' is a household leasing in. Sixteen households are *both* 'landlord' and 'tenant', and 37 households are *neither* (see Table 1).

Table 6 : Distribution of Tenants and Landlords by Per Capita Income Class

Per capita income class (Rs/year)	Number of households belonging to the specified per capita income class in 1983–4[a]		
	'Landlord' households	'Tenant' households	All households
below 500	14 (21)	12 (22)	33 (23)
501–800	16 (23)	11 (20)	33 (23)
801–1,200	17 (25)	12 (22)	35 (24)
1201–1,600	9 (13)	7 (13)	15 (11)
1601–1,800	8 (12)	5 (9)	14 (10)
above 1,800	4 (6)	7 (13)	13 (9)
Total	68 (100)	54 (100)	143 (100)

[a] Percentage distribution in brackets.

   Note: Sixteen households are *both* 'landlord' and 'tenant' households, and 37 households are *neither* (see Table 1).

Third, the distribution of landlords and tenants in the land ownership scale is remarkably similar (Table 5). On the whole, landlords do tend to own more land than tenants, but the difference is surprisingly small.

Fourth, if we compare the distribution of landlords and tenants in the per capita income scale (Table 6), we find an even more striking pattern: as a group, landlords are no better off than tenants.

Fifth, very few landless households lease in land. In fact, each of the five cases of a landless household leasing in land can be attributed to rather special circumstances (see section 2.5 below).

Sixth, another factor affecting the economic status of tenants as a group is the presence, in this group, of an important number of large landowners. As will be discussed in the second part of this chapter, these landowners tend to lease in land in order to make full use of indivisible productive assets (with imperfectly marketable services) such as pumpsets, threshers, and — in one case — a tractor. It is because of this phenomenon (sometimes called 'reverse tenancy') that there are more tenants than landlords in the top per capita income class.[510]

[510] The term 'reverse tenancy' (which refers to the situation where large landowners are leasing land from smaller ones) is somewhat misleading, since nothing in the definition — or indeed the practice — of tenancy implies that the tenant should, as a rule, own less land than the landlord. The phenomenon of reverse tenancy is not new (see e.g. Vyas 1970), but recent empirical studies suggest that its incidence is rising in many parts of India; for an insightful case study, see I. Singh (1989).

Seventh, an important factor that depresses the economic status of landlords as a group is the presence, in that group, of a significant number of households without fit adult males (e.g. widows living with young children). These households are often quite poor, but lease out their land for want of the ability to cultivate it themselves (even with the help of hired labour). In 1983–4, Palanpur had 18 households without fit adult males; of these, 13 owned land and 11 were leasing out.

Finally, it is worth noting that there is a great deal of 'mobility' from year to year between different tenancy-status groups (owner-cultivators, owner-tenants, pure landlords, etc.).[511] In terms of the classification used in Table 3, as many as 45 households out of 143 moved from one category to another between 1983–4 and 1984–5. For most households, changes in tenancy status are quite frequent, and the labels 'landlord' or 'tenant' cannot be expected to stick for very long.

The overall picture that emerges here is one of remarkable similarity of average economic status between landlords and tenants.[512] Landlords and tenants can hardly be described as two rigidly defined and sharply differentiated 'classes' with systematically antagonistic interests. Rather, both are heterogeneous and fluctuating groups with the members of one group being related to those of the other group through a complex web of partnerships. Individual landlords and tenants are engaged in a 'cooperative conflict', with many congruent interests (e.g. in the quality of the harvest) and also many conflicting interests (e.g. in the division of the harvest between the two parties),

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[511] This observation arises from comparing leases for 1983–4 with those for 1984–5, the details of which are not presented in the tables.

[512] The findings of this section are quite similar to those reported in Jodha (1981) for the six ICRISAT villages, and in I. Singh (1989) for Punjab. However, more unequal patterns (with tenants being systematically disadvantaged *vis-à-vis* landlords) can be found both in historical studies (Baden-Powell 1892; Neale 1962; Gupta 1963; Sinha 1968; Sharma 1971; Whitcombe 1972; Cooper 1983; Padhi 1985; Guha 1987a, 1987b; Chatterjee and Rudra 1989) and in contemporary studies dealing with regions where the transition to modern agriculture is still at an early stage (e.g. Bharadwaj and Das 1975), or where the distribution of land is highly polarized (e.g. Chakravarti 1997).

and with many possible distributions of bargaining power between the two sides.[513] Some of the divergent interests can extend to collective conflicts — implicit or explicit — between landlords as a group and tenants as a group (e.g. over the norms of output sharing), but many other interests and alliances cut across this basic divide. On its own, tenancy status offers a poor basis for the analysis of social stratification in a village such as Palanpur.[514]

1.5 Interlinkage

Before concluding this description of tenancy in Palanpur, we should mention a much-discussed phenomenon which we have *not* found to be very important in this village — that of 'interlinkage'. Of course, sharecropping contracts themselves may be interpreted as excellent examples of interlinked transactions (involving labour, credit, etc., in addition to land). On the other hand, the interlinkage of sharecropping contracts with *other* major transactions is rare in Palanpur, and the incidence of labour-credit interlinkage is also very low.[515] For instance, out of 106 households with at least one or more tenancy partners, only 23 report having a credit contract with any of these partners; and, of course, even these credit contracts are not necessarily 'interlinked'. Similarly, among casual labourers, only eight per cent of employment days in 1983–4 were spent working for an employer who was also a credit partner, and less than four per cent of employment days were spent working for a tenancy partner.[516]

There are, however, one or two interesting examples of situations that could be interpreted as interlinkage. For instance, there is one case of informal patronage relationship whereby a large landowner gives regular employment and interest-free loans to a quasi-landless

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[513] On the notion of cooperative conflict, see Sen (1990), and also Drèze and Sen (1989).

[514] For a similar judgement in a broader context, see Rudra (1988), who argues that tenancy status is irrelevant as a criterion of class identity in rural India. On this issue, see also chapter 1.

[515] For similar assessments elsewhere in India, see Jodha (1981), Taslim (1988), and Chen (1989, 1991). Here again, there are important regional contrasts, with the incidence of interlinkage depending *inter alia* on the extent of market integration, the stage that has been reached in the transition to modern agriculture, etc. For some interesting cross-regional evidence, see Bardhan and Rudra (1980a) and Bell and Srinivasan (1989).

[516] For further discussion of the Palanpur evidence, see Sharma and Drèze (1990) ; also chapter 7 of this book.

labourer in exchange for loyalty. There is also one significant example of credit-tenancy interlinkage: Nisar, one of Palanpur's regular moneylenders, often cultivates the land of his debtors in lieu of interest payments (this may be described as 'usufruct mortgage'), or leases it out — sometimes to the owner! Interesting as they are, however, these arrangements play a minor role in the village economy as a whole.

2. Discussion

This section is concerned with the economic analysis of sharecropping in Palanpur. Particular attention will be paid to several themes that have been prominent in the theoretical literature on sharecropping. We shall draw informally on a number of ideas and analytical tools that have been developed in that literature, without tying our argument to a particular model of how sharecropping operates.[517]

2.1 Why Is Land Leased?

The process of agricultural production involves the pooling of different productive resources (land, labour, capital, etc.) owned by different households. Pooling typically takes place through the owners of some resources (e.g. land) hiring other resources (e.g. labour). In industrial activity, the standard pattern is that capital hires labour rather than the other way round. In a village economy such as Palanpur, however, a great variety of patterns can be observed. For instance, a farmer who owns a little land and one bullock, but has limited financial resources, may decide to take a loan to buy another bullock and lease in some extra land to achieve a viable holding size; or to take up wage employment in a nearby city, hire a tractor to plough the land, and hire labourers to cultivate under the supervision of his eldest son; or to team up with another farmer who also owns one bullock for cooperative cultivation of their joint holding; or to lease out his land to a sharecropper, sell his single bullock to contribute his share of the input costs, and relax (possibly because he is ill); or even to use his land as collateral to take a loan, buy another bullock, and then lease in his

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[517] For useful assessments and reviews of the theoretical literature on share-cropping, see Bliss and Stern (1982), Binswanger and Rosenzweig (1984), Jaynes (1984), Quibria and Rashid (1984), Eswaran and Kotwal (1985a), Bell (1986), Stiglitz (1987), Otsuka and Hayami (1988), N. Singh (1989), Otsuka *et al.* (1992), Hayami and Otsuka (1993), among others.

own land from his creditor (like some of Nisar's debtors). Examples of each of these strategies — and others — were found in Palanpur in 1983–4.

The actual pattern of factor transactions depends *inter alia* on the constraints and costs involved in exchanging different factors of production.[518] In Palanpur, major sources of such constraints and costs include: (1) non-tradability of some inputs (e.g. management and supervision); (2) social norms which individuals have to accept as given in the short run (e.g. women and members of the Thakur caste are not supposed to work for wages); (3) quantity constraints due to price rigidities (e.g. downward wage rigidity and excess supply of labour during the slack season); (4) uncertainties involved in relying on hiring arrangements for some crucial inputs (e.g. uncertain availability of diesel pumpsets for hire when other farmers are also irrigating); (5) moral hazard (e.g. in hiring arrangements for draught animals); and (6) adverse selection (e.g. in credit contracts). Given the diversity of these constraints and costs, *and* the varying degree to which they apply to different households, it is not surprising to find a variety of factor-transaction patterns in the village economy — including the leasing of land.[519]

The constraints and costs associated with labour transactions are worth specific mention, since labour contracts are the main alternative to tenancy contracts.[520] We have already mentioned that women and Thakurs are not expected to work for wages. When wage labour does occur, a pervasive transaction cost arises from the inescapable need for close supervision. Supervision normally takes the form of one or several adult male members of the household of the employer working

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[518] Some authors would regard most of these constraints and costs as 'transaction costs', but given the controversial meaning of that term, and its somewhat restricted scope for our purposes, we shall use it on a discriminating basis. For a good discussion of the notion and theory of transaction costs, see Datta and Nugent (1989).

[519] The role of tenancy as a mechanism for bringing together different factors of production has also been emphasized by Jodha (1981) with reference to the ICRISAT villages (see also Walker and Ryan 1990). Another possible motive for leasing is the consolidation of holdings, but examination of pre-tenancy and post-tenancy landholding maps suggests that this is not an important motive in Palanpur; for a similar conclusion based on the 1974–5 survey, see Bliss and Stern (1982: 138–44).

[520] See Drèze and Mukherjee (1989) for further discussion; also chapter 7 in this book.

alongside the labourers. This is not a costless arrangement, especially when the adult male members of the employer's household have other urgent things to do. For some tasks, supervision costs can be drastically reduced through piece-rate contracts, under which labourers are typically unsupervised (except for the occasional spot-check). However, for piece-rate contracts another type of transaction cost arises in the form of moral hazard related to the *quality* of the tasks being executed. Indeed, if there is a trade-off between speed and quality of work, and if quality is difficult for the employer to observe *ex post,* labourers have an incentive to sacrifice quality for speed. This is why piece-rate contracts tend to be confined to tasks for which quality control is relatively easy.[521] Further constraints and costs associated with labour transactions arise from uncertainties about the availability of employment (for labourers, particularly in slack periods) and of labourers (for employers, particularly in peak periods), partly due to wage rigidities. Finally, one can also mention the social stigma and personal inconvenience attached to working for wages under someone else's supervision, as opposed to working at one's own pace on one's own fields. For all these reasons, family labour and hired labour are not perfect substitutes. In particular, hiring labour is not a costless way of dealing with a possible shortage of family labour relative to land endowments, and leasing out may be a preferable alternative.

Similar considerations apply to credit contracts. In Palanpur, credit transactions are fraught with difficulties (especially due to moral hazard, adverse selection, price rigidities, and quantity rationing), and costly access to credit is a major problem for many cultivators.[522] These considerations are crucial in explaining why, say, a cultivator who finds himself without draught animals at the beginning of the kharif season may well decide to lease out his land rather than to take a loan and buy a pair of bullocks, or why a poor landowner who desperately needs cash to pay for some urgent medical treatment may decide to lease out his land on a cash-rent basis. These situations are, in fact, very common in Palanpur. The problematic nature of

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[521] Supervision costs and quality control are the chief considerations involved in the choice between daily-wage and piece-rate contracts in Palanpur. But other considerations can be important as well, e.g. speed of completion (often higher under piece rates) and differences in labour costs per task under each system. For a formal analysis of the choice between daily-wage and piece-rate contracts, see Baland, Drèze and Leruth (1996).

[522] On credit in Palanpur, see chapter 9.

credit transactions also has significant implications for the structure of tenancy contracts, some of which are explored in the next section.

2.2 Why Sharecropping?

If it is obvious enough that the leasing of land in Palanpur represents an important means of bringing together different factors of production, a question remains as to why sharecropping (especially the batai version) is by far the most common type of tenancy contract. In discussing this question, we focus initially on the advantages of sharecropping contracts *vis-à-vis* fixed rents paid in advance.[523]

It is helpful to begin by considering the traditional agricultural scene, as one may have found it in Palanpur, say, until the early sixties or so.[524] In this setting, non-labour inputs are relatively unimportant, and tenants consist largely of poor households owning little or no land. The landlords, many of whom belong to the Thakur caste and shun the harsh life of cultivators, tend to be wealthier and less risk-averse, and to have better access to credit. Under these conditions. sharecropping contracts have at least two major advantages *vis-à-vis* (advance) fixed rents.[525] First, sharecropping contracts include an implicit (and secure) loan from landlord to tenant, in the form of the rent being postponed until after the harvest. Second, sharecropping contracts transfer a substantial part of the risks of cultivation from the tenant to the landlord. With credit and insurance markets working chaotically as they do, both features generate some efficiency gains; how these gains are distributed between landlord and tenant depends on the actual level of the output share.[526]

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[523] Advance payment of fixed rents seems to be the norm, not only in Palanpur but also elsewhere in India (Bharadwaj and Das 1975; Singh 1989; Srivastava 1989a). The question as to why advance rents are paid in cash, and delayed rents in kind, will not be pursued here. One relevant consideration is that those who lease out on fixed rents are often relatively poor, and that poor households are often quite anxious to protect the purchasing power of their rent in terms of food.

[524] For an enlightening account of sharecropping in a north Indian village during the first quarter of this century, see Khan (1963). See also the account of sharecropping in a village of Orissa in the early fifties in Bailey (1957: 117–19).

[525] The possible problem of work incentives under sharecropping will be discussed further on.

[526] For a formal exposition of the risk-sharing argument, see Stiglitz (1974). It has been argued, in the theoretical literature on sharecropping, that under certain assumptions (including the absence of transaction costs in labour and credit contracts) sharecropping contracts are redundant in the sense that they are dominated by suitable mixes of wage labour and fixed-rent contracts. The discussion in the preceding section should make it clear that the underlying assumptions are not satisfied in Palanpur (or for that matter in most Indian villages); on this, see also Hayami and Otsuka (1993: 48–9).

The next thing to consider is the major transformation of agriculture that has taken place in Palanpur since the early sixties as cultivators rapidly adopted modern farming practices, involving higher yields as well as much higher levels of non-labour inputs (especially irrigation and fertilizer). One consequence of this transformation has been the introduction, or at least the growing importance, of cost-sharing for non-labour inputs (this rather impressive response to the changing requirements of modern agriculture will be discussed further on). A related implication of the transition to modern agriculture is a considerable reduction in the economic differentiation between landlords and tenants. This has occurred partly because poor households — especially the landless — lost their ability to contribute their share of cultivation costs and were pushed out of the lease market (see section 2.5 below); partly because ownership of indivisible assets with imperfectly marketable services (especially pumpsets and bores) created an incentive for some of the larger landowners to lease *in*; and partly because landlords increasingly sought to team up with relatively well-endowed tenants.

This change in the social background of landlords and tenants might have been expected to *weaken* the advantages of sharecropping discussed earlier. Indeed, it is now quite common for a tenant to be less credit-constrained and less risk-averse than his landlord, and in such a situation there may be good reasons for them to enter into a fixed-rent contract. There are, in fact, instances where this is precisely what has happened: the limited amount of land that does fall under fixed-rent contracts in Palanpur tends to be leased by relatively affluent farmers from poor landowners in dire need of cash. As we saw in section 1.2, however, even in 1983–4 sharecropping remained by far the most common tenancy contract. Also, sharecropping remains the standard arrangement even when the landlord is more risk-averse or credit-constrained than the tenant. In such cases, a move towards greater use of fixed-rent contracts would seem attractive, at least at the margin.

One reason why the incidence of fixed-rent contracts is still quite limited, despite some reduction of the risk-sharing and implicit-credit advantages of sharecropping, is that there is some effective upward

rigidity in the level of fixed rents.[527] As we saw in section 1.2, fixed rents, unlike sharecropping contracts, are the outcome of relatively unconstrained bargaining between individual landlords and tenants. However, in this bargain, considerable importance is attached by both parties to not accepting a large adverse deviation from what is regarded in the village as a 'normal' rent for land of the relevant quality. Further, the 'normal' scale of rents is heavily influenced by the fact that a significant proportion of fixed-rent contracts are the outcome of a situation where the landlord is in a weak bargaining position due to financial distress. Consequently, land rent levels under fixed-rent contracts tend to be quite 'low' — too low to be acceptable for most landlords, It is for this reason that one finds many more tenants who are ready to take more land on cash rent than landlords who are willing to give their land on such terms.[528] It is quite plausible that, in the future, a sustained move towards greater use of fixed-rent contracts will take place (and indeed a trend in that direction is already discernible for the period between 1957–8 and 1983–4), but in 1983–4 this transition was still at an early stage.[529]

The preceding discussion has concentrated on the question of sharecropping *vis-à-vis* advance fixed rents. The arguments that have been invoked (in particular, the risk-sharing argument) would also help to explain why sharecropping is usually preferred to fixed rents paid after the harvest. An additional difficulty with the latter arrangement is the risk of default on the part of the tenant. As a matter of fact, at least one case of such default did occur in 1983–4.

2.3 Why Fifty-Fifty?

Equal sharing of output between landlord and tenant is a central feature of the batai contract. As mentioned in section 1.2, this pattern

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[527] Another possible reason relates to the advantages of cost-sharing, which may be easier to achieve under share contracts than under fixed-rent contracts (Sharma and Drèze 1990).

[528] This observation clearly emerged in the course of extensive discussions with landlords and tenants (see Sharma 1992). Hayami and Otsuka (1993: 97–8) point out that rent levels are almost invariably higher under share contracts than under fixed-rent contracts, and interpret the difference as a risk premium. Our findings suggest that, in Palanpur, this difference reflects something more than a risk premium.

[529] The move towards greater incidence of fixed rents appears to have proceeded even further in those regions of north India where the transition to modern agriculture has reached a more advanced stage, especially the Punjab (see e.g. Bell 1986), or where absentee landlordism is common.

has been widely observed elsewhere in India. There is also some evidence of equal sharing having been a common norm in the past, although the extent to which this norm was actually practised is not clearly established.[530] The reasons for the widespread prevalence of equal output-sharing are widely considered as a 'major theoretical puzzle' (Stiglitz 1988, P. Dasgupta 1993, Hayami and Otsuka 1993).[531] It is not our aim here to solve this puzzle, but a few remarks may help to 'deflate' this alleged mystery.

First, the fifty-fifty norm is far from universal. In Palanpur, the chauthai and tihai contracts involve different output shares (giving respectively one-fourth and one-third of the crop to the tenant). In other villages or regions, other patterns can be observed.[532] The resilience of the fifty-fifty arrangement has to be seen in the light of its coexistence with *other* contracts in most Indian villages.

Second, the apparent rigidity of the fifty-fifty norm also has to be evaluated keeping in mind that input shares and 'secondary contractual terms' offer some scope for adjustment in the distribution of net gains between landlord and tenant in response to changes in supply and demand, or to shifts in their respective bargaining power.

Third, given that the output share in a sharecropping contract is not a matter of individual bargaining but a village-wide *norm,* linear rules and round numbers have obvious advantages.[533] This is why sharecropping contracts in north India are usually based on output shares of 50–50, 75–25, 60–40, and other simple formulas. Of course, one may ask why village-wide norms exist in the first place, but this

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[530] This norm is mentioned, for instance, in the ancient *Arthasastra* (see A. Dasgupta 1993: 39), and in the *Laws of Manu* (Doniger 1991: 83). According to Doniger (1991: 97), the term used for 'sharecropper' in the *Laws of Manu* is *ardhika,* 'literally, someone who works the land for half the crop'; this is much as with *métayage* in French and *mezzadria* in Italian (Allen 1985: 41).

[531] Bell and Zusman (1976), Hurwicz and Shapiro (1978) and Allen (1985) have developed creative theoretical models that get fairly close to the prediction of equal output-sharing; these models, however, are of doubtful empirical relevance. For a sound critique, see Hayami and Otsuka (1993).

[532] See, for example, Rudra (1982b: chapter 6) and Bardhan (1984a: chapter 9) ; also Singh (1990) and Walker and Ryan (1990). In parts of West Bengal, the 60–40 sharing of output between landlord and tenant has become quite widespread since 'Operation Barga' (Sengupta and Gazdar 1997).

[533] For various arguments along this line, including 'the idea that bargainers reach agreement, not on the basis of their utility for various allocations, but by coordinating on a prominent or focal solution', see also Young (1994: 127–9).

is a question that applies to the exchange of most key production factors in the village economy (including labour, the hiring of irrigation services, and credit, in the case of Palanpur) and not only to sharecropping. The answer has to be correspondingly general, and it would be a mistake to look for it within the narrow framework of sharecropping theory (on this, see also chapter 1).

Fourth, equal sharing of output between two partners in a joint income-earning venture (often involving the provision of labour by one of the two partners, and of some productive asset by the other) is a common pattern in north India, which is not restricted to tenancy.[534] This, too, points to the need for a 'general' theory of equal sharing, which is not tied to the specific features of sharecropping.

Last but not least, the fifty-fifty arrangement has one feature which no other share level possesses — that of symmetry between landlord and tenant. In this connection, it should be remembered that share-cropping is, to a large extent, a *partnership* rather than a one-off transaction. The success of this partnership may be facilitated when landlord and tenant relate to each other on a relatively equal basis, at least in that specific context.[535] The two partners, of course, are often objectively unequal (e.g. in terms of land ownership and other resources). As we saw earlier, however, the social distance between landlord and tenant in Palanpur is not large 'on average', and nor does it necessarily take the form of the tenant being the disadvantaged party. Against this background, it is quite understandable that many tenants and landlords would resist an arrangement that ostensibly puts them in an 'inferior' position *vis-à-vis* their partner.

2.4 Terms of Contract

The basic structure of the batai contract consists of equal sharing of output and non-labour inputs between landlord and tenant (see section 1.3). But we have also noted the existence of secondary contractual terms that do not always follow the same pattern, such as tenants having to supply one cart-load of farmyard manure per bigha of leased-in land, and having to provide the seeds for most crops. It may be asked what determines these secondary contractual terms (which tend to be more

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[534] Several examples are given in chapter 1, section 3.5.

[535] Equal sharing of output, of course, does not mean equality (or 'fairness') of net gains from the contract. The fact that equal output-sharing has an *appearance* of fairness, however, may be what really matters. On these and related considerations, see Young (1994), chapter 7.

flexible than the basic structure of output and input shares), and, in particular, why most input costs are shared but some are not.[536]

It is tempting to see a simple pattern according to which (1) traditional, labour-intensive inputs (e.g. farmyard manure, home-grown seeds, and of course labour itself) are fully provided by the tenant, while (2) modern, capital-intensive inputs (e.g. irrigation and fertilizer) are shared. A straightforward explanation would be that, traditionally, the tenant used to supply all the inputs, and that cost-sharing has emerged as an adaptation to the requirements of modern agriculture.[537] Even if one does not subscribe to this particular view of the historical development of cost-sharing, the empirical link between cost-sharing and capital-intensity is fairly clear (see section 1.3).[538] Further, this pattern makes some sense, since the efficiency arguments for sharing of capital-intensive inputs are quite strong (the logic of non-sharing of labour will be discussed further on).[539]

This account of cost-sharing practices, however, must be qualified in several ways. First, ambiguities may arise for activities that can be performed in *both* a labour-intensive and a capital-intensive way. To see this, it is instructive to reconsider cost-sharing rules for harvesting,

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[536] This discussion is exclusively concerned with variable inputs. In a batai contract, fixed capital other than land (bullocks, implements, etc.) is provided by the tenant.

[537] Commenting on sharecropping in a village of Orissa in the fifties, Bailey (1957: 119) notes: 'In the normal sharecropping agreement the owner of the land provides only the soil'. A similar observation is made by Khan (1963) for a village of Punjab in the 1920s.

[538] Similarly, in the ICRISAT villages, the batai contract is the norm 'in a village like Dokur, where purchased inputs are intensively utilized'; in contrast, 'in Shirapur, where little if any improved inputs are used on owner-operated dryland fields, the tenant is responsible for supplying all inputs' (Walker and Ryan 1990: 174). In a study of three villages of Uttar Pradesh, Srivastava (1989a) also finds that cost-sharing is common in the advanced villages but not in the backward village.

[539] As far as the *levels* of input shares are concerned (fifty-fifty, in the case of batai), considerations similar to those discussed in the preceding section apply. For instance, if the initial arrangement (*without* modern inputs and cost-sharing) is based on some notion of symmetry, whereby landlord and tenant each supply one of the two major inputs (land and labour) and receive one half of the output, then it is understandable that landlord and tenant might agree to share equally in the costs and benefits of a *new* input. In addition, *given* equal output sharing, there are efficiency gains from equal input-sharing, since it gives both landlord and tenant an incentive to equal marginal cost and marginal product.

threshing, and ploughing under batai contracts. As was mentioned in section 1.3, in Palanpur harvesting is still completely unmechanized, and the costs of harvesting continue to be fully borne by the tenant. Threshing, on the other hand, is now fully mechanized, and the costs are divided equally between tenant and landlord. For these two activities, the notion that labour is entirely provided by the tenant while the costs of capital-intensive inputs are divided equally between the two partners points to fairly unambiguous cost-sharing rules. But the case of ploughing is less straightforward. As things stand, most farmers use their own draught animals to plough their land, and the hiring of a tractor for that purpose is still the exception rather than the rule Accordingly, a tenant has to bear the entire cost of ploughing. However, tractor-hiring is gradually becoming more common, and it is quite possible that at some stage the costs of ploughing, like those of threshing, will get shared.

Second, even though contractual terms do change over time in response to changing agricultural practices and economic circumstances, the weight of tradition also exerts its influence and can invalidate predictions based only on the current structure of inputs. Adherence to tradition is the most plausible explanation of why seeds are still provided by the tenant for most crops.[540]

Third, the respective bargaining power of landlords and tenants also has an influence of its own, and changes in cost-sharing practices are partly driven by the conflicts of interest that oppose them. In the nearby village of Ari Khera, for instance, seed costs are now shared equally between landlord and tenant (irrespective of the crop), contrary to the traditional practice of full provision of seeds by the tenant that still applies in Palanpur. The headman of Ari Khera attributes this to the fact that, as many villagers gave up cultivation to work outside the village, an excess supply of land developed and tenants managed (without resorting to explicit collective bargaining) to induce this change in the norms of cost sharing. Similarly, while it is reasonable to expect that ploughing costs in Palanpur will eventually be shared if this activity gets mechanized, the timing and other details of this

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[540] As was mentioned earlier, potato and sugarcane seeds are shared between tenant and landlord. The widespread adoption of these two crops (both of which require abundant irrigation) is relatively recent in Palanpur, and, in both cases, the seeds are quite expensive. The fact that potato and sugarcane seeds are shared is consistent with the notion that cost-sharing applies to modern, capital-intensive inputs.

change may depend quite importantly on the respective bargaining power of landlords and tenants.

2.5 Choice of Partners

Is leased land in 'excess supply' or in 'excess demand' in Palanpur? This question arises naturally enough from the preceding discussion of contractual terms. However, there is no straightforward answer. In practice, land is in excess supply for some and in excess demand for others. Individuals who own good assets and are known as experienced and hard-working farmers seldom experience any difficulty in obtaining extra land for cultivation, while economically disadvantaged households (particularly landless labourers) often find it hard to obtain even small amounts of land on lease. Similarly, a resourceful, accommodating, and trustworthy landlord tends to find many takers for his land, while some dishonest and niggardly landowners go begging for tenants.[541]

The extensive discussions we had with farmers in Palanpur revealed some fairly well-agreed qualities that are sought by landlords from tenants, and vice-versa. Some of the results of these discussions are reported in Tables 7a and 7b. As these tables indicate, the quality most frequently sought in their partner by *both* landlords and tenants is 'honesty'. Aside from this, the ideal tenant is seen as hard-working and resourceful (where resourcefulness mainly refers to the ownership of irrigation devices and other assets). A good landlord, on the other hand, should not be argumentative, reluctant to contribute his share of the costs on a timely basis, or prone to 'interfere' frequently with the tenant's decisions. Several tenants declared that '*jo tiktikaave wo theek naheen hai*', i.e. 'a landlord who nags his tenant [as a ploughman goads his bullocks] is no good'.

The desired characteristics of tenancy partners can be further scrutinized on the basis of quantitative data. One interesting issue is whether there is a caste bias in the choice of partners, e.g. in the form of a tendency to lease land to or from members of one's own caste. As Table 8 shows, there is indeed a significant tendency towards intra-caste tenancy in Palanpur. For instance, it can be shown that, if landlords allocated their leased-out land at random between households of different castes, intra-caste leasing would account for only 16 per cent of total leased-out area, whereas the

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[541] Variations in the quality of land also make it difficult to speak of excess supply or excess demand for 'land' at the village level.

observed figure is as high as 35 per cent.[542] This finding can be plausibly related to the importance of mutual compatibility and trust for tenancy contracts.

Table 7a : Desired Qualities of Tenants, as Reported by a Sample of Landlords

Respondent's identi-fication number[a]	Qualities stated by the respondent as being desirable in a tenant[b]			
	Honest	Hard-working	Resourceful	Other
106	*	*	*	Should preferably own irrigation devices.
108	-	-	*	Should not be 'overstretched'.
112	*	-	-	Should be 'straightforward'.
114	-	*	-	-
128	*	-	*	Should be trustworthy.
215	*	*	*	Should have good access to water and fertilizer.
305	-	-	-	Should provide farmyard manure.
309	*	*	-	-
401	*	*	-	-
502	-	*	-	Does not care about honesty. This respondent (who, incidentally, is a money-lender) claims that he can deal with those who try to cheat.
701	-	*	-	Should be skilful.

^a The first digit of the identification number indicates caste: 1 = Thakur, 2 = Murao, 5 and 6 = Muslim, 8 = Jatab, 3, 4 and 7 = Other.
^b An asterisk indicates that the stated quality was mentioned by the respondent.

[542] The first figure (which should be considered as indicative) is obtained by taking as given the total amount of land leased out (within the village) by each caste, and assuming that this land is leased to different castes *pro rata* their share in the total number of households in the village. The second figure is derived from Table 8.

Table 7b : Desired Qualities of Landlords, as Reported by a Sample of Tenants

Respondent's identification number[a]	Qualities stated by the respondent as being desirable in a landlord
109	Non-interfering, straightforward, willing to provide his share of the costs on a timely basis.
112	Honest, non-interfering.
115	Non-interfering.
203	Should be willing to contribute his share of the costs at the time of their occurrence; should not argue about the accounts at harvest time.
204	Honest; preferably not a Thakur.
208	Not a Thakur (they are dominating and bossy).
211	Good-natured; conciliatory; dishonest landlords who pilfer the crops should be avoided.
213	Honest.
223	Honest; should not pilfer the crops.
306	Honest.
406	Honest.
501	Should not be quarrelsome or overbearing.
502	Honest.
601	Should not be quarrelsome or split hairs.
609	Non-interfering; accommodating.
611	Honest.
701	Honest.
702	Honest; straightforward; not quarrelsome.
802	Honest and cordial.
805	Should not be argumentative or nit-picking.
807	(prepared to lease from anyone)
809	Should not be argumentative.
813	Should be able and willing to contribute his share of the costs on a timely basis.

[a]   As in the preceding table, the first digit indicates caste.

Table 8 : Caste Distribution of Leased Area

Castes	Thakur	Murao	Muslim	Jatab	Other	Sub-total	Outsiders	Total
Thakur	61	27	29	12	54	183	109	292
Murao	4	59	27	21	5	116	12	128
Muslim	0	10	4	4	0	18	4	22
Jatab	13	6	22	28	0	69	4	73
Others	5	44	36	9	77	171	4	175
Sub-total	83	146	118	74	136	557	133	690
Outsiders	31	9	52	6	88	186	–	–
Total	114	155	170	80	224	743	–	–

Note: Each entry in the table indicates the total area (in bighas) leased by the caste specified by the row index to the caste specified by the column index. All figures are rounded to the nearest whole number.

The tendency to seek partners within one's own caste can also be seen to vary between different castes. For instance, Thakurs hardly lease in land from non-Thakurs, the main exceptions being a few fixed-rent leases from Jatab households. This is consistent with the fact that Thakurs prefer to avoid the loss of prestige involved in sharecropping the land of a person of a 'lower' caste (fixed-rent leases are considered as less problematic, because they give the tenant complete independence from the landlord). The tendency to seek a tenant in one's own caste is strongest among Muraos, for whom more than half of leased-out land remains within the caste.

Table 9 provides similar indications on leasing patterns between different land ownership classes. It is interesting that, here again, we find some (moderate) 'bunching' of contracts near the diagonal.[543] Thus, there seems to be some tendency for people to refrain from entering into tenancy contracts with individuals who own either a lot more or a lot less land than themselves. It is quite possible that landlords and tenants do seek partners of roughly equal economic status,

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[543] Calculations similar to those mentioned earlier in this section with reference to caste show that, if landlords leased at random to households in different ownership classes, intra-class leasing would account for 17 per cent of leased area, compared with an actual figure of 25 per cent.

because they fear that a much wealthier partner might press for an inordinately high level of inputs while a much poorer partner might be unable (or unwilling) to meet the expected input levels. It is also possible that highly unequal partnerships are perceived to be conductive to exploitation or conflict.

Table 9 : Distribution of Leased Area by Land Ownership Class

Size Classes	Landless	0–5	5–15	15–30	30–50	Above 50	Sub-total	Outsiders	Total
Landless	0	0	0	0	0	0	0	0	0
0–5	0	5	14	8	0	0	27	1	28
5–15	5	22	75	32	0	12	146	8	154
15–30	28	12	29	40	19	17	145	60	205
30–50	3	22	19	25	2	14	85	23	108
Above 50	1	54	23	50	7	19	154	41	195
Sub-total	37	115	160	155	28	62	557	133	690
Outsiders	34	21	38	78	4	11	187	–	–
Total	71	136	198	233	32	73	743	–	–

Note: Each entry in the table indicates the total area leased by households from the ownership class specified by the row index to households from the ownership class specified by the column index. The ownership classes are defined in terms of land ownership (in bighas). All figures are rounded to the nearest whole number.

Another noteworthy feature of the matrix presented in Table 9, on which we have already commented in passing, is that there is very little leasing of land by landless households. In fact, it would hardly be an exaggeration to state that the landless have *no* access to land through tenancy. Indeed, each of the five exceptions to this rule in Palanpur are very special cases.[544] This finding is all the more striking if we note that

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[544] These five landless tenants consist of: a railway employee who has been granted lease of a small plot of land belonging to the Indian Railways for a nominal rent; a young man who lives separately from his father and leases in one of his plots; a man who has been allowed to cultivate a small plot of land belonging to the village headman in return for watching the young mango trees that are growing on it; an immigrant who recently came to Palanpur with his draught animals and farm equipment; and a landless labourer who managed to lease in land in partnership with two landowning friends.

71 per cent of landed households owning up to 5 bighas (less than one acre) are tenants. In other words, the ownership of land — even a tiny amount of it — appears to be an essential precondition for leasing in.

This pattern is likely to reflect the increasingly capital-intensive nature of agriculture in Palanpur. Landowning households have a comparative advantage in the acquisition and maintenance of farm assets such as draught animals and irrigation devices, and they also have better access to credit. The average landlord is naturally reluctant to lease out his land to landless tenants with little to contribute other than their labour.[545] In the absence of personalized contractual terms (which, in this case, might have given an opportunity to the landless to compete for land by surrendering a higher share of the output to the landlord), rationing has to take place. The less attractive tenants lose out.[546]

At a more general level, casual observation as well as *a priori* reasoning both suggest that the more attractive tenants (e.g. those who are seen as honest, hard-working, and resourceful) tend to contract with the more attractive landlords, and also to obtain better-quality land for cultivation. As noted in chapter 2, there is a formal analogy here with the frequent emergence of 'positive assortative mating' in the 'marriage market' (Becker 1981): if the characteristics of the better partners on each side are complementary inputs, they are likely to seek each other.

2.6 The 'Efficiency' Of Sharecropping

Much debate has surrounded the question as to whether sharecropping is 'efficient'. The suspicion that sharecropping might be

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[545] Some landless households with good jobs outside the village are comparatively resourceful, but most of them have little time or inclination to cultivate.

[546] The virtual exclusion of landless households from tenancy contracts in large parts of rural India has also been noted by Narayan and Joshi (1969), Bardhan (1976a, 1976b), Chadha and Bhaumik (1992), Chen (1989) and Walker and Ryan (1990), among others. The situation may be somewhat different in regions where agriculture is still quite labour-intensive, or where a landless person who owns draught animals can earn a fairly good income by hiring out ploughing services (e.g. because land is relatively abundant and tractors are uncommon), or where a majority of the population is landless. In a study of some Orissa villages, for instance, Bharadwaj and Das (1975) find that most tenants are landless; see also Athreya *et al.* (1990).

inefficient arises principally from the observation (going back at least to Adam Smith and — more prominently — to Alfred Marshall) that output-sharing reduces work incentives for the tenant. This disincentive effect is obviously an important issue, but it does not imply that sharecropping is inefficient compared with other *feasible* arrangements for combining productive resources in agriculture. In the absence of smoothly-functioning credit and insurance markets, for instance, fixed-rent contracts need not be more efficient than sharecropping contracts; similarly with wage-labour contracts when supervision is costly. There is, in short, no serious basis for the *presumption* that sharecropping is an inefficient institution.

A question that closely relates to the controversy about the efficiency of sharecropping, but should not be confused with it, is that of the comparative productivity of tenanted and owned plots. The preceding discussion should make it clear that the institution of sharecropping may contribute to greater efficiency *even if* it does create disincentives (Marshallian or other) that reduce the productivity of tenanted plots *vis-à-vis* self-cultivated plots. Nevertheless, the strength of such disincentives remains a matter of interest, and something to consider in an assessment of the relationship between contractual arrangements and economic efficiency. For instance, if it turns out that tenanted plots are no less productive than owned plots, there would seem to be little ground for anxiety about disincentive effects.

As a matter of fact, in Palanpur the productivity of owned and tenanted plots is very similar. The levels of non-labour inputs (mainly irrigation and fertilizer) are also not significantly different.[547] To illustrate the first point, Table 10 presents the results of a simple panel regression of 'gross agricultural output' on land cultivated, land owned, household endowments, and a set of dummy variables for each year *and* each household (the possibility of including these household dummies arises from the fact that this exercise involves pooling the available data for each survey year). If Marshallian

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[547] For a detailed analysis of the evidence, see Sharma (1992). The earlier study by Bliss and Stern (1982) also arrived at similar conclusions for Palanpur. In a survey of other studies on this question, Otsuka and Hayami (1988: 52) conclude that 'on balance, evidence is stronger to support the hypothesis of equal allocative efficiency between share tenancy and other land tenure forms'. Walker and Ryan (1990),   however, reach a different conclusion for the ICRISAT villages.

Table 10 : The Determinants of Agricultural Output (Fixed-Effects Model)

Dependent variable: Gross agricultural output (In)	
Independent variables	Regression coefficients[a]
constant	4.47[*]
	(10.51)
land cultivated (In)	0.55[*]
	(7.21)
land owned[b] (In)	0.01
	(0.52)
number of adult males	0.11[*]
	(3.68)
value of draught animals (In)	0.13
	(1.86)
dummy for ownership of Persian wheel[c]	0.16[*]
	(2.05)
dummy for ownership of pumpset[d]	0.18
	(1.61)
dummy for 1957–8	−0.70[*]
	(−9.08)
dummy for 1962–3	−0.77[*]
	(−10.33)
dummy for 1983–4	−0.70[*]
	(−9.48)
Adjusted R²	0.76
N	252

[*] Significant at 5 per cent level.

[a] t-statistics in brackets.

[b] Multiplied by a dummy which takes value O if the household is leasing *out*.

[c] 1957–8 and 1962–3 only.

[d] 1974–5 and 1983–4 only.

Note: The OLS regression presented in this table is based on pooling the available household data for each of the four survey years (1957–8, 1962–3, 1974–5 and 1983–4). The baseline year is 1974–5, and a dummy variable is included for each of the other survey years. The independent variables also include a dummy variable for *each* household (not presented in this table), capturing the 'fixed effects' associated with unobserved (but time-invariant) household characteristics. The left-hand side variable is the value of agricultural output, GAO (see chapter 3 for details). In each year, the regression excludes households with zero values for any of the variables measured here in logarithmic terms.

disincentives are important, we would expect the coefficient on land owned to be positive and significant (*after* controlling for land cultivated). But this coefficient, though positive, is very small and not statistically significant. Similar regressions carried out on a year-specific basis for each survey year yield similar results: the coefficient on land owned is positive and significant in one case (1957–8), insignificant in two cases (1962–3 and 1974–5), and *negative* and significant in one case (1983–4).[548]

These results are not terribly surprising. For one thing, crop productivity is now in large part a question of irrigation and fertilizer inputs, and these are not affected by Marshallian disincentives since they are shared equally between landlord and tenant. For another, even labour inputs (e.g. the number of weedings) are to some extent a matter of agreement between landlord and tenant, and while the latter may have an incentive to reduce effort, the former has every reason to press the latter to exert himself.[549] This might take the form, say, of the landlord refusing to lease his land unless the tenant commits himself to a specific number of weedings, or promising to renew the contract at the end of the year if the tenant works hard. To put it another way, the tenant's level of effort (linked to the chosen cultivation practices) can be seen, to some extent at least, as the outcome of a bargaining process involving both tenant and landlord; in this bargain, the tenant's preferred level of effort may well be influenced by Marshallian disincentives, but the *landlord* has an incentive to make the tenant work as hard as possible. Both empirical evidence and economic reasoning suggest that Marshallian and related disincentive effects of sharecropping are of limited importance in Palanpur.

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[548] A negative coefficient in 1983–4 may seem anomalous, but it may well point to some interesting developments in tenancy relations. Specifically, this coefficient may reflect (1) a 'selection effect' (with more productive tenants obtaining a larger share of leased land), which has grown in importance with the development of modern agricultural technology, and/or (2) the declining relative importance of labour inputs (which are vulnerable to Marshallian disincentives), and the fact that labour input levels have become more of a joint decision between landlord and tenants (because they are 'tied' to other inputs such as irrigation). On this point, and related matters, see the appendix to this chapter.

[549] Marshall (1959) had already noted that sharecropping arrangements need not lead to labour disincentives if input levels can be monitored and are an explicit part of the contract. This point has been elaborated more recently by Cheung (1969).

2.7 Tenancy, Labour, and Capital

It was argued earlier that tenancy is essentially an opportunity for combining productive resources owned by different households in agricultural activity. The relevant resources include draught animals, irrigation devices, labour endowments, working capital, etc., all of which potentially play an important role in leasing decisions. For instance, a person might lease out some of his land because he is ill and unable to work, or because he had to sell his draught animals to pay for a marriage, or because his pumpset has broken down, or because he is in debt, etc. It would be misleading to say that, in general, tenancy is a mechanism for the adjustment of operational holding to *specific* assets such as draught animals or labour endowments.

Having said this, there may be a case for emphasizing the importance of *adjustment to labour endowments* in this context. In fact, the structure of cost-sharing itself (with most non-labour inputs being shared but labour being provided exclusively by the tenant) clearly points to labour playing a special role in the institution of tenancy. Of course, the contribution of labour by the tenant in a batai contract can be seen as the counterpart of the contribution of land by the landlord. But one may still ask — why labour specifically?

An important part of the answer is that tenancy contracts are often motivated precisely by the fact that the tenant is relatively well-endowed with labour (relative to land owned), *and* that this labour endowment is hard to utilize efficiently through the labour market (see section 2.1). To put it another way, the 'shadow wage is typically much lower for the tenant than for the landlord, and this is what makes the batai contract mutually advantageous. Or, looking at the issue from the landlord's point of view, we can ask why he does not find it profitable to do *himself* what the tenant does in return for a share of the crop. The simplest answer is that the tenant has cheaper access to labour.

Two basic empirical observations corroborate the notion that adjustment to labour endowments plays a crucial role in tenancy contracts.[550] First, we have already noted the high incidence of leasing out among households without fit adult males. A large majority of these households lease out the whole of their land. This is because they face great difficulties in cultivating their land using either hired labour or

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[550] For a similar assessment, based on the study of a village in Gujarat, see Chen (1989, 1991).

family labour, given that women and children are at a severe disadvantage when it comes to supervision, management, and even — in some ways — working on family plots.[551]

Second, let us consider land and labour endowments among households with different tenancy statuses. As Table 11 indicates, tenancy leads to a remarkable *convergence of land-labour ratios* in different groups.[552] For instance, if we compare owner-tenants (who represent a majority of all tenants) with cultivating landlords (non-cultivating landlords largely consist of households without fit adult males, discussed in the preceding paragraph), we find that they have almost equal land-labour ratios *after* tenancy, even though the land-labour ratio of cultivating landlords *before* tenancy is nearly three times as high as that of owner-tenants.[553]

It is not our intention to suggest that adjustments to labour endowments are the exclusive motivation behind tenancy contracts. Indeed, earlier in this chapter we have also discussed the advantages enjoyed by tenants who own other productive assets (especially pumpsets) in the competition for land. If we emphasize the role of adjustments to labour endowments, it is because this aspect has been

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[551] See Drèze (1990a) for further discussion with reference to widows. This issue has also been investigated in the literature on 'female-headed households' in India.

[552] The 'participation rate' in Table 11 excludes labourers engaged in wage employment outside the village. The logic of this is that the availability of an outside job tends to be considered in Palanpur as an opportunity not to be missed (given the relatively high and stable levels of earnings from regular wage employment). Thus, involvement in outside employment can be considered as an 'exogenous' factor as far as tenancy is concerned. Note also that even differences in land-*population* ratios between different tenancy status groups get substantially reduced through the operation of tenancy.

[553] In his empirical study of tenancy in the six ICRISAT villages, Jodha (1981) notes that the reduction of inter-household disparities in *land-bullocks* ratios through tenancy is more striking than the reduction of disparities in *land-labour ratios,* and concludes that tenancy is more a question of adjustment to draught animals than one of adjustment to labour. The equalization of land-bullocks ratios, however, reflects a combination of *two* different processes: (1) the adjustment of operational holding to draught power (through tenancy contracts), and (2) the adjustment of draught power to operational holding (through purchase or sale of draught animals). Jodha's empirical analysis does not allow us to assess the respective importance of these two processes, and arbitrarily emphasizes the first one. There is a similar difficulty in the empirical analysis of Bliss and Stern (1982), which the authors indeed discuss explicitly.

Table 11 : Tenancy and Labour Endowments

Tenancy Status	Number of Households	Household size	Participation rate[a]	Land owned per capita (bighas)	Land cultivated per capita (bighas)	Land owned per worker (bighas)	Land cultivated per worker (bighas)
Pure owner-cultivator	15	7.2	0.18	2.7	2.7	15.3	15.3
Owner tenant	33	8.4	0.21	2.6	4.2	12.2	19.9
Tenant-landlord	16	7.9	0.20	3.0	3.9	14.4	19.1
Cultivating landlord	28	7.1	0.14	4.8	3.1	35.3	22.8
Pure landlord	24	5.2	0.06	2.1	0.0	37.1	0.0
Pure tenant	5	5.4	0.14	0.0	2.5	0.0	17.7
Landless non-cultivator	22	4.4	0.11	0.0	0.0	0.0	0.0
Total	*143*	*6.7*	*0.16*	*2.7*	*2.8*	*17.0*	*17.3*

[a] This 'participation rate' refers to the ratio of workers not working outside the village to total population in the relevant group. See text for details.

Note: For the definitions of different 'tenancy statuses', see Table 3.

somewhat overlooked in recent discussions of sharecropping in India. The precise role of different types of adjustments remains a matter for further investigation.

One reason why this investigation is important is that the distributional effects of tenancy are quite different in each case. If tenancy is mainly a mechanism for the adjustment of land to labour endowments, then labourers are likely to be major beneficiaries of the system. There are good reasons to believe that this is how tenancy used to operate in Palanpur. And even today, adjustments to labour endowments are a major motive for leasing. The transition to modern agriculture, however, gives growing importance to the ownership of other assets. As was discussed earlier, this has led to substantial changes in the socio-economic background of landlords and tenants, with, *inter alia,* landless households having less access to land through tenancy and large farmers getting a growing share of tenanted land (the so-called 'reverse tenancy' phenomenon). The distributional implications of tenancy in this context could be much less favourable.

2.8 Update, 1993

The last survey of Palanpur, in 1993, included the collection of some basic tenancy-related data. On the whole, the tenancy situation in 1993 turned out to be remarkably similar to what we had found in 1983–4. Most of the important features described earlier in this chapter continued to apply. In particular, contractual terms remained basically the same. Similarly, there has been little change in the incidence of tenancy: leased-in land accounted for 26 per cent of cultivated land in 1993, compared with 28 per cent in 1983–4.

One interesting development, however, is the rising incidence of fixed rents (mainly advance cash rents). Fixed rents accounted for as much as 25 per cent of total leased-in area in 1993, compared with 14 per cent in 1983–4. This development is entirely consistent with the preceding analysis (see particularly section 2.2).

3. Concluding Remarks

Sharecropping has often been considered as a 'puzzle' in economics. The preceding discussion of tenancy in Palanpur, however, suggests that the mystifying aspects of sharecropping have often been exaggerated. A combination of common sense with the basic tools of economic analysis seems to take us a long way towards making sense

of sharecropping arrangements in Palanpur. We do not claim to have 'explained' everything by any means, but we do claim that it is possible to devise a coherent interpretation of the facts. In that sense, there is no puzzle.

In terms of what there is to learn from this case study about the nature of sharecropping contracts in rural India, we would like to focus on two related points. First, it is useful to think of sharecropping as a partnership, involving both conflict and cooperation between tenant and landlord. This is particularly the case in the context of modern agriculture, which involves complex management decisions and joint provision of many inputs. The partnership view is somewhat different from the popular understanding of sharecropping as an exploitation device. It also differs significantly from the standard characterization of sharecropping in economic theory as a principal-agent situation, where the landlord (the principal) only has to concede the tenant (the agent) his 'reservation utility' and gets the most he can for himself subject to the constraint.[554] The principal-agent model of sharecropping has been extremely useful in furthering our understanding of many crucial issues (such as the role of incentives in contractual choice), but as a characterization of the tenant-landlord relationship it has important limitations. This is one reason why this model has not led to any convincing explanation, for instance, of the motives for equal sharing. Even the relevance of Marshallian disincentives, which has received so much attention in the literature, has to be assessed in the light of the fact that labour inputs are to some extent joint decisions.

Second, the evidence we have presented for Palanpur, and cited from other studies elsewhere, strongly suggests that the Green Revolution period has witnessed important changes in the nature of tenancy relations in north India. Specifically, the social distance between tenants and landlords seems to have narrowed. On average, Palanpur tenants own roughly as much land, and are not significantly poorer, than the landlords; further, there is considerable mobility between these two groups from year to year. But this is not necessarily good news. Indeed, it is the traditional inequality of endowments between

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[554] For a brilliant survey of the principal-agent approach to sharecropping, see Hayami and Otsuka (1993). Bargaining models of tenancy have greater room for the partnership aspects of the tenant-landlord relationship, but are rather less well developed than the principal-agent approach. On the contrast between principal-agent and bargaining models of tenancy, see Bell (1989).

landlords and tenants that made sharecropping an equalizing factor (at least in terms of the distribution of cultivated land). The enhanced parity of status between landlords and tenants as agriculture becomes more capital-intensive reflects, to a large extent, the exclusion of the landless from tenancy contracts, and also an increasing incidence of leasing-in on the part of large landowners. As a result, tenancy has lost much of its equalizing influence. It is an interesting paradox that these *inegalitarian* developments have been associated with a more *equal* relationship between landlord and tenant.

Appendix[555]

Jean O. Lanjouw

Chapter 8 discusses how the leasing of land under share tenancy contracts serves to equilibrate land/labour ratios across cultivating households. Those with a good deal of land and few family members tend to lease out land, while those with little land and many family members lease in. This is important for efficiency in an environment where the labour market is imperfect. One of the reasons for imperfections in the labour market is that labour comes packaged with skill — there is no separate market for superior farming abilities. However, as noted, more skilled households find it easier to obtain land under lease. In general, the existence of leasing contracts may be the response to multiple imperfect or missing input markets, including that for skill. Land moves to the owner of the non-marketable input(s). The findings presented below suggest that several input markets are imperfect, which supports this interpretation of land leasing.

The extent to which more skilled households are able to obtain more land under lease depends, of course, on whether other households are aware of the fact that they are more skilled. The estimations also allow us to test the extent to which information about the relative productivity of farm households is widespread in the village. The results indicate that such information is well known to villagers and that they make use of it when making leasing decisions.

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[555] Based on Lanjouw, Jean O. (1995), 'Information and the Operation of Markets: Tests Based on a General Equilibrium Model of Land Leasing in India', Economic Growth Center Discussion Paper no. 727, Yale University, June 1995.

The estimations and tests which follow are based on the land leasing choices and on the agricultural output of all farming households in Palanpur for the survey years 1975 and 1984 during the rabi season. The test of whether input markets are imperfect hinges on whether owned inputs influence the inputs *utilized* in production and thus influence both leasing and output. With complete and efficient rental markets, owned inputs should be poor proxies for input use and have insignificant coefficients when included in a production function.

The test of whether information regarding the relative farming skill of households is widespread corresponds, in the context of the model, to a test of whether household ability, or 'skill' influences its success in obtaining land in the leasing market. Because sharecropping contracts involve the division of output in shares which are the same across households, if villagers know which households are relatively more skilled then those households should be able to obtain more land under lease, conditional on their owned land and other productive assets.

Implementing this test requires a measure of skill. The panel aspect of the data is used to obtain a measure of the relative farming skill of households — associated with a time invariant unobservable characteristic which affects both leasing behaviour and output. Letting S_i denote the relative skill of a household, $\theta^* S_i$ is part of the skill of household i which is perceived by other households. A null hypothesis of no information corresponds to a θ of zero while a null of perfect information corresponds to a θ of one.

The Model

Farmers are assumed to maximize expected net agricultural income, and in pursuing this goal they may decide to be either landlords, tenants, or they may choose not to adjust their land holdings through and land leasing market.[556] The expected return from cultivation differs across these choices. Let

$$y_i = g(h_i; A_i, \Omega_i, \lambda)$$

1represent net output when h_i bighas of land are cultivated by house-hold i with owned assets, A_p and optimal levels of marketed inputs. Ω_i is a vector of error terms and λ is a vector of parameters.[557]

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[556] A landlord household is defined as one which is *net* leasing out and vice versa for a tenant.

[557] It is assumed that g (0;.) = 0; that g (h ;.) is twice differentiable and strictly concave in h, and that the land cultivated by a household, owned and under lease, can be aggregated in the production function. The latter is consistent with the finding that output on tenanted and owned land is not significantly different in the village.

The expected net agricultural profit of a landlord household which cultivates h bighas of its land owned (LO) and leases out the remaining (LO − h) bighas is

$$g(h, .) + (LO - h)C,$$

2where C is the expected value of leasing out (per bigha). It is the implicit 'price' which equilibrates the leasing market and is endogenously determined by the demand and supply of land. Landlords maximize their profits by cultivating until the expected net product that they receive from own cultivation of the marginal bigha is equal to the expected return from leasing:

$$E_L[g'(h, .)] = C.$$

3The subscript L signifies that the expectation is conditional on the information known to the landlords.

Optimal decisions by landlords also imply a distribution of leased land which equates the expected (by landlords) average product of tenants. If the expected average product of one tenant were higher than the rest, landlords would benefit by shifting land to that tenant. With the 50/50 cropshare,

$$E_L[1/2[g(h)/h] = C.$$

4Equations (3) and (4) define h_L and h_p the amount of land that a household will cultivate if it is a landlord or tenant household, respectively. Of course, households which do not adjust their land for cultivation through the leasing market simply cultivate LO, the land that they own. The important point to note is that the amount of land that a tenant household can obtain under lease, and thus its cultivated area, h_p is a function of landlords' expectations. Thus it depends on θ, what the landlords know about their relative productivity or skill. The values h_L and h_T determine the profits, from own cultivation or crop shares on leased land, that a household can expect if it decides to be a landlord, tenant, or non-adjusting household. The maximization of these profits determines the tenurial status of each household.

Estimation Results

The production function is assumed to be Cobb-Douglas in labour and land. Other inputs, such as draught power and irrigation devices, and the unobservable factors enter production as shift parameters. Let

$$y_{it} = h_{it}{}^{\gamma} N_{it} \beta_{exp} \left\{ X_{it}'\psi + S_i + \eta_{it} + \varepsilon_{it} \right\},$$

where

$$X_{it}'\psi = \alpha_0 + \alpha_1 V_{it} + \alpha_2 PW_{it} + \alpha_3 PS_{it},$$

5represent the conditional production function for household i in year t, conditional on the application of optimal levels of marketed inputs. N is labour, V is bullock power, PW and PS are dummy variables for the ownership of Persian wheel and pumpsets, respectively. This corresponds to the function $g(h;.)$ in equation (1). The labour variable, N, is a composite indicator. It includes males 16 to 60 engaged in farming, and women and children with an independent parameter w which indicates the value of their labour relative to an adult male. As discussed above, S_i captures unobservable heterogeneity in the cultivation skill of households — that is, differences in aptitude, experience, and commitment. This component is measured by the extent to which the disturbances of a given household covary across periods. The disturbance η is independent across households and time and known to all agents at the time of contracting. The disturbance η is independent across time and is not known to anyone at the time of contracting. This unanticipated stochastic shock to production would include, for example, weather and pest attacks, and is likely to be correlated across households in a given year. It is assumed that the disturbance vector, $\Omega = \{S, \eta, \varepsilon\}$, has a multivariate normal distribution with variances denoted σ^2_s, σ^2_η and σ^2_ε. The model is estimated using maximum likelihood.

The contribution to the likelihood function for a given household is the joint probability of observing its actual combination of land cultivated and output levels in each of the two years, conditioning on its land owned and assets. The parameters of the model were estimated using data on 76 households which cultivated in both years as well as a smaller set of data on households which cultivated in a single year (19 in 1974 and 10 in 1983). Results are presented in Table A.1. The columns contain estimated parameter values and standard errors, allowing for differences across the years in most of the production

Table A.1 : Maximum Likelihood Parameter Estimates

Parameters	Estimate[a]	Standard Error[b]
Observed Inputs:		
γ_8 (land)	0.795**	0.097
γ_7	0.573**	0.037
β_8 (labour)	0.130**	0.055
β_7	0.125**	0.087
w (women/boys)	0.107	0.126
$\alpha_{0,8}$ (constant)	−0.687**	0.099
$\alpha_{0,7}$	−0.600**	0.085
$\alpha_{1,8}$ (bullocks)	0.087**	0.046
$\alpha_{1,7}$	0.166**	0.051
α_2 (Persian wheel)	0.050	0.044
α_3 (pumpset)	0.012	0.074
Errors		
σ_S (skill)	0.208**	0.008
$\sigma_{\eta,8}$ (observed)	0.170**	0.073
$\sigma_{\eta,7}$	0.155**	0.064
$\sigma_{\varepsilon,8}$ (unobserved)	0.551**	0.063
$\sigma_{\varepsilon,7}$	0.281**	0.027
Other:		
θ (information)	1.011**	0.066
C_8 (equilibrium value)	0.294**	0.028
C_7	0.254**	0.009
Log-Likelihood I	−128.22	–
Log-Likelihood II	−107.85	–

[a]

[b] Design matrix bootstrapped standard error estimates based on random resamples from the sample data (35 replications). Parameter estimates are means of the estimates derived from the resamples.

** Indicates significance at $\alpha = 0.01$.

function coefficients, as well as the variances of the unobservables. Coefficients corresponding to 1975 and 1984 are subscripted by '7' and '8', respectively.

Turning first to the coefficients on observed inputs, we find that

both family labour supply and bullock ownership have a significant impact on household production. This result supports the contention that imperfections in input markets motivate land leasing and help to explain the pattern of leasing across households. It also has the important implication that farm household production and consumption decisions are not separable and must be modelled and estimated taking into account their simultaneity.

The importance of bullock ownership appears to have declined over time, although not significantly. The decline in $\hat{\alpha_1}$ is likely to reflect a change in the technology of production, with diesel engines providing an alternative source of power.

The parameter measuring the contribution to household production of women and boys relative to men, w, has a point estimate of .107. This reflects the restrictions on female labour outside of the home in Palanpur.

The coefficients on the dummy variables for both forms of irrigation are insignificant. Ownership of a Persian wheel or pumpset does not appear to be an important contributor to household production indicating, again as expected, that the rental markets for irrigation devices are less imperfect than are those for labour and bullock power.

Variation across households in farming ability, measured by $\hat{\alpha_S}$, is an important component of the unexplained variation across households in levels of productivity. That is, controlling for input ownership and allowing for (time variant) factors which are both observable, η, and unobservable, ε, to villagers, there remains a substantial degree of variation in the productivity of different cultivating households. A household with a skill level which is one standard deviation higher than the mean is 23 per cent more productive than a household with the mean level of skill.

The estimated value of θ, 1.011, indicates that information as to which households are more or less productive is widely known in the village. One can easily reject the null hypothesis that $\theta = 0$ (no information). One cannot reject the null hypothesis that $\theta = 1$ (perfect information).

Chapter 9 Credit[558]

Jean Drèze, Peter Lanjouw and Naresh Sharma

Money, says the proverb, makes money. When you have got a little, it is often easy to get more. The great difficulty is to get that little.
Adam Smith, *The Wealth of Nations,* I.ix.

Introduction and Background

On 9 January 1987, during one of our sojourns in Palanpur we received the visit of a man called Mahavir. The first half of January is a time of slack labour demand, and Mahavir, a landless labourer, had been unable to find work for several days. He told us that he had spent the whole morning trying to find someone who would lend him *one* rupee, so that he could at least feed his two children in the evening.

Mahavir is a well-known resident of Palanpur, who is in no danger of leaving the village, and, poor as he is, he would have had no difficulty in repaying a one-rupee loan later in the season. But no one agreed to lend him a rupee. He commented, '*garib aadmee ko koi naheen deta',* 'no one lends to a poor man'. Eventually, he was able to obtain one kg of wheat (worth two rupees) from one of the village moneylenders, repayable with an interest of 50 per cent in kind after the harvest — four months from then.

At that time, the local branch of Prathma Bank (a state-run rural bank) was implementing the 'Integrated Rural Development

Programme', a scheme of subsidized credit intended for households below the poverty line. Loans of several thousand rupees could be obtained under this programme, at a nominal interest rate of 12 per cent per year. The scheduled castes, of which Mahavir is a member, were one of the main target groups, and had to repay only two-thirds of the principal according to the programme's official guidelines. We asked Mahavir why he had not applied for a loan from Prathma Bank, but he dismissed this fanciful idea. To start with, he did not have the resources to bribe the headman, the village development officer, and the bank manager. Besides, he was afraid of being cheated. 'These people', he said, referring to the bank managers, 'they tell you something and write something else'.

We begin with this anecdote because it illustrates a number of interesting aspects of credit transactions in Palanpur, including the chaotic state of the village 'credit market', the special difficulties of assetless households in obtaining credit at reasonable rates, the limited practice of reciprocal interest-free credit, the continuing role of the traditional system of seasonal loans in kind, and the failure of public lending institutions to meet the credit needs of disadvantaged households. In this chapter, we investigate these and other features of credit in Palanpur. Given the limited supply of reliable evidence on credit in rural India (partly due to the sensitive nature of the required information), a detailed case study may be a useful addition to the available empirical material. An attempt will also be made to compare our findings with those of similar studies elsewhere in India.

Two of us (Jean Drèze and Naresh Sharma) spent a little over one year in Palanpur, in 1983–4, and have since revisited the village on many occasions. Credit-related data were collected in mid-1984, and, unless stated otherwise, all the data presented in this chapter refer to that point of time. The term 'survey year' refers to 1983–4. From time to time we shall also draw on the three earlier surveys of Palanpur, carried out in 1957–8, 1962–3, and 1974–5 respectively.

The general features of the village are discussed in chapter 1, and will not be reiterated here. For purposes of interpretation of some of the figures given in this chapter, the reader may find it convenient to think of Palanpur (in 1983–4) as a village of about 1,000 persons with average per capita income of about Rs 1,000 per year in 1983–4, where prices were rising at about 10 per cent per year in the early 1980s. Unless stated otherwise, all interest-rate figures are expressed in money terms.

1. Credit Transactions in Palanpur

Delete This

The Data:

To begin with, something should be said about the quality of our credit data. Information on credit tends to be quite sensitive and is often difficult to collect, especially through brief *ad hoc* surveys. In this case, however, the collection of credit data was part of a broader village survey, and by the time we started collecting these data we had been able to establish quite a good rapport with most Palanpur households. We had also acquired a good knowledge of the circumstances of each household, making it more difficult for respondents to conceal or misrepresent their debts and loans. Further, we resorted to extensive cross-checking between lenders and borrowers to reduce gaps and inaccuracies.

Our experience is that most respondents disclosed their debts without reluctance, but tended to be less eager to reveal the loans they might have given. If p is the probability of a loan being concealed by the borrower, and q the probability of a loan being concealed by the lender, the overall proportion of unrecorded loans is simply $p.q$ (assuming that the probabilities of non-reporting by borrower and by lender are independent). In our judgment, 0.2 and 0.4 are plausible values for p and q respectively, leading to an overall proportion of unrecorded loans below 10 per cent.[559] The proportion may be somewhat higher for small, interest-free loans within the village, which can be easily overlooked by respondents.

This assessment, however, ignores one particular type of credit, which has not been systematically recorded. This is what one might call 'implicit credit'. The term refers to the fact that an economic transaction sometimes includes the effective provision of credit, without it being necessarily recognized as such by the parties involved. For instance, an affluent landlord sometimes agrees to pay for non-labour costs during the agricultural season, and to recover the tenant's share of these costs (usually one half) after the harvest. A landlord may, indeed, benefit from being able to attract the more productive tenants by offering this concession from the standard terms of sharecropping contracts, which specify that input costs

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[559] In principle, p and q can be estimated from the available data (by examining the proportions of loans that have been reported by the lender only, by the borrower only, and by both). We have not attempted to do this, because the computerized version of the data incorporates consistency checks and corrections that invalidate this simple procedure.

should be shared equally as and when they are disbursed. Similarly, during the survey year we were able to observe how one particular pumpset owner succeeded in capturing a large share of the market for irrigation services by allowing his customers to postpone the payment of pumpset hiring charges until after the harvest. Contracts of this kind involve some implicit credit, usually interest-free, but since the provision of credit occurs without any explicit act of loan-taking, these implicit credit transactions were often omitted by our respondents. This being the case, implicit credit will receive little attention in this chapter.

In addition to collecting quantitative information, we engaged in extensive discussions with borrowers and lenders. Discussions with moneylenders were particularly informative. Out of six regular moneylenders residing in Palanpur, four can be said to have been quite cooperative in informal discussions (the other two were completely non-cooperative). This chapter draws both on the quantitative data and on the discussion material.

Credit Situation in 1983–4:

Indebtedness in Palanpur is quite high in relation to the level of income. As Table 1 indicates, outstanding household debts add up to Rs 429,863.[560] With loans outstanding from village lenders amounting to Rs 32,000, Palanpur has a net debt of a little below Rs 400,000. This represents just under 40 per cent of the total annual income of the village (roughly one million rupees in 1983–4).

Most households (85 per cent to be precise) are involved in credit transactions, as borrowers or lenders or both. Interestingly, as many as 38 households in this small village of 143 households can be counted as 'lenders', in the sense that they had at least one loan outstanding at the time of interview; 20 of them charged interest on some or all of their outstanding loans. It is also noteworthy that 23 households simultaneously borrow and lend (a majority of them have a negative net credit balance). Both from the point of view of total debt outstanding, and from the point of view of the number of households involved, credit transactions are a highly significant aspect of Palanpur's economy.

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[560] As stated in the introduction, the data presented in this paper relate to mid-1984 (unless stated otherwise). Statements made in the present tense should be understood to refer to that period.

Table 1 : Basic Features of Village Debt (1984)

Total debts outstanding (Rs)	429,863	
Net village debt as a proportion of annual village income (%)	40	
Distribution of outstanding debts by source (%):		
Public lending institutions	79	
Private sources within Palanpur	7	
Private sources outside Palanpur	14	
Number of households in different credit-status categories at the time of the 1984 survey[a]		
borrowing only	84	(59)
lending only	15	(10)
borrowing *and* lending	23	(16)
neither borrowing nor lending	21	(15)

[a] Percentage distribution in brackets. 'Borrowing' means that the concerned household owed money to some other household or institution at the time of the 1984 survey; 'lending' means that some outstanding loan was due to the concerned household at that time. Palanpur had 143 households in 1983–4.

The details of credit transactions in a village such as Palanpur offer quite a complex picture. To illustrate, Table 2 presents information on debts outstanding at different interest rates in mid-1984. It can be seen that interest rates range from 0 to 300 per cent per year, with more than 25 different interest rates being reported.[561] It would be hard to deviate further from the textbook 'law of one price'.[562] And it should be remembered that the interest rate is only one of the relevant components of a credit contract — others may include the repayment schedule, the provision of collateral, the choice between cash and kind, the specification of simple or compound interest, the treatment of default and other contingencies, and so on. An important step

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[561] Much as in Palanpur, Bailey (1964) finds that interest rates vary between 0 and 250 per cent per year within a single village of Orissa. He adds: 'Nevertheless it is clear that all these different kinds of loan are kept in separate compartments, and governed by different conventions of behaviour' (p. 113). That observation, too, applies in Palanpur, as will be seen further on.

[562] Of course, this 'law' is hard to take seriously when it comes to credit, given that the usual arbitrage mechanisms cannot be expected to work smoothly in this case.

Table 2 : Village Debt by Rate of Interest (1984)

Reported rate of interest (% per year)	Amount due by Palanpur households at the stated rate of interest (Rs)		
	To public institutions	To private lenders	Total
0	0	23,926	23,926
9	28,169	0	28,169
11	2,255	0	2,255
12	286,195	0	286,195
13	2,847	0	2,847
15	324	0	324
16	1,769	0	1,769
17	1,159	0	1,159
18	1,000	0	1,000
19	0	300	300
20	0	4,000	4,000
24	0	300	300
25	0	1,250	1,250
30	0	4,490	4,490
36	0	16,764	16,764
37	0	1,400	1,400
40	0	7,701	7,701
42	0	2,229	2,229
60	0	10,081	10,081
120	0	520	520
180	0	598	598
240	0	2,857	2,857
300	0	78	78
25% in kind[a]	9,450	0	9,450
50% in kind[b]	0	5,695	5,695
usufruct mortgage[c]	0	1,660	1,660
unknown	6,439	6,407	12,846
Total	*339,607*	*90,256*	*429,863*

[a] Wheat loans obtainable at the beginning of the rabi season, and to be repaid after the rabi harvest with 25 per cent interest in kind.
[b] Wheat loans obtainable at any time before the rabi harvest, and to be repaid after the rabi harvest with 50 per cent interest in kind.
[c] In lieu of charging interest, the lender cultivates a plot of land belonging to the borrower until the loan is repaid.

towards making sense of this confusing variety of contracts is to make broad distinctions between different sources of credit.

Credit Sources: Public and Private:

One basic feature of credit in Palanpur is the prominent role played by public lending institutions, which account for nearly 80 per cent of total debt outstanding (Table 1). The main features of different types of public lending institutions will be discussed in the next section.

The data on debts outstanding in Table 1 suggest that private credit plays a relatively minor role in the village economy. This conclusion, however, needs to be qualified in at least three ways. First, the rate of turnover of debts is much lower for public institutions than for private lending (with some institutional loans remaining unrepaid for several decades). Outstanding institutional debt reflects many years of accumulated borrowing and sluggish repayment, whereas private credit, being typically more expensive (and more energetically administered), tends to be more swiftly repaid. Hence, the share of private sources in new *borrowings* over a specific period is much larger than their share in debt outstanding. For instance, during the 1983 calendar year, private sources supplied as much as one half of the total amount borrowed by Palanpur households (see Table 3). Second, a majority of households in Palanpur do have some debt to private

Table 3 : Borrowings by Source

Source	Amount borrowed by Palanpur households during calendar year 1983[a]		
	Cash (Rs)	Wheat (kgs)	Total[b] (Rs)
Public lending	18,221	7,000	27,671
institutions	(43)	(71)	(49)
Private sources	8,253	2,361	11,440
within Palanpur	(19)	(24)	(20)
Private sources	16,255	450	16,863
outside Palanpur	(38)	(5)	(30)
Total	*42,729*	*9,811*	*55,974*
	(100)	(100)	(100)

[a]   Percentage distribution in brackets.
[b]   Wheat has been valued at Rs 1.35 per kg, the post-harvest price in 1983–4.

lenders. Even though the sums involved are often small in comparison with institutional debts, these private debts are a matter of concern for many households. Third, private credit is quite unevenly distributed between different groups of households, and for some of them it represents a large proportion of total liabilities. In particular, many poor households, being at a disadvantage in terms of access to institutional credit, have no alternative than to borrow from private sources on comparatively exacting terms. In that sense, too, private credit is of considerable social significance despite its relatively small volume in terms of outstanding debts.

Private Credit: Interest-Free and Interest-Bearing:

Within the broad category of private credit, one important distinction is that between interest-free and interest-bearing credit. Indeed, the economics of these two types of credit are quite different. The main source of interest-free credit consists of various personal contacts: important examples include committed friends, obligated neighbours, helpful relatives, regular employers, and accommodating landlords. For convenience, we shall refer to this category of lenders as 'allies and patrons', although the precise nature of the personal relationships that bind the respective parties of these interest-free transactions will call for further investigation in due course.[563]

The complete identification of 'interest-free credit' with 'credit from allies and patrons' is somewhat defective, for two reasons. First, in some cases credit is obtained on *concessional,* but not interest-free, terms from a person who can be plausibly described as an ally or a patron. For instance, a considerate landlord may grant a low-interest loan to his or her tenant, without going so far as to waive all interest payments. Second, interest-free credit is sometimes obtainable from a person who cannot be described in such terms. This applies, in particular, to a good portion of the 'implicit credit' mentioned in the introductory section. The owner of a pumpset, for instance, may allow his customers to pay the hiring charges at harvest time in order to attract greater demand for his services, and this may happen even in the absence of a personal relationship that would make it appropriate to describe him as their 'ally or patron'. A detailed treatment of interest-free credit would have to take these complications into account,

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[563] Interest-free credit is often assumed to come from 'friends and relatives', but this term is rather misleading, since the relationship between lender and borrower often involves neither friendship nor kinship.

and the categories of 'interest-free credit' and 'credit from allies and patrons' might have to be correspondingly distinguished and disaggregated. For our purposes, however, little will be lost by conflating these two categories.

Private Credit: Internal and External:

Private sources of credit can be divided (as in Tables 1 and 3) into sources internal and external to the village. Internal sources (mainly consisting of moneylenders residing in the village) account for a relatively small share of outstanding debt: one-third of total outstanding debt from private sources, representing only 7 per cent of outstanding debt from all sources.

External sources of interest-bearing private credit overwhelmingly consist of urban traders and goldsmiths who lend money to villagers against large collaterals, at rates lower than those typically charged by village moneylenders.[564] Thus, there is practically no inter-village (interest-bearing) lending within the area surrounding Palanpur, with one important exception which is discussed below. One explanation for the absence of inter-village lending is that village moneylenders have a comparative advantage in lending to residents of their own village, about whom they have a good deal of information, and with whom they often have a long-term relationship of some kind. In fact, as will be seen later on, village moneylenders in Palanpur usually lend without collateral. An outsider who would try to do the same would expose herself to serious problems of asymmetric information. Demanding a large collateral (like urban moneylenders) would reduce the risks involved, but the rate of interest would have to be correspondingly lowered, and the lender may find it more profitable to lend without collateral in her own village. Further, in the case of collateral-based lending, village moneylenders may not be able to compete with urban traders and goldsmiths, who tend to have better access to subsidized institutional credit.

The only important case of interest-bearing inter-village lending in Palanpur concerns the activities of Vishnu Dutt, a rich Brahmin landowner from an adjacent village (Ari Khera). Vishnu Dutt comes quite close to the stereotype of the greedy and heartless moneylender who takes advantage of helpless and gullible borrowers. He owns some land in Palanpur, and has close connections with the elite of the

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[564] As will be seen further on, in the case of interest-free credit the distinction between external and internal sources largely boils down to a distinction between 'relatives' and other kinds of 'allies and patrons'.

village. Unlike Palanpur moneylenders, he usually demands land as collateral, and insists on written contracts enforceable in court. When he is not repaid on time, he does not hesitate to confiscate the collateral. More than once, he has been able to augment his already large landholding in this calculated way.[565]

Interest-bearing credit within the village comes primarily from six individuals, most of them prosperous farmers, who can be described as 'regular moneylenders' (bearing in mind that even for these six persons money-lending is only a secondary activity and a supplementary source of income). But it is important to remember that, aside from these regular moneylenders, quite a few other individuals are prepared to give the odd loan if the circumstances are advantageous. In mid-1984, 14 individuals other than the six regular moneylenders were found to have issued interest-bearing loans, with their outstanding loans adding to Rs 7,159 (compared with Rs 19,383 for the six regular moneylenders). These individuals will be referred to as 'occasional lenders', and the term 'village lenders' will be understood to include both these occasional lenders as well as the six regular moneylenders.

Summary:

To summarize, credit sources can be usefully divided into four broad categories: (1) public lending institutions, (2) allies and patrons, (3) urban moneylenders, and (4) village lenders (both regular and occasional). This leaves a small residual category which will be referred to as 'other sources'. We shall include Vishnu Dutt in this residual category, so that 'village lenders' refers to Palanpur-based lenders specifically. To avoid double-counting, interest-free loans from persons who also happen to be village lenders will be counted as coming from 'allies and patrons', rather than from 'village lenders.

Table 4 presents a comparative picture of the different credit sources, while Table 5 re-examines the diversity of interest rates in the light of these broad distinctions. In contrast with the confusing picture that presented itself earlier (see Table 2), a coherent structure of interest rates already begins to emerge.

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[565] Note that, when land is used as a collateral, village moneylenders do have some advantages over urban-based lenders (e.g. in terms of ability to assess the value of the land, take possession in the event of default, and make good use of confiscated property). The actual confiscation of land, however, requires special coercive powers; we will return to the role of violence and coercion in money-lending.

Table 4 : Synoptic List of Main Credit Sources

Credit source	Percentage distribution of debts outstanding, 1984	Percentage distribution of amount borrowed in calendar year 1983	Typical range of interest rates (%/year)	Collateral requirements	Eligibility conditions	Remarks
Allies and patrons	5	9	0	None	Special relationship with the lender	Credit transactions are embedded in broader social or personal relations
Public institutions	79	49	9 to 18	None	Depend on the scheme; may include owning land, or being below the 'poverty line'	Bureaucratic rationing, biased in favour of privileged and better-educated farmers
Urban moneylenders	6	13	30 to 36	Gold or silver	None, as long as collateral is provided	No rationing, except that urban moneylenders are reluctant to deal with scheduled-caste clients
Village lenders	6	17	36 to 60	Usually none	Depend on the lender	Rationing based on the lender's assessment of the creditworthiness of different borrowers, and related considerations
Other sources[a]	4	12	–	–	–	–

[a] Residual category: mainly Vishnu Dutt (see text) and two Provident Funds.

Table 5 : Structure of Interest Rates (1984), Distinguishing Between Four Broad Sources of Credit

Source	Interest rate (per year)	Amount due by Palanpur households (Rs)	Remarks
Allies and patrons	0%	23,926	–
Public institutions	9 to 18%	323,718	Cash loans.
	25% in kind[a]	9,450	Kind loans (Seed Store).
Urban moneylenders	30%	4,490	Gold collateral.
	36%	15,670	Silver collateral.
	other	5,800	–
Village lenders	below 37%	2,644	Concessional loans, or loans issued many years earlier (when interest rates were lower).
	37%	1,300	Traditional 'adhanni' system, no longer in use.
	40–2%	5,030	Previous 'standard', applicable until 1983 or so.
	50% in kind[a]	5,087	Traditional system for loans in kind (deora), still in use.
	60%	4,581	Current 'standard' for cash loans.
	above 60%	3,653	Gambling loans only.
	'usufruct mortgage'[a]	1,660	Only one moneylender (Nisar) practises this.
Residual[b]	(miscellaneous)	22,854	–
All sources	–	429,863	–

[a] See text for details.
[b] This includes the 'other sources' category of Table 4, and also a few outstanding loans (with a combined value of Rs 6,926) for which no information on interest rate was available.

As Table 5 indicates, there is a clear ranking of major credit sources in terms of interest rate levels. Allies and patrons charge the lowest interest rates (by definition), followed by public lending institutions, urban moneylenders, and village lenders, in that order. It is tempting to speculate that some kind of rationing device applies to the cheaper credit sources, and that borrowers generally take loans from the cheapest available source, with village moneylenders acting as a 'last resort'. It should be borne in mind, however, that the observed ranking need not apply to the *overall* attractiveness of different credit sources, taking into account not only the interest rate but also other relevant features of a credit contract. For instance, an interest-free loan from one's father-in-law may appear to be very 'cheap' in conventional accounting terms, but it may also entail a serious loss of prestige. Similarly, the danger of being cheated by a bank manager, or the need to pawn the family silver in order to obtain a loan from an urban moneylender, can substantially lower the perceived advantages of credit from these sources. The precise mode of operation of different sources of credit requires further discussion.

2. Public Institutions

2.1 Profile of Public Lending Institutions

Institutional credit in Palanpur comes from four sources: a 'cooperative society' (the Farmers' Service Society), the attached Seed Store, and two rural banks.[566] Table 6 summarizes their respective aims and activities. While these different institutions have a number of important features in common, they also differ significantly in their mode of operation; we begin by considering each of them separately.

The Farmers' Service Society:

The Farmers' Service Society (hereafter FSS), which is based in Palanpur but also serves about 20 nearby villages, has the formal status of a 'government-assisted cooperative'. As will be seen shortly, however, there is nothing cooperative in the way it actually functions. Although farmers do have to buy 'shares' in the society in order to be eligible for loans, the management of the

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[566] In addition, a number of Palanpur farmers receive advances on sugarcane sales from a local government-owned sugar mill, for purchases of fertilizer and seeds. Except for a few large farmers, these advances are small; they will be ignored throughout this paper.

Table 6 : Institutional Credit in Palanpur (1984)

Source	Total amount due by Palanpur households (Rs)	Remarks[a]
Farmers' Service Agricultural Society (FSS)	228,648	Government-assisted 'cooperative' aiming to promote investment and new inputs by lending to its share holders (recruited among land-owning cultivators).
Seed Store	16,147[b]	An appendix of the FSS. Gives small loans of wheat at the time of wheat-sowing, mainly to small and marginal farmers.
Land Development Bank	24,738	Government-owned rural bank; gives large cash loans for agricultural investment (e.g. purchase of diesel engine), mainly to well-off farmers.
Prathma Bank	70,074	Government-owned rural bank, largely geared to the promotion of agriculture and related activities; in 1985, Prathma Bank started acting as the local implementing agency for the Integrated Rural Development Programme, a subsidized credit scheme targeted at poor households.
All sources	*339,607*	–

[a] See text for details.
[b] Including some outstanding cash loans, probably given for fertilizer purchases.

Note: Both the Farmers' Service Society and the Seed Store have their headquarters in Palanpur itself (although they serve the surrounding villages as well). The Land Development Bank and Prathma Bank have branches a few kilometres away from Palanpur.

FSS is completely outside their control. The manager of the cooperative and his assistant are all urban-based employees appointed by the government.

The official aim of the FSS is to promote agriculture by providing subsidized loans to land-owning farmers. In principle, the amount of money which a particular farmer is entitled to borrow from the FSS

depends on a range of variables such as number of shares held, ownership of land and other property, normal annual income (a certain fraction of which must be agricultural income), value of agricultural production, etc. Loans are short-term (except those issued for purchase of improved bullock-carts or diesel engines), and they should not exceed the actual cost of the operation for which they are sought. They are repayable after one year, with an interest charge varying from 12 to 18 per cent in money terms. Simple interest is charged on longer term loans, and the total interest due is never supposed to exceed the value of the principal. The official terms and conditions of FSS credit are, thus, quite favourable to the borrower.

That, at any rate, is the theory. The practice of FSS credit is quite different, as will be seen in the next section.

The Seed Store:

The Seed Store is a semi-autonomous appendix of the Farmers' Service Society. Its main activity is to lend wheat at the beginning of the rabi season (around the first week of November), repayable with an interest charge of 25 per cent in kind after the wheat harvest (in May or June). Wheat issued by the Seed Store is supposed to be sown, but there is a widely-shared view in Palanpur that this wheat is not worth sowing, and in practice most of it is simply consumed.[567] With few exceptions, borrowers are allowed to borrow only one or two bags of 100 kg in a particular year. As with the FSS, only landowners are eligible, on the grounds that wheat borrowed from the Seed Store is meant to be sown. However, 5 among the 30 individuals who borrowed wheat from the Seed Store in November 1983 were, in fact, landless.

Although the Seed Store operates under the umbrella of the Farmers' Service Society, and is partly managed by the same staff, the actual performance of the two organizations differs in some important ways. Specifically, the Seed Store's credit operations appear to be less susceptible to corruption, low repayment, and regressive distribution. This important contrast will be examined in greater detail further in this section.

Rural Banks:

Two state-owned rural banks have clients in Palanpur: the Land Development Bank and Prathma Bank. Both of them

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[567] The system of repayment in kind (with poor quality control) and of re-issue of recovered wheat year after year is a major reason for the poor quality of these 'seeds'.

operate throughout the district, and have a local branch based a few kilometres away from Palanpur.

The Land Development Bank specializes in large loans for major investments in agricultural capital. In mid-1984, the Land Development Bank had only 8 loans outstanding in Palanpur. The amounts initially borrowed ranged from Rs 3,700 to Rs 7,800 — large amounts by the standards of other credit institutions. Most of these loans had been given to relatively well-off farmers for the purchase of irrigation equipment. Interest rates on these loans were of the order of 10–12 per cent in money terms.

Prathma Bank was created in 1975, but did not start operating in the Palanpur area until shortly before the survey year. Its original purpose was to supply cheap credit to small farmers and the landless. In order to be eligible for a loan, a borrower should not own more than a certain amount of land or earn more than a certain level of income. In practice, however, eligibility conditions are not strictly applied, as the local manager of Prathma Bank himself readily admitted when we interviewed him. Nominal interest rates vary slightly between different types of loans, with an average of about 12 per cent per year. Since 1984, Prathma Bank has been the implementing agency for the Integrated Rural Development Programme, one of India's main 'anti-poverty programmes' in the 1980s.

Achievements and Shortcomings of Public Lending Institutions:

The record of public lending institutions in Palanpur is mixed. On the positive side, institutional credit has probably played an important role in facilitating the improvement of irrigation facilities and the transformation of agricultural practices that have taken place in the last few decades.[568] Having said this, institutional credit also suffers from several major shortcomings. These include: (1) endemic corruption, leading to a drastic reduction of the benefits of subsidized credit (especially for disadvantaged borrowers), (2) low recovery rates,

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[568] A large majority of institutional loans outstanding in 1984 had been officially taken, and actually used, for agricultural investment and related productive purposes. It should be noted, however, that the arguments for subsidizing capital accumulation in agriculture are stronger for some types of investment than for others. While the improvement of irrigation facilities in Palanpur has had widespread benefits, the social value of more recent investments in labour-displacing technology such as threshers and tractors is less obvious.

threatening the sustainability of the rural banking system, and (3) bureaucratic procedures, with an overall bias in favour of privileged households. It is fair to say that these broad characteristics of institutional credit have been widely observed elsewhere in rural India.[569] Each of them deserves closer examination.

2.2 Corruption

Corruption is a central feature of institutional credit in Palanpur. It is impossible to understand the performance of public lending institutions without examining this issue.

We shall illustrate the problem of corruption in public lending institutions in the form of a case study of the Farmers' Service Society. The motivation for concentrating on the FSS is partly that it appears to represent the most acute case of this malady, and partly that we have particularly detailed information on the functioning of this institution. Another good reason for focusing on the Farmers' Service Society is that it accounted for more than two-thirds of total outstanding debts to public lending institutions in 1984 (see Table 6).

As was mentioned earlier, the management of the Farmers' Service Society is entirely in the hands of urban-based employees appointed by the government. These employees are alienated from the village society, and look on most of its members as potential targets of extortion.[570] The key actor is the manager, who has the effective power to sanction loans, and to override official eligibility conditions if necessary. While eloquent pleading or the intermediation of a well-placed ally sometimes suffice to persuade him to sanction a loan, the payment of a bribe is a more common procedure.

The most important occasion for corruption in the Farmers' Service Society, however, is not the allocation of credit but the process of

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[569]   See the literature cited in section 6.

[570]   Only a few residents of Palanpur and the surrounding villages have more 'clout' than the FSS manager and his aides. This privileged group mainly consists of powerful landlords and *goondas* (henchmen, often engaged in a variety of illicit income-earning activities such as the selling of liquor) who sometimes resort to armed violence, or to the threat of armed violence, in order to assert their authority. The fraudulent operations of the FSS are essentially based on a tacit alliance between the FSS employees and this local clique: the powerful landlords and goondas do not interfere with the extortions carried out by the Farmers' Service Society, and, in return, the FSS employees give them a preferential treatment in their lending operations. Conflicts between members of the two groups, however, do erupt from time to time.

accounting and recovery, which is based on an arrangement locally known as 'laut badal' or 'transfer entry'. This arrangement was initially evolved under official auspices with the objective of providing insolvent borrowers with an opportunity to escape the status of 'defaulter' by rolling over loans. However, as discussed below, laut badal soon degenerated into a system of institutionalized fraud. This system, which is not specific to Palanpur, works roughly as follows.

Consider a farmer who has borrowed a sum of Rs 1,000 on a particular date. Twelve months later, when repayment is due along with an interest charge of (say) Rs 150, it may well happen that he or she is unable or reluctant to repay. In that case the manager states that, if the client is willing to pay the interest charge of Rs 150 as well as a so-called 'collection charge' of Rs 100 (calculated as 10 per cent of the amount due), the problem can be dealt with by writing the loan as repaid and entering a new loan of Rs 1,000 in the books. If, as often happens, the farmer cannot even pay Rs 250, this problem can itself be dealt with by entering a new loan of Rs 1,250 rather than Rs 1,000. This enables the manager to balance his books and pocket the 'collection charge' of Rs 100. Under this system, borrowers pay interest charges at a *compound* rate of up to 25 per cent per year.[571]

The 'transfer entry' system has very different implications for the different parties involved. The manager and his acolytes make a fortune, by collecting a sum representing up to 10 per cent of the society's assets *every year*. Prudent and resourceful borrowers who make sure that they clear their debt within one year are able to take advantage of the relatively favourable terms under which FSS credit is officially issued. But those who opt for repeated transfer entry (because they are unable to repay, or fail to understand the full implications of the system, or yield to the temptation of postponing repayment) often find, after a few years, that their debt has grown at a surprisingly high rate and is in danger of becoming altogether unmanageable.

At that point, the borrower faces a harsh dilemma between several possible strategies. One strategy is to make an all-out effort to clear the debt before it is too late, if necessary by selling land or by making enormous sacrifices of current consumption. Another strategy is to let the debt grow, in the hope that it will eventually be cancelled, and that

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[571] In fact, the interest rate can be even higher (up to 35 per cent), if the borrower is required, at the time of 'transfer entry', to simultaneously buy further 'shares' in the cooperative so as to be eligible for a new loan larger than the initial loan.

Table 7 : The Farmers' Service Society (FSS) and the Scheduled Castes: Details of Outstanding Debts of Jatab Borrowers in 1984

Name of debtor	Details of FSS loan(s)[a]	Effective (nominal) interest rate[b] (per cent per year)	
		Simple	Compound
Danni	Borrowed *Rs 50* in 1960. Repaid many instalments (including Rs 800 during the last 2 years). Current balance: *Rs 3,523.*	372	21
Lila Dhar	Borrowed *Rs 50* around 1960. Repaid many instalments (including Rs 300 last year). Current balance: *Rs 983.*	109	15
Gangu and Sompal	Borrowed *Rs 140* about 20 years ago. Rs 1,900 were repaid about 10 years later, but no receipt was given. In 1983–4, they sold property and cleared their debt by paying another *Rs 5,500.*	259	32
Mangli	Borrowed 100 kgs of wheat about 8 years ago (approx. value *Rs 130* at that time). Repaid at least 3 instalments (Rs 600 total). Current balance: *Rs 2,143.*	251	46
Naubat	Borrowed one bag of fertilizer 5–6 years ago (approx. value *Rs 120* at that time). Repaid at least 4 instalments (Rs 850 total). Current balance: *Rs 2,943.*	510	78
Chander	Sold land to repay one FSS debt. Inherited another debt from his father about 15 years ago. Current balance: *Rs 2,669.*	n/a	n/a
Lochan	Outstanding debt of *Rs 8,000.* Details not available.	n/a	n/a

[a] The information on amount outstanding (and, in some cases, on amount borrowed) is based on the official FSS records; other details were reported by the concerned debtors.

[b] *Lowest* value compatible with the information reported in the preceding column. The increase of consumer prices between 1960–1 and 1983–4 corresponds to an average inflation rate of about 8 per cent per year (based on the CPI for Agricultural Labourers, Uttar Pradesh).

Note: All the borrowers are poor labourers or marginal farmers belonging to the Jatab caste, and all are illiterate. The average per capita income of Jatabs in 1983–4 was Rs 436.

in the meantime it will be possible to resist pressures to repay without facing punitive action such as the confiscation of property. A third strategy is to migrate from the village and default. Examples of adoption of each of these strategies can be found in the recent history of FSS credit in Palanpur.

The adverse effects of transfer entry are compounded by a number of less systematic, but nevertheless common, additional violations of the official rules, e.g. issuing fake loans under real names or understating repayments in the account ledgers. Many borrowers have little understanding of the complicated accounting procedures of the FSS, cannot make sense of the receipts they are given at the end of the year, and have to retreat as soon as the manager answers their deferential enquiries with a loud request to leave him alone. For them, dealing with the FSS is a risky affair.

It should be stressed that corrupt practices are not applied neutrally to different classes of borrowers. Poverty, illiteracy, and low social status all reduce the bargaining power of a borrower, and enhance his or her vulnerability to fraudulent procedures. An illiterate Jatab labourer, for instance, is far more likely to be the victim of various forms of 'creative accounting' than an affluent Thakur farmer. Even the payment of bribes is more frequently demanded from the poor than from the rich, according to most of our respondents.

This point, and the general effects of repeated 'transfer entry', can be illustrated with reference to the FSS's history of lending to members of the Jatab caste, the most disadvantaged social group in Palanpur. Table 7, which provides details of all the outstanding debts of Jatab borrowers to the FSS in 1984, gives an idea of their exceptional vulnerability to fraud, and of the difficulties they experience in repaying their debts. Years of transfer entry and dishonest accounting have transformed their tiny initial dues into back-breaking liabilities.[572]

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[572] One Jatab household sold its entire landholding (25 bighas, which is above the average landholding size in Palanpur) after the survey year to repay FSS debts.

Table 7 also presents some tentative estimates of the interest rates effectively paid (in money terms) by Jatab households on FSS debts. Each of these estimates represents a *lower bound* on the effective interest rate paid by the relevant borrower, in the sense of the lowest effective interest rate compatible with the information reported.[573] Despite the conservative nature of the calculations, the estimated interest rates effectively paid by Jatab borrowers are exorbitant. In contrast with the officially-applicable *simple* interest rate of 12 to 18 per cent corresponding to the official rule (combined with the stipulation that total interest charges should never exceed the amount of the principal), Jatab borrowers are found to pay effective interest at a *compound* rate of 21 to 78 per cent per year.

The discriminatory mode of operation of the Farmers' Service Society helps to explain the lack of resistance of the rural population to the systematic extortions perpetrated by its employees. Even though the 'transfer entry' system is common knowledge in Palanpur and the surrounding villages, it has been applied for many years without organized protest on the part of its victims. This lack of challenge may have something to do with the general limitations of political organization and collective action in this area, discussed elsewhere (Drèze and Gazdar 1997). But it also reflects the divided interests of different sections of the rural population: while disadvantaged borrowers have been the main victims of corruption, the more influential ones have often been able to take advantage of the relatively favourable lending terms on the basis of which the Farmers' Service Society officially operates.

2.3 Repayment

Low recovery rates are an endemic problem in India's rural banking system. So far as we can tell from the available data, public lending institutions in Palanpur are no exception to this general pattern.

As far as the Farmers' Service Society is concerned, the transfer entry system makes the recovery record *look* very good, with most loans being fully recovered within a year. It is more appropriate, however, to consider rolled-over loans as overdue. In that case, the recovery rate is poor: each year, a majority of loans are rolled over, instead of being recovered within the stipulated repayment period of

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[573] It is possible that some respondents exaggerated their repayment record. Even if we ignore repayments, however, the basic conclusions remain applicable.

12 months. Further, in 1983–4 a large number of debts to the FSS had become so large (due to repeated transfer entry) that the borrowers saw no means of repaying them in the foreseeable future.

We have no precise information on recovery rates in rural banks, but discussions with bank managers indicate that poor recovery is also a problem for these institutions. In 1987, the manager of the Nagalia branch of Prathma Bank told us that he was considering discontinuing all lending in Palanpur, due to particularly low recovery rates. The Seed Store has a much better recovery record, as will be discussed further in this section.

The problem of low recovery in India's rural banking system is often attributed to the reluctance of borrowers to repay. Accordingly, a commonly-proposed solution is to improve repayment incentives. It is certainly the case that, if official interest charges were actually applied, many borrowers would have little short-term incentive to repay, since better financial returns could typically be obtained from alternative investments (e.g. in agriculture, or repayment of private lenders) than from repayment of institutional debt. But this reasoning ignores the fact that the official rules are often *not* fairly applied, and that incompetent or corrupt management can be as important in generating large overdues as any possible reluctance to repay on the part of borrowers.

The Farmers' Service Society provides a good illustration of this point. Low recovery of FSS loans has little to do with the fact that borrowers are unwilling to repay. In fact, a majority of borrowers have repaid substantial amounts on several occasions after taking a loan, and many of them are anxious to clear their entire debt in order to avoid the trap of spiralling indebtedness through 'transfer entry'.[574] Direct examination of the 'debt histories' recorded in our credit survey strongly suggests that, according to the official accounting procedures, a large proportion of currently-outstanding loans ought to be considered as fully repaid.

Low recovery of FSS loans, in other words, is not a simple question of low repayment. It is also a symptom of the fact that the fraudulent practices of the Farmers' Service Society make it very hard for some

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[574] Until recently, few Palanpur villagers with debts to the FSS placed their hope in a possible cancellation of debts. The general belief was that '*sarkaar paisa naheen chorti* ', 'the government never gives up its claims'. This may have changed since 1990, when large-scale cancellation of institutional debts took place in Palanpur as in the rest of India.

borrowers to repay their debts without enormous sacrifices. A related point is that the employees of the Farmers' Service Society have little incentive to enforce the recovery of loans. On the contrary, their interest is to take full advantage of the 'transfer entry' system by rolling-over as many loans as possible.[575] Poor managerial incentives to recover outstanding debts may be just as important in explaining low recovery rates in rural banking as inadequate incentives to repay for the borrowers.

2.4 Distribution

Assessing the distribution of institutional credit is not an easy task. A standard procedure is to look at the distribution of *outstanding debts* from institutional sources between different sections of the population. This procedure, however, is not very satisfactory, since repayment rates and accounting practices could be very different for the different groups. An alternative method, which will be followed here, is to look directly at the distribution of credit *issued* during a particular period.

The contrast between the two methods can be briefly illustrated as follows. Data on debts outstanding indicate that 37 per cent of Jatab households were indebted to the Farmers' Service Society in 1984, compared with 40 per cent for all households taken together. The average amount outstanding was also very similar for both groups (about Rs 4,000 per household). This might be interpreted as indicating that Jatabs have more or less the same share of FSS credit, in per capita terms, as other households. However, a detailed examination of the history of FSS lending leads to a completely different conclusion, as we saw earlier: the outstanding debts of Jatab households overwhelmingly reflect the accumulated effects of many years of corrupt accounting practices, and the special difficulties experienced by these households in clearing their debts. If we consider loans issued by the FSS in calendar years 1983 and 1984, we find that none of them went to Jatab borrowers. By that time, Jatabs had probably selected themselves out of a credit system which they had learnt to fear.

Another difficulty in assessing the distribution of institutional credit is that past loans can affect current levels of income and related measures of economic status. The fact that households with high

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[575] The following remark can be found in the margin of one of the questionnaires used in the mid-1984 credit survey: 'He [the borrower] wants to repay the full amount, but says that the FSS staff object'.

incomes in 1983–4 account for a disproportionate share of loans issued during (say) the previous five years could, in principle, reflect either a regressive distribution of loans *or* the fact that institutional credit has succeeded in boosting the incomes of the recipients. This difficulty is not a serious one when loans are small (as in the case of the Seed Store), and therefore unlikely to have a major impact on incomes. But with large loans such as those issued for agricultural investment by the Land Development Bank, the problem is less easily dismissed.

In Table 8, this problem is dealt with, in the case of rural banks, by looking at loans issued to different per capita income groups both before and after the survey year (using information collected from the banks in 1986 and 1987). Corresponding information for the Farmers' Service Society is not available, and the possibility that loans taken from that source in 1983 or 1984 had some positive effect on the incomes of the borrowers in that year has to be borne in mind.[576] Even then, Table 8 strongly suggests that the allocation of credit from public institutions other than the Seed Store is regressive (i.e. richer households have a disproportionate share of institutional loans). Credit from the Seed Store, on the other hand, is quite evenly distributed between different per capita income classes. This pattern is consistent with informal observation. Taking loan *size* into account would, in all likelihood, reinforce these findings, since large institutional loans are typically taken by richer households.

An alternative way of dealing with the difficulty posed by a possible relationship between borrowing and income is to relate the allocation of credit to indicators of economic status that are not likely to be significantly influenced by short-term borrowing opportunities. Caste and land ownership are two good examples, and the corresponding evidence on the distribution of institutional credit is also shown in Table 8. Here again, we find some evidence of a bias against disadvantaged groups, except for Seed Store loans. For instance, while Jatab households have an above-average propensity to borrow from the Seed Store, they did not obtain a single loan from other institutional sources during the reference periods.

The question remains as to whether poor households are *unable*

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[576] Four of these seven loans were issued (and actually used) for the purchase of fertilizer, and two for the purchase of an improved bullock-cart; one was issued for fertilizer purchase but actually used to pay for marriage expenses.

Table 8 : Distribution of Institutional Loans

	Proportion of households which borrowed from the Seed Store in 1983 (%)	Proportion of households which borrowed from the FSS in 1983 or 1984 (%)	Proportion of households which ever obtained loans from rural banks[a] (%)	
			up to and including 1984	from 1984 to 1986
Per Capita Income Groups				
Poorest quintile	23	0	10	3
Second quintile	25	0	7	0
Third quintile	21	4	25	7
Fourth quintile	14	4	32	14
Richest quintile	21	18	32	25
Caste Groups				
Thakur	13	3	27	13
Murao	26	11	19	11
Muslim	20	0	15	10
Jatab	26	0	0	5
Other	21	6	19	8
Landholding Size Group (bighas)				
Landless	19	4	15	4
0.1–5	16	5	16	11
5–15	14	3	20	9
15–30	33	0	25	8
30–50	33	20	27	20
50+	0	9	27	18
All households	21	5	21	10

[a] Excluding the Integrated Rural Development Programme (discussed separately). Only one IRDP loan was issued before the end of 1984.

   Note: The sole criteria used in choosing reference periods for different credit sources are relevance and data availability.

or *unwilling* to borrow substantial amounts from other institutional sources. It would be pointless to seek a general answer to this question. We have met several poor individuals who emphatically stated that they would never dare to borrow from a public lending institution (for fear of being cheated or of not being able to repay); we also know others who have made repeated but unsuccessful attempts to persuade a bank manager to give them a loan. The point is that, in *both* cases, (1) there is a failure of public provision of credit services to poor borrowers, and (2) the root of the problem lies in the discriminatory practices of the public lending institutions.

2.5 The Integrated Rural Development Programme[577]

In connection with the distributional issues examined in the preceding section, we should comment briefly on the implementation of the Integrated Rural Development Programme (hereafter IRDP) in Palanpur, even though IRDP loans started being issued only after the end of the survey year. Indeed, the major distinguishing characteristic of IRDP, compared with other credit schemes, is that loans are supposedly 'targeted' to poor households (defined as households earning an income below a pre-specified poverty line). One might therefore expect that the adverse distributional biases discussed earlier for other sources of institutional credit would be reversed in the case of IRDP. The evidence, however, does not support this hypothesis.

The characteristics of IRDP beneficiaries are summarized in Table 9. Note that the information on household characteristics presented in that table pertains to 1983–4, the year immediately *preceding* the issue of IRDP loans in 1985 (a few loans were also issued in 1986). Thus, this information provides the right basis for assessing whether the scheme has reached the 'intended' beneficiaries.

Table 9 suggests that IRDP has failed in its objective of targeting loans to poor households. The average characteristics of beneficiary households (in terms of amount of land owned, size of operational holding, number of adult males, and per capita income) are quite close to the corresponding averages for the village as a whole.[578]

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[577] This section is based on Drèze (1990b), where a more detailed discussion of the Integrated Rural Development Programme can be found.

[578] Interestingly, the average household income of IRDP beneficiaries is more than *twice* as high as the eligibility cut-off of Rs 3,500 (in spite of 1983–4 being a year of poor harvests and depressed incomes in Palanpur).

Table 9 : Average Characteristics of IRDP Beneficiaries, Compared With Other Households

	Land owned[a] (bighas)	Land cultivated[a] (bighas)	Number of adult males	Household income, 1983–4[a] (Rs/year)	Proportion of households below the poverty line, 1983–4[b] (%)
Average for IRDP households	15.1 (2.0)	17.5 (2.3)	2.0	7,214 (965)	43 (33)
Average for all Palanpur households	18.1 (2.7)	18.5 (2.8)	2.0	6,883 (1,025)	40 (34)

[a]   Per capita figures in brackets.

[b]   Based on a poverty line of Rs 140 per capita per year at 1960–1 prices; in brackets, the proportion of *individuals* below the poverty line.

Note: The information in the first row pertains to 21 households which received IRDP loans in 1985 and (in a few cases) 1986.

Further examination of the distribution of these characteristics also suggests that, if anything, there is a bias against the poorest households in the allocation of IRDP loans. For instance, (1) *none* of the beneficiaries are landless, except a shopkeeper who happened to be in the top decile of the per capita income scale in 1983–4; (2) *all* the beneficiary households have at least one adult male.[579] Also of interest is the fact that the list of IRDP beneficiaries does not include a single female beneficiary.[580] We also note in passing that IRDP beneficiaries include the headman of the village as well as the deputy headman, both of whom are prosperous farmers.

The manager of Prathma Bank readily admitted that IRDP loans were sanctioned with little attention to the official requirement that they should be given to poor households. As far as he was concerned, it was extremely hard to ascertain whether the applicants were

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[579]   On the vulnerability of households without adult males in Palanpur, see chapters 1 and 4, and also Drèze (1990a). Palanpur has 6 households without adult males, and 18 households without a physically fit adult male, none of which are included in the list of IRDP beneficiaries except for the relatively affluent shopkeeper mentioned in the text.

[580]   This may have changed later on, after the introduction of a 30 per cent quota for women.

genuinely below the 'poverty line'. Besides, as a bank manager he had little interest in dealing with poor borrowers, whom he considered to be particularly prone to default.

In conclusion, if we recall that the targeting of credit to vulnerable groups is the main distinguishing feature of IRDP, it is hard to be cheerful about the implementation of this programme in Palanpur.[581] In spite of its claim to the special status of 'anti-poverty programme', IRDP functions more or less like any other form of institutional credit.

2.6 Contrasts in Institutional Lending

Much of our discussion so far has concentrated on the Farmers' Service Society, which accounted for two–thirds of institutional debts outstanding in 1984. The record of this particular institution is poor by any standard, with the transfer entry system playing a major part in this failure. It is quite possible that rural banks, on the whole, function somewhat better than the Farmers' Service Society. The 'cooperative' sector in Uttar Pradesh is notorious for endemic corruption, and the institutional arrangements involved in a 'government-assisted cooperative' certainly provide little protection against unscrupulous managers. The managers of Prathma Bank and the Land Development Bank seem to be more accountable to higher echelons of the banking bureaucracy, and this may explain why we have not found evidence of anything like the transfer entry system in the functioning of these institutions. Having said this, Palanpur residents were able to cite many instances of corruption on the part of rural bank managers, and objective evidence of fraud is also not hard to find.[582] Similarly, the problems of low recovery and regressive

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[581] The other distinguishing feature of IRDP is that loans are 'tied' to the acquisition of specific productive assets. This procedure, which is implicitly based on the dubious assumption that bank managers know better than their clients where the latter's economic interests lie, is itself seriously flawed. See Drèze (1990b) for further discussion, and also Seabright (1989a, 1989b).

[582] For instance, when we visited one of the local Prathma Bank offices (in Jargaon), and examined the bank records, we found that many of the borrowers from Palanpur did not meet the official eligibility conditions. When we pointed this out to the manager, he replied with an embarrassed smile, 'you mean that there is something black at the bottom?'. Later we discovered that a number of these loans had actually been taken by Mahinder Singh, a petty gangster from Chandora (one of the neighbouring villages), in the name of Palanpur gamblers who owed him money.

distribution are not confined to the FSS, as we saw earlier. On the whole, the operational similarities between the Farmers' Service Society and the rural banks are more striking than the differences.

The contrast between the Farmers' Service Society and the Seed Store is more interesting. In comparison with the FSS, the system of seasonal loans in kind operated by the Seed Store works relatively well. We have already noted one aspect of this contrast: unlike the Farmers' Service Society (or, for that matter, the rural banks), the Seed Store lends more to the poor than to the rich. Another distinguishing feature of the Seed Store is that it has a good recovery rate: a large majority of farmers repay their debts at harvest time, as agreed.[583] Finally, there is no evidence of large-scale corruption in the operations of the Seed Store, even though borrowers often complain of receiving under-weight wheat bags and other mild forms of managerial deception.

A number of related explanations can be advanced for this contrast. First, the administrative and accounting procedures of the Seed Store are simple and widely understood. In fact, the Seed Store's system of wheat loans to be repaid with 25 per cent interest in kind after the harvest can be seen as an institutionalized version of the traditional system of deora loans in kind practised by village lenders (see section 5.2). Further, the reliance of borrowing and repayment operations on physical quantities of wheat, rather than on paper money and written entries in account books, makes all transactions clearly visible. This transparency is in sharp contrast with the secretive accounting of the Farmers' Service Society.

Second, all wheat loans given by the Seed Store in a particular year are issued within a short period of time (just before the beginning of the rabi season), and they are also recovered over a short period (just after the wheat harvest). As a result, issue and repayment are to some extent collective processes, with much less scope for harassing individual borrowers than exists in the case of FSS loans. The collective nature of the recovery exercise, together with the conformist instincts of Palanpur villagers, also make it less likely that a farmer will take the bold step of refusing to repay.[584]

Third, the link between harvest and repayment strengthens the

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[583] Discussions with Seed Store employees indicate that the recovery rate on kind loans is high in other villages too.

[584] For a formal analysis of 'peer monitoring' in credit markets, see Stiglitz (1990).

chances of timely recovery. At harvest time, when there is grain in abundance, it is not very difficult to persuade a farmer to part with a small proportion of her or his stocks in order to get rid of a potentially threatening debt. And it is hard for a farmer, at that time, to claim that he or she is unable to pay. Just as private moneylenders seem to find it comparatively easy to recover seasonal deora loans in kind, if necessary by meeting their borrowers on the threshing ground (see section 5), the operations of the Seed Store take successful advantage of this link between harvest and repayment.[585]

Fourth, as was discussed earlier, loans from the Seed Store are small, and take the form of low-quality wheat. This procedure helps to ensure a relatively progressive distribution of credit through self-selection.

Fifth, the employees of the Seed Store have an incentive to recover the loans, since wheat repaid at the end of one year provides the basis for new loans in the following year. In the absence of adequate recovery, the lending operations of the Seed Store are bound to shrink, and the employees may eventually lose their job.

In short, there are useful lessons to be learnt from the relatively successful performance of the Seed Store. Among these lessons are the usefulness of a 'self-selection' device, the importance of transparent procedures, the advantage of linking recovery with the harvest, and the relevance of managerial incentives. At the same time, it must be remembered that the Seed Store serves a rather limited purpose of short-term consumption stabilization. Its mode of operation may not be so easy to emulate when it comes to the more ambitious aim of supporting productive investment.

3. Allies and Patrons

3.1 Introduction

Before commenting on interest-free credit, we should reiterate that the extent of underreporting is likely to be somewhat higher than

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[585] In this connection, it is worth mentioning that the sugar mill mentioned in footnote 8 also has a relatively good repayment record. Here again, there is a link between harvest and repayment, in so far as the mill recovers its advances through deductions from payments for sugarcane deliveries. The system is helped by the fact that clients have an incentive to maintain a good rapport with the government-owned mill, which usually pays a higher price for sugarcane than the private mills.

average for this particular type of credit.[586] Although we feel confident that the overall level of underreporting in the credit data presented in this chapter is quite low (due to careful data collection and extensive cross-checking), some substantial underreporting of interest-free loans cannot be ruled out. Small amounts borrowed for short periods from friends, patrons, or neighbours can be easily overlooked by respondents in a credit survey. The larger interest-free loans tend to be taken from relatives outside the village, which precludes cross-checking, and are sometimes regarded as a private matter, not to be lightly disclosed. The resulting estimates of the importance of interest-free credit must be, if anything, on the low side.

Even then, the available data indicate that interest-free credit plays a significant role in Palanpur's economy. In 1984, interest-free debts outstanding amounted to nearly Rs 24,000, or about 6 per cent of total debt outstanding and 27 per cent of outstanding debt to all private creditors (see Table 10). The share of interest-free credit in debts outstanding is almost as large as that of credit from village lenders or urban moneylenders.

Interest-free loans can reflect a variety of motives on the part of the lender. In a majority of cases, the reported purpose (as stated by the lender) is to 'help a friend or relative', but this response is not very informative. In some cases, an interest-free loan is simply an unrequited favour made by the lender to the borrower, possibly due to genuine concern or to a sense of social obligation (the latter is likely to be particularly important for loans given to relatives). In other cases, the loan is embedded in a broader relationship of 'balanced reciprocity' between the borrower and the lender, involving careful mental accounting of what the partners do for each other and a strong expectation that every gift or favour will be returned at some stage. A third possibility is that the lender sees the loan as a way of gaining the sympathy or loyalty of the borrower. For instance, a village shopkeeper or doctor may occasionally give an interest-free loan in the hope of winning a regular customer; similarly, a farmer who hires a great deal of labour may find it in his or her interest to enter into a patronage relationship, involving occasional interest-free loans, with a particularly skilled labourer.

Turning to the motives of the borrowers, an interest-free loan is likely to be more readily obtainable if the borrower's need for cash

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[586] Following the terminology introduced in section 1, the terms 'interest-free credit' and 'credit from allies and patrons' will be used interchangeably.

Table 10 : Interest-Free Credit from 'Allies and Patrons'

Source	Total debts outstanding in 1984[a] (Rs)	Average debt size (Rs)	Total amount borrowed in calendar year 1983[a] (Rs)
Outsiders:			
relatives	17,250 (15)	1,150	2,950 (5)
others	3,180 (5)	636	200 (1)
Total Outsiders	*20,430 (20)*	*1,022*	*3,150 (6)*
Palanpur residents:			
regular moneylenders[b]			
same caste	400 (3)	133	150 (1)
other caste	1,675 (10)	168	950 (4)
others			
same caste	221 (3)	74	171 (2)
other caste	1,200 (6)	200	400 (1)
Total Palanpur	*3,496 (22)*	*159*	*1,671 (8)*
Grand Total	*23,926 (42)*	*570*	*4,821 (14)*

[a] Number of loans in brackets.
[b] This group consists of six individuals who regularly issue interest-bearing loans (see section 5 for details).

is seen as compelling, urgent, and legitimate; this suggests that the 'purpose' of interest-free borrowing would often be related to some kind of unforeseen distress. The information presented in Table 11 broadly supports this hypothesis: nearly half of outstanding interest-free debts are accounted for by medical expenses and other crisis-related needs, not including expenditure on social functions such as marriage ceremonies and death rites (the obligations associated with these social functions do, in fact, often cause unforeseen financial distress). While a significant proportion (25 per cent) of loans have been classified as taken for 'productive' purposes, it should be noted that even within that category distress can remain an important factor (e.g. when the purpose is to quickly replace draught animals that have been lost at a critical time). The importance of unforeseen distress as a motive for interest-free borrowing contrasts with the predominance of productive investment as a motive for borrowing from institutional sources.

Table 11 : Distribution of Interest-Free Debts to Allies and Patrons, by Reported Purpose (1984)

Purpose reported by the borrower	Amount outstanding[a] (Rs)
Coping with a crisis	4,500 (31)
Medical expenses	2,350 (16)
Marriage ceremonies, death rites, and related occasions	2,430 (17)
Construction of house	1,700 (12)
Productive purpose	3,700 (25)
Total	*14,680 (100)*

[a]   Percentage distribution in brackets (excluding the 'unspecified purpose' category).

   Note: Only debts for which a specific purpose could be identified are included in this table.

As far as the sources of interest-free credit are concerned, the most interesting observation emerging from Table 10 is that the bulk of interest-free credit comes from relatives outside the village. Within the village, there is a certain amount of interest-free lending by regular moneylenders.[587] But interest-free loans from Palanpur residents other than regular moneylenders are few and far between (for instance, only three such loans were issued in 1983).

The large share of interest-free lending coming from relatives outside the village sharply contrasts with the almost total absence of interest-free lending between relatives *within* Palanpur. Given the practice of strict caste endogamy, a loan from a relative living in the village would appear in Table 10 under one of the two 'same caste' categories, although not all loans in these two categories can be assumed to come from relatives. Thus, loans from relatives within the village account *at most* for a paltry sum of Rs 621 outstanding, and for three loans issued in 1983. This contrast is worth pursuing.

3.2 Interest-Free Credit from Relatives

The virtual absence of interest-free loans from relatives within the village tells us something quite important about the relationship between close relatives who live in 'separate' households (nyare). If

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[587]   As explained in section 1,   interest-free loans from persons who also happen to be village lenders are counted as coming from 'allies and patrons'.

it were the case that a strong sense of solidarity often existed between such relatives, one would have expected this solidarity to be visible *inter alia* in a certain amount of interest-free lending.[588] In fact, there is no evidence of such lending, suggesting little economic solidarity between relatives belonging to different households. Direct observation lends some support to this view. For instance, relations between separated brothers in Palanpur are often (though not always) quite strained.[589]

The fact that interest-free credit from relatives living *outside* the village is quite important is also consistent with what we know of family relations in this region.[590] In Palanpur, as in many other parts of north India, there is strict adherence to the rule of patrilocality and village exogamy, with a bride joining her husband's village at the time of marriage and literally 'belonging' to his family thereafter. Wifegivers tend to be considered as 'inferior' to wife-takers, and goods rarely flow from the latter to the former. For instance, a man who happens to visit his married daughter in her husband's village rarely accepts a meal, and if he does he often insists on paying for it. By contrast, goods do flow from wife-givers to wife-takers, most conspicuously in the form of dowry but often also after the marriage ceremonies.

Interest-free credit transactions in Palanpur can be seen to fit into this general pattern. Given the strongly patrilineal and patrilocal kinship structure prevailing in the area, a man's relatives outside the village consist first and foremost of his wife's family, his married daughters and their in-laws, and his sisters and their in-laws. A majority of interest-free loans from relatives have been taken from the first of these three groups, and this agrees with the notion that goods

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[588] One qualification is that close relatives typically have other means of practising solidarity than interest-free lending (including joint living arrangements). On its own, however, this consideration is unlikely to explain the virtual non-existence of interest-free lending among relatives within Palanpur.

[589] In Palanpur, as in much of north India, a sharp dichotomy exists between 'separate' and 'joint' living arrangements (see chapter 1). Within the village, a group of people can either live 'together in the same household' (sajhe), in which case the norm is that they should pool all their resources, or they can live 'separately' (nyare), in which case solidarity gives way to strict independence. Intermediate arrangements are rare.

[590] On family relations in north India, see Altekar (1956), Karve (1965), Shah (1973), Kapadia (1966), Miller (1981), Dyson and Moore (1983), Uberoi (1993), Agarwal (1994), among others. There are, of course, important variations between different castes and religious communities in this respect.

normally flow from wife-givers to wife-takers. Borrowing from one's married daughter or her in-laws, or even from one's sister or her in-laws, would be quite contrary to dominant social norms. It is comparatively easy to obtain a loan from one's father-in-law (or brother-in-law), especially if the latter feels that agreeing to such a request would be of help to his own daughter (or sister).

This is not to say that borrowing from in-laws is altogether unproblematic. Even in this form, borrowing involves some loss of prestige, and lack of timely repayment can easily lead to considerable resentment from the lender. Reluctance to take the risk of spoiling good family relations is a motive that was often given by our respondents for *not* borrowing from relatives.

The importance of interest-free lending between affinal relatives highlights the insurance role of marriage alliances in a risky environment.[591] The convention that support can be obtained from one's in-laws in times of adversity can be seen as a form of social insurance, and village exogamy reduces the problems of covariate risks that would interfere with this insurance system if most marriages took place within the same village. This is not to say, of course, that the insurance role of marriage alliances 'explains' the practice of village exogamy.[592] This insurance role, however, may have contributed to the resilience of traditional marriage practices in north India.

3.3 Interest-Free Credit Within the Village

As Table 10 indicates, a large share of interest-free credit within the village comes from regular moneylenders. About half of that is accounted for by advances on cultivation expenses made by moneylenders to their tenants. Most of the remaining interest-free loans by village moneylenders have been given by Mohan, a somewhat unusual moneylender whose lending practices will be examined in section 5.

Interest-free credit from village residents other than regular moneylenders mostly consists of small, short-term loans between friends or individuals who have some other kind of personal bond. No strong patterns emerge as far as the distribution of borrowers and lenders by

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[591] For an interesting empirical analysis of this question with reference to south India, see Rosenzweig (1988a).

[592] It should also be mentioned that while the practices of patrilocality and village exogamy enhance security for *men,* they create some important forms of insecurity and vulnerability for women, especially widows. For further discussion of this issue, see Drèze (1990a) and the literature cited there.

caste, occupation, income, or land ownership is concerned. One noteworthy observation, however, is the almost complete absence of interest-free lending among members of the Jatab caste. In 1984, only one of them had an outstanding interest-free debt, and none of them reported giving any interest-free loans. It is interesting that the most deprived and vulnerable social group in Palanpur is also the group within which solidarity in the form of interest-free lending appears to be most restricted.

On the whole, the most prominent feature of interest-free lending within the village is perhaps its low overall incidence (see Table 10). One possible explanation for the limited reach of interest-free credit within the village is that short-term income fluctuations are highly correlated across households. Covariate risks (arising, for instance, from common exposure to agro-climatic uncertainties) reduce the scope for reciprocal interest-free lending, since periods of economic hardship for one household are also likely to be periods of hardship for other households.[593] This argument is consistent with the fact that active systems of reciprocal interest-free credit have been observed in some Indian villages where different households face frequent but largely *independent* fluctuations in income, such as coastal fishing villages (see section 6). In Palanpur, by contrast, there is less scope for this type of mutual insurance. Even in Palanpur, however, there is a good deal of idiosyncratic risk, and the potential gains from mutual insurance must be far from negligible.

Note also that, according to many respondents, reciprocal interest-free credit *used to be* quite common in Palanpur, and has sharply declined over the last thirty years or so. This too suggests that covariate risk alone is not an adequate explanation for the limited practice of interest-free credit in Palanpur today, especially since income fluctuations for different households are probably *less* correlated than they used to be, due to the diversification of economic activities and cropping patterns. Another line of explanation is that mutual solidarity has declined over this period precisely because the economic circumstances of different households have become less similar. While economic diversification reduces the problem of covariate risk, it may also lead to a reduced sense of solidarity among households who used to share common circumstances. This interpretation is consistent with local

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[593] On covariate risk as a constraint on the development of credit arrangements in Indian village economies, see Binswanger and Rosenzweig (1986a, 1986b) ; also Walker and Ryan (1990) and P. Dasgupta (1993).

perceptions of the decline of interest-free credit in Palanpur, which is often linked to a general decline of solidarity and mutual assistance in the village.

It is also possible that the main basis of interest-free credit in earlier days was not reciprocity but patronage, e.g. in the form of interest-free loans by the larger employers or landlords to their labourers and tenants. The decline of interest-free credit in Palanpur could then be interpreted in the context of the broader decline of patronage relations, widely observed in rural India. Generally, it is possible to think of interest-free credit as a non-market transaction *par excellence,* and to interpret the decline of interest-free credit in Palanpur as one manifestation of the displacement of personalized relations by market transactions. The decline of reciprocal credit and patronage relations fits in that broader perspective.

4. Urban Moneylenders

Urban moneylenders are usually affluent traders or goldsmiths, often members of the Banya caste (whose traditional occupation is commerce). Since Chandausi is the nearest town, and since the terms on which loans can be obtained are not likely to be less exacting in other towns, Palanpur villagers rarely go beyond Chandausi when they need a loan (although those who work in Moradabad sometimes borrow from moneylenders residing there). For specificity, and since they represent by far the most important group of urban moneylenders for Palanpur, the discussion of this section concentrates on Chandausi-based goldsmiths.[594]

For these goldsmiths, money-lending is an absorbing business. Due to legal restrictions (aimed, officially at least, at the protection of borrowers), the acquisition of a licence is a precondition of lending activities.[595] Even with a licence, goldsmiths are reluctant to lend to members of the scheduled castes, who — in their view — tend to be backed by the government in the event of litigation. Leaving this

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[594]   The factual basis of this section comes partly from our own survey in Palanpur, and partly from detailed information supplied by Shri Madan Lal, a Chandausi-based trader and close friend of one of the field investigators. We are grateful to Shri Madan Lal for his kind cooperation.

[595]   *The Uttar Pradesh Regulation of Money-lending Act 1976*   provides for compulsory registration of moneylenders (section 10), maintenance of liquid assets (section 11), and ceilings on interest rates (section 12).

restriction aside, however, they are willing to lend to anyone who brings the required collateral.

A suitable collateral is, indeed, the essential condition for obtaining a loan from a Chandausi goldsmith. The standard collateral is jewelry — either gold or silver. The value of the collateral is never less than the amount of the loan, and often it is much larger (e.g. twice as large in many cases). This may seem surprising since, with stable relative prices, a borrower is better off selling the collateral and buying it back later on (if possible) rather than taking a loan which has a lower value than the collateral. There are, however, at least two reasons why this argument does not apply. First, relative prices are not stable, and taking a loan ensures that risks arising from the uncertain future value of the collateral are shifted to the lender. Second, and more importantly perhaps, the particular items of jewelry that can be offered as collateral almost invariably have a special value in the eyes of the borrower. Often, for instance, they have belonged to the wife of the borrower ever since her marriage. This means that the cost of adequately 'replacing' these items by purchasing jewelry would be much higher than their own market value. Hence, pawning may remain preferable to selling even when the value of the loan is lower than the market value of the collateral.[596]

One has to invoke similar arguments to explain why interest charges are lower for gold collaterals (typically 2.5 per cent per month) than for silver collaterals (typically 3 per cent per month). Again, with stable relative prices and fungible collaterals, it would be hard to make sense of this observation without invoking some rather convoluted economic model. In practice, however, collaterals of different kinds are not perfectly fungible, and this leaves scope for their carrying different interest rates. For instance, if a goldsmith is more confident about the future price of gold than about the future price of silver, he

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[596] A similar reasoning may explain why, in general, pawned goods consist of durable possessions that have personal value (e.g. land or household furniture) rather than of commodities for which everyone has a very similar reservation price, e.g. grain. Indeed, if borrower and lender have the same reservation price for the collateral, the system breaks down: if the value of the loan is lower than that of the collateral, the borrower is better off selling the collateral and buying it back later (assuming stable relative prices); if it is larger, the borrower has an incentive to default, and the lender is likely to refuse the loan.

or she may demand a higher interest rate from borrowers who offer a silver collateral than from those who offer a gold collateral.[597]

Goldsmiths keep careful written records of loans and repayments. Among the terms of a loan agreement is a date at which the loan is expected to be fully repaid (usually a couple of years). If the loan is not repaid by that date, the lender reminds the borrower in writing that unless the loan is repaid without delay the collateral will be appropriated.[598] If the borrower does not respond, this threat is put into effect.

Urban moneylenders accounted for 6 per cent of all debts outstanding in 1984, and about a third of debts outstanding from private sources (Table 4). This is not very large, but credit from urban moneylenders has a special significance in so far as it is the only important credit source for which no borrower faces any rationing (as long as he or she possesses the required collateral).[599] Hence, the cost of credit from this source may be regarded as an *upper bound* on the marginal cost of credit for collateral-owning households in Palanpur. However, the cost of credit from urban moneylenders is not easy to assess, since one has to take into account not only the interest payments of 2.5 to 3 per cent per month, but also the risk and consequences of losing the collateral.

5. Village Lenders

Let us now turn to the fourth major source of credit identified earlier — interest-bearing credit within Palanpur. For clarity, this section concentrates primarily on the lending activities of the six 'regular moneylenders' mentioned in section 1, who account for

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[597] Ability to produce a gold collateral may also be taken by the lender as a signal that the borrower is relatively wealthy and more likely to repay. Note, however, that goldsmiths may not be particularly concerned about repayment, given that the value of the collateral is usually well above the amount due (and remains above it throughout the agreed period of the loan).

[598] It may be asked why a lender should bother to send a reminder to his client, and why he should accept repayments beyond the agreed date. According to Madan Lal, lenders do this to avoid getting involved in quarrels that could damage their reputation. The written reminder may also have some evidential value in the event of litigation (written reminders are, in fact, a legal requirement).

[599] An important qualification, as we saw earlier, is that urban moneylenders are reluctant to lend to members of the scheduled castes.

more than two-thirds of all interest-bearing debts owed to Palanpur residents.[600] Unless stated otherwise, the term 'moneylender' will be understood in this section to refer to these six individuals. Interest-bearing lending by occasional lenders will be briefly examined in section 5.3.

5.1 The 'Skill' Of Money-Lending

In the literature on credit in rural India, there has been much debate around the question of whether moneylenders have much 'monopoly power'. Interestingly, this debate has not included much discussion of where this monopoly power, if real, might come from. One common idea, which is consistent with the stress on asymmetric information in recent analyses of rural credit, is that moneylenders have privileged information about the characteristics of local borrowers. This statement makes some sense if the comparison is between village money-lenders and, say public lending institutions or urban-based lenders, but it is much less persuasive as an explanation of why money-lending activities are taken up by particular individuals in the village and not others. Moneylenders in Palanpur, for instance, have no obvious informational advantage over other potential lenders. Further, the pool of potential lenders seems to be quite large, judging from the fact that many individuals in the village lend on an occasional basis, and have enough resources to lend more. What, then, is so special about those who *have* become moneylenders?

Characteristics of Moneylenders:

Two of Palanpur's six moneylenders, Dumber and Ram Prakash, lend exclusively to gamblers. There is an active gambling circle in Palanpur (sustained by the regular cash earnings of those who have relatively well-paid jobs outside the village), and in certain circumstances gamblers are prepared to pay extremely high rates of interest (e.g. 20 per cent per week) to obtain a small sum of cash without delay. For those who are able to recover their loans from this rowdy crowd, and who are prepared to overlook the resentment of the village community, lending to gamblers can be an attractive investment. Dumber and Ram Prakash, both gamblers themselves, have firmly seized this

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[600] Note that all interest-bearing loans issued by Palanpur residents (whether regular moneylenders or occasional lenders) have been given to other Palanpur residents; there is no case of inter-village, interest-bearing lending involving a Palanpur resident as the lender.

Table 12 : Regular Moneylenders in Palanpur

	Gulabo	Harpal	Mohan	Nisar
Personal characteristics				
Sex	F	M	M	M
Age	55	65	55	51
Caste	Thakur	Thakur	Murao	Dhobi (Muslim)
Education	Nil	Nil	Nil	Nil
Household characteristics				
Size	9	5	8	11
Number of fit adult males	2	1	2	3
Main occupations	Cultivation	None (landlord)	Cultivation	Cultivation
Land owned per capita[a] (bighas)	6.9 (2)	11.4 (1)	11.3 (1)	1.6 (5)
Land cultivated per capita (bighas)	6.0	2.8	10.4	4.2
Rank in the per capita	4	4	1	3
income scale, 1983–4[b] (1 = top decile, 10 = poorest decile)	(6,417 + 3,361)	(4,705 + 1,232)	(15,888 + 1,706)	(14,366 + 878)
Estimated rank in the scale of per capita wealth (richest household = 1, poorest household = 143)	11	6	4	n/a
Remarks	Largest lender in the village. Widow, head of a joint-family household. Born in Palanpur. Relative of village headman.	Old widower. Lives with deceased son's family, mainly from land rent. Ex-headman. Brother of current headman.	Childless man, living with nephew and family. Often lends at 'low' interest rates, or even interest-free.	Recently migrated to Palanpur. Lends mainly to Jatabs. Sometimes demands land collateral on cash loans.

^a In brackets, the household's rank in the per capital land ownership scale (1 = top decile, 10 = bottom decile).

^b In brackets, our estimate of *household* income in 1983–4(Rs/year), written as the sum of (1) non-interest income (first figure), and (2) a rough estimate of income from moneylending (second figure) based on the data presented in Table 13.

Note: This table omits the two lenders who specialize in gambling-related lending (see text).

opportunity. This is obviously a rather special segment of the village credit market, and we shall ignore it in the remainder of this chapter, except for occasional remarks.

This leaves us with four moneylenders; their characteristics are described in Table 12. The information presented in this table suggests — and this is corroborated by an examination of other economic characteristics of moneylenders and their households — that, in terms of endowments or income, moneylenders occupy an advantaged but by no means exceptional position in the village society. Each of the four regular moneylenders included in Table 12 can be fairly described as a prosperous farmer or landowner. They are all above (usually well above) the median of the village distribution in terms of per capita land ownership, per capita income, and per capita wealth. But only two out of four are in the top decile of the per capita land ownership scale, and only one is in the top decile of the 1983–4 per capita income scale. The ranks of these money-lenders in the per capita income scale were probably lower than usual in 1983–4, because cultivation is their main source of income and this was a year of poor harvests. Indeed, they do rank considerably higher in the scale of per capita wealth (each of the three moneylenders for which the relevant data are available is in the top decile of that scale). Even the wealthiest moneylender, however, only comes fourth in the scale of per capita wealth. While moneylenders are certainly among the better-off households in Palanpur, quite a few other households are in the same league.

Further, it should be noted that the amounts due to these moneylenders are not particularly large (see Table 13). Their average credit outstanding is only Rs 4,232, or about 30 per cent of the average annual income of households in the top quintile of the household income scale. Many households in Palanpur would be able, if needed, to save comparable sums of money; some of them, in fact, save much larger sums for their daughters' weddings, or for productive investment. The possession of exceptional economic endowments or cash resources is not the distinguishing characteristic of moneylenders.

The demographic characteristics of moneylenders are of some interest (see Table 12). The fact that all of them are aged above 50, for instance, may not be an accident. Indeed, recovery tends to be easier when the lender has a higher social status than the borrower. A young man (not to mention a young woman) could easily experience

Table 13 : Outstanding Loans of Four Regular Moneylenders (1984)

Name	Total value of loans outstanding (Rs)				Total number of borrowers
	Interestfree loans	Loans in kind	Interestbearing cash loans[a]	All loans	
Gulabo	300	361	6,363 (50%)	7,024	22
Harpal	0	203	3,058 (37%)	3,261	9
Mohan	484	2,795	1,144 (27%)	4,423	19
Nisar[b]	366	1,053	800 (n/a)[c]	2,219	10
Total	*1,150*	*4,412*	*11,365 (44%)*	*16,927*	60

[a] In brackets, the average (annual) interest rate charged on interest-bearing cash loans. It should be borne in mind that differences in these interest rates between lenders reflect *partly* different lending strategies, and partly also differences in the dates at which loans were issued (with more recent loans typically bearing higher rates of interest, as explained in the text).

[b] Although Nisar was interviewed shortly after the harvest, by which time all his loans in kind (except one) had been repaid, this table describes his credit position *prior* to the harvest.

[c] Instead of charging interest on this loan, Nisar has obtained the right to cultivate a plot of land belonging to the borrower until the loan is repaid (this is the system referred to in the text as 'usufruct mortgage').

Note: This table *includes* interest-free loans (counted elsewhere as coming from 'allies and patrons').

difficulties in this respect.[601] A similar consideration applies to caste. Two of the four moneylenders (Gulabo and Harpal) are Thakurs, and their joint clientele spans the whole spectrum of castes. Mohan is a Murao, a caste ritually inferior to both Thakurs and Dhimars, and his clientele does not include anyone from these two castes. Nisar is a Muslim, and almost all his loans are to poor Jatabs (there are only two

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[601] One of the two moneylenders who specialize in gambling-related loans is in his mid-thirties. But his clients themselves tend to belong to an even younger age group, confirming the age-hierarchy pattern observed here.

exceptions, and in both cases Nisar took the unusual step of demanding a collateral). Overall, moneylenders do seem to have a tendency to avoid lending to persons who have a higher social status than their own.

Given the importance of authority and social status for successful recovery, one might also expect all moneylenders to be men. In fact, Palanpur's leading moneylender is a woman, Gulabo. However, the combination of favourable factors that has enabled her to become a successful moneylender is rather exceptional. First, she is a Thakur (by far the 'highest' caste in the village). This gives her some ascendancy over people of other castes, in spite of being a woman. Second, she commands the respect due to a woman in her mid-fifties who has two adult sons (the eldest son is an active partner in her money-lending business). Third, Gulabo is a close relative of the headman. Fourth, she is a widow, and has a more autonomous and assertive lifestyle than most women under conjugal control. Fifth, and perhaps most importantly, unlike most other women in the village Gulabo was born in Palanpur itself. This means that she has much greater freedom than other Thakur women (who normally have a very restricted lifestyle) to circulate within the village, interact with other persons, and, if necessary, seek the support of male relatives from her own family; it also means that she has a good knowledge of the character and circumstances of many of her potential clients.[602]

Considering education next, it is interesting that moneylenders are *not* well-educated (see Table 12). In fact, they are all illiterate, and none of them has ever gone to school. While three of the four moneylenders considered here have literate sons, it is also quite plausible that illiteracy does not stand in the way of successful money-lending, since credit contracts within Palanpur are never written and since villagers often have an outstanding ability (most evident in the case of shopkeepers) to keep mental records of complicated accounts.[603]

On the whole, moneylenders emerge as rather unremarkable

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[602] This last reason for Gulabo's privileged position among Palanpur women illustrates the connection between patrilocal exogamy and female dependence in north India. For further discussion of this issue, see chapter 1 and Drèze (1990a) with reference to Palanpur, and Kishor (1993) with reference to north India as a whole.

[603] The absence of written contracts is unlikely to be a *consequence* of moneylenders being illiterate. Witnesses are an effective substitute, used even by moneylenders who have literate sons. Also, most borrowers are illiterate and are usually reluctant to sign written documents.

people as far as socio-economic characteristics of the type presented in Table 12 are concerned. While they are all above 50 and illiterate (not a particularly exacting qualification), their characteristics in terms of caste, gender, endowments, and even income are quite diverse and do not set them apart from other prosperous households in any obvious way. So far, there seems to be no important barrier to the profession.

The Enforcement Problem:

At this point it is worth recalling that, with the kinds of interest rates that prevail in Palanpur, and in the absence of lending risks, small amounts of money invested in money-lending would yield phenomenally high returns in a short time. For instance, Rs 1,000 lent at an interest rate of 50 per cent per year in real terms (this roughly corresponds to the current 'standard' for cash loans) would yield almost Rs 60,000 after 10 years. Thus, in the absence of lending risk, one would expect wealthy households to rush to offer a loan as soon as some demand arises (bearing in mind that money-lending is a free-entry activity). In fact, no such eagerness to lend can be observed, and the business of money-lending remains by and large confined to particular individuals.

This observation, together with the finding that moneylenders have no exceptional economic attributes, points to the hypothesis that money-lending is potentially a risky business, and that the distinguishing characteristic of moneylenders is precisely their ability to handle the risks involved. The most important of these risks, of course, is the risk of default; indeed, even small probabilities of default can dramatically reduce the returns to money-lending.[604]

It is quite difficult to assess how high the risk of default really is in Palanpur, especially since we did not systematically collect information on defaulted loans (the focus of the credit questionnaire was on *outstanding* debts). A number of cases of default, however, were mentioned and discussed during the interviews; Table 14 summarizes the available information. Incomplete as it is, this information strongly suggests that default does occur from time to time, and that it is perceived as a real danger by potential moneylenders. The testimonies

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[604] If r is the (real) interest rate, and p the probability of default, then the expected return on an unsecured loan is $[r - p(1+r)]$. To illustrate, if r is 30 per cent and p is 0.2, then the actual return is as low as 4 per cent. For an early discussion of default risk and interest rate determination in developing economies, see Bottomley (1975).

Table 14 : Informal Evidence on Default (Based on Interview With the Lender, Independent Testimonies and Direct Observation)

1. Regular moneylenders
Gulabo
There is very little evidence of any default on Gulabo's loans. However, Gulabo once complained that she had lent Rs 1,000 to Ram Swaroop (a heavily-indebted Dhimar who is known for occasional defaulting), which was never repaid.
Harpal
Evidence on Harpal's ability to avoid default is mixed. Some villagers claim that he rarely fails to recover a loan. But Harpal himself complains of poor recovery and of the 'dishonesty' of many borrowers. He reports default from Jagdish, the village barber, on a loan of grain (worth Rs 232) given in the early 1970s; he has lost hope of recovering the money and considers that he has been cheated.
Harpal no longer lends to Jatabs; he argues that they 'cheat' a lot, i.e. often fail to repay. He also seems to have serious problems recovering his money from some of his debtor-tenants.
It is possible that Harpal's ability to enforce recovery has diminished in recent years: he is growing old, his health is weak, and there are no other adult males in his household. Asked whether moneylending is a profitable activity, Harpal replies 'dandewale ko faida hai', i.e. 'it is profitable for those who enforce their authority with the stick'.
Mohan
Mohan gave no direct information, but independent sources strongly suggest that he occasionally fails to recover a loan (e.g. we heard that Chander Pal, a Jatab labourer, borrowed 50 kgs of bajra from Mohan around 1980 and didn't repay).
Nisar
Nisar, who has the reputation of being a tough moneylender, boasts that 'nobody can cheat me', and independent testimonies lend credibility to this claim. Nisar's understanding with many of his borrowers is that, if they fail to repay, he will demand the right to cultivate their land for a certain period; a threat which he has often put into effect, and which has enabled him to discipline some quite 'disreputable' borrowers.
In 1983–4, Nisar recovered all his deora loans (most of them were to Jatabs), except for a small loan to Lochan, who died in December 1983; but Nisar claims that he will recover that one too, or else cultivate Lochan's land.
Nisar recalls only one instance of default: a few years ago, he allegedly lent Rs 2,500 to Lila Dhar, a Jatab, who never repaid anything. Nisar preferred to give up rather than get into a serious fight with Lila Dhar because, he says, Jatabs are 'protected by the government'.
2. Occasional lenders
Rajinder
Reports having given three loans at 20 per cent per week to gamblers, and that not a single paisa was repaid.
Roomi Singh
Says that 'it can happen that a loan given on deora is not repaid', and gives the following examples of deora loans (to Jatab borrowers) which he never recovered: (1) 75 kgs of wheat to Danni, about 18 years ago; (2) 24 kgs of wheat to Chander Pal, 10 years ago; (3) 48 kgs of wheat to Baboo, about 20 years ago. He has no hope of recovering them.
Ram Singh
Mentions an unrecovered loan of Rs 500 to Naubat (Jatab) about 20 years ago, at 24 per cent interest; nothing was repaid.
Gopal Singh
This household used to be deeply involved in moneylending (perhaps when Gopal's father was still alive), but has given up – possibly because Gopal himself is unable to enforce recovery.

Raghubir
Reports three interest-free loans to Dhimar and Jatab labourers, none of which were recovered.
Bed Ram
Gave Rs 1,140 worth of wheat to Kadde Lal, a Jatab of Akroli, around 1980. Kadde Lal promised to pay the next day, but so far he has not paid. Bed Ram also gave 3 quintals of wheat to Jhargad of Bhoori, who died. He does not expect repayment.
Ram Avtar
Lalji (his father) used to lend occasionally, but he stopped after being 'cheated' (partly by Jatabs) and losing Rs 10,000.
Triloki
Reports default on two deora loans given 7–8 years ago to Jagdish (the village barber) and Mangli (a Jatab). 'I can't afford to get into a quarrel with Mangli because the law is against me'. Triloki says he was 'inexperienced' at the time, and made the mistake of lending for consumption. The four deora loans he gave this year are for seeds.
Prem Shankar
Gave Rs 600 at 2 per cent per month to Ram Swaroop, a Passi railway employee. Prem Shankar recovered Rs 400, but then Ram Swaroop died, and Prem Shankar has little hope of recovering the balance from Ram Swaroop's widow.
Nasir
Reports giving three deora loans in 1983, none of which had been repaid by the time of the interview (July 1984).

Note: This table includes all regular or occasional lenders who reported some useful information on the question of default. The term 'deora' refers to the traditional system of seasonal loans in kind (see section 5.2). Akroli and Bhoori are neighbouring villages.

of occasional lenders are particularly instructive in this respect. Several of them clearly explained that they had, at one stage, ventured to lend money on a regular basis, and that they had given up after failing to recover their loans.

The fact that money-lending is a risky activity is one reason why moneylenders are exclusively recruited among the rich (who are usually less risk-averse). As was discussed earlier, however, wealth alone is not a satisfactory predictor of involvement in money-lending. We would like to suggest that the crucial 'skill of money-lending', which enables particular individuals to deal successfully with the risk of default, is the ability to *enforce repayment*.

Enforcement Procedures:

This suggestion immediately raises the further question as to why some people are able to enforce repayment while others are more vulnerable to default. One possibility that comes to mind is that successful recovery may depend on the willingness and ability of the lender to use physical force, or to threaten borrowers with the use of physical force. However, we have not heard of any case of a Palanpur moneylender beating up a recalcitrant borrower. And the mere threat of violence is not likely to be very effective unless it is actually carried out from time to time.[605]

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[605] In theory, it is possible for the *threat* of physical violence to succeed in preventing default without ever being actually implemented. But this possibility is hard to square with the observation that default does occur quite regularly in Palanpur.

The statement that the use or threat of physical violence on the part of moneylenders is rare in Palanpur has to be qualified, and the qualifications are themselves quite instructive. We can, in fact, report two cases where physical violence does appear to play an important role in enforcing repayment. The first case concerns Vishnu Dutt, the Brahmin moneylender who lives in an adjacent village but owns some land in Palanpur, where he sometimes lends (see section 1). Vishnu Dutt is known for his ruthlessness, and is even said to have committed at least one murder. Any borrower who dared to resist his pressures to repay would be exposing himself or herself to serious physical harm. The second case relates to Dumber, one of the two Palanpur moneylenders who specialize in gambling-related lending. Dumber is the local henchman of Mahinder Singh, a petty gangster who — like Vishnu Dutt — lives in an adjacent village although he partly 'operates' in Palanpur, where he is widely feared. Dumber's dealings with Palanpur gamblers are really a joint venture with Mahinder Singh; unlike other moneylenders in Palanpur, they do resort to physical force from time to time.

Both cases involve the use of violence (or of the threat of violence) by an 'outsider'. It is indeed quite plausible that the use or threat of violence is far more frequently invoked by an outsider than by a resident moneylender, for several reasons. First, outsiders have fewer opportunities than village moneylenders to put pressure on borrowers through non-violent means (based on social norms, peer pressure, reputation effects, etc.). Second, being less familiar with the village community, outsiders are less well placed to avoid the need for physical pressure by making sound prior judgements about the reliability of different borrowers. Third, outsiders have greater freedom to use 'anti-social' practices such as harassing a borrower, in so far as they are less dependent on preserving their good reputation and the goodwill of the village community.

Let us now return to the issue of why some people are better than others at enforcing repayment. Willingness to use violence, we have argued, does not appear to provide an explanation. Ability to obtain a collateral from the borrower is also unlikely to be the clue, since there is no obvious reason why this ability should vary strongly between different individuals; in any case, collaterals are a rare feature of credit

contracts within the village (see section 5.2). Similarly, while 'interlinkage' may help to reduce the risk of default, there is no reason why a small group of lenders should have the monopoly of interlinked credit contracts; besides, interlinked contracts are rare in Palanpur (see Sharma and Drèze 1990; also chapters 1 and 8 of this book). Surprising as it may seem, few credit contracts in Palanpur are backed either by the threat of violence, or by a collateral, or by interlinkage. Nor is it common for the borrower to be in a position of acute economic dependence on the lender (although this can certainly happen), or for any kind of clearly identifiable, tangible sanction to be commonly applied to recalcitrant borrowers.[606] In that sense, the majority of loans are completely 'unsecured', and moneylenders ultimately have to rely on informal persuasion to enforce repayment.

This feature of credit contracts makes it particularly difficult to explain why some individuals appear to have a special ability to enforce repayment. However, we can mention several relevant considerations. First, Palanpur moneylenders strike the observer by their authoritative personalities: they are all individuals whom one would hesitate to antagonize or confront, and who are able to muster influential support from third parties in the event of an argument. Their authority derives partly from characteristics such as age, gender, caste, and wealth, discussed earlier; it also relates to other factors such as personal history, family background, bargaining skills, etc. Second, some members of the village have a special ability to make life difficult for a recalcitrant debtor, deriving from the role they play in its economy and society, and to the connections they have with other influential members of the village. The fact that both Harpal and Gulabo, for instance, are close relatives of the village headman may not be accidental. Third, the ability to *judge a borrower,* and the incentives that he has to repay (given his concern for reputation, his relationship with the lender, the lender's position in society, etc.), must be a major asset in avoiding default on unsecured loans.[607] It seems to be a combination

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[606] Note, in particular, that only a small proportion (15 per cent) of Palanpur households borrow from a single source (and in half of these cases, the single source is a public lending institution rather than a private lender). Interestingly, it is more frequent for a *lender* to have a single debtor — half Palanpur's 38 lenders are in that situation.

[607] The importance of screening devices is well recognized in the literature on rural credit in developing countries; for a good review, see Hoff and Stiglitz (1990). Note that analyses of informal screening mechanisms based on the lender's considered judgement, reputation effects, and related factors appear to be more relevant to Palanpur than those involving more sophisticated screening mechanisms such as indirect screening through choice of interest rate, formal collection of information on borrowers, or peer monitoring.

of attributes and abilities of this type (authority, influence, shrewdness, etc.) that enables particular individuals to become successful moneylenders.

The preceding discussion has a bearing on the debate between those who stress monopoly power as a cause of high interest rates in rural India, and those who see high default rates as the root of the problem. This dichotomy is somewhat misleading, in so far as monopoly power (such as it is) may precisely arise from the fact that some potential lenders are better able than others to protect themselves from the risk of default in a particular setting. In that sense, the risk of default and local monopoly power are better seen as two sides of the same coin.

5.2 Terms of Contracts

Palanpur lenders give loans both in kind and in cash. The modalities applying to these two types of credit contracts are quite different, and it will be useful to consider them separately.

Kind Loans:

Most kind loans are based on a traditional system called 'deorh' or 'deora' (from *der,* meaning 'one and a half'), which has existed in this area for a long time. Under this system, wheat lent at any time before the rabi harvest is repayable at the time of the harvest (in April–May) with an interest of 50 per cent in kind. Usually, deora wheat is borrowed around October, just before the wheat sowing season, but we have encountered instances of deora loans being taken as early as August and as late as February. Deora loans are unsecured (we have not encountered any exception to this rule). They are usually quite small, with the amount of wheat borrowed rarely exceeding 300 kgs. If a loan is not repaid after the wheat harvest, interest and principal are counted as a new deora loan, as in compound-interest accounting. However, the available evidence suggests that most deora loans *are* repaid without delay after the wheat harvest.

Deora loans are typically taken by relatively poor households for consumption purposes. These households tend to come from the

disadvantaged castes (with a particularly high proportion of Jatabs), to own little land, and to have low per capita incomes; see Table 15 for some relevant information. Borrowers not belonging to these groups have usually resorted to deora loans on account of special circumstances causing temporary distress. For instance, of the three Thakurs who took deora loans in 1983, one had been ill for several months and the other two needed extra resources for wedding expenses.

Table 15 : Characteristics of Deora Borrowers, Compared With Other Households

	Households which took deora loans in calendar year 1983	Other households
Per capita land ownership (bighas)	1.9	2.9
Proportion reporting casual labour as a major occupation (%)	63	38
Proportion below the poverty line[a] (%)	63	38
Proportion belonging to the Jatab caste (%)	54	5

[a]   Based on a poverty line of Rs 140 per capita per year at 1960–1 prices.

It is worth noting, however, that only two landless households took deora loans in 1983. Both of them are landless labourers, who borrowed from one of their regular employers. It is plausible that landless households generally have restricted access to deora credit, since the system is effectively based on using the borrower's future harvest as a quasi-collateral. In principle, landless agricultural labourers could attempt to offer their future harvest *wages* as a quasi-collateral, and this is what the two landless labourers in question seem to have done. But future wages are likely to be less persuasive as a quasi-collateral than a future harvest, since a landless labourer may not be in the village at the time of the next harvest, or may not be able to work (e.g. due to sickness).

The involvement of Jatabs in deora borrowing is particularly high (13 out of 19 Jatab households borrowed wheat on deora in 1983).

This observation is particularly interesting in view of the very low involvement of Jatabs in *other* forms of private credit. As was mentioned earlier, interest-free borrowing is rare among Jatabs, and urban moneylenders are reluctant to deal with them as with other scheduled castes. It will also be seen further in this section that Jatabs do not have a single cash loan outstanding with village lenders. For them, deora loans are the only significant source of private credit.

Nisar, the Muslim moneylender, is a specialist in deora loans to Jatab households. In 1983, he gave 9 deora loans to Jatab borrowers, and none to members of other castes. Interestingly, Nisar smoothly recovered *all* his deora loans after the wheat harvest in May 1984, with the possible exception of a small loan of 50 kgs of wheat given to someone who died shortly before the repayment date (see Table 14 for details). This is particularly impressive in view of the fact that the wheat harvest was poor. Nisar's claim that nobody can cheat him (see Table 14) does seem to have some basis.

The real cost of deora loans depends *inter alia* on the date of issue and on price changes over the loan period. In general, the real monthly interest rate on deora loans, say r, can be calculated as

$$r \equiv [(1.5).(1 - d) / (1 + i) - 1] / t,$$

where d is the percentage decline in the price of wheat over the loan period (remember that deora loans are repaid at harvest time, when the price of wheat tends to be relatively low), i is the percentage change in the overall price level and t is the duration of the loan in months.[608] The corresponding formula for the real interest rate (say r') on a cash loan bearing a simple interest of $100q$ per cent per month is

$$r' \equiv [(1 + q.t) / (1 + i) - 1] / t.$$

Around the time of the 1983–4 survey, standard values of q and t were 0.05 and 6, respectively. This implies that deora loans are 'cheaper' than cash loans if and only if $(1.5).(1-d) < 1.3$, i.e. the decline in wheat prices over the six-month period preceding the wheat harvest is greater than 13 per cent. This condition is likely to be satisfied in most years (in 1983–4 itself, wheat prices declined by about 25 per cent during the relevant period). Thus, deora loans seem to be somewhat cheaper than

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[608] This formula assumes that monthly interest charges cumulate on a 'simple' (rather than compound) basis, as is the case with cash loans.

cash loans.[609] This is consistent with the fact that deora loans appear to be less risky than cash loans from the *lender's* point of view.

Indeed, a distinctive feature of deora loans is that lenders seem to find them comparatively easy to recover, as our earlier comments on Nisar's loans illustrate.[610] We have already discussed, in section 2.6, how recovery rates for seasonal kind loans from the Seed Store are higher than for cash loans from the Farmers' Service Society. It is probably for similar reasons that default appears to be less frequent on deora loans than on cash loans, judging from the experience of 1983–4. In particular, the possibility of meeting a borrower on the threshing ground gives lenders some protection against default. Even then, default does occur from time to time, as the testimonies presented in Table 14 indicate.

Before concluding on kind loans, we note that the deora system has a long history in Palanpur, and that even the precise terms of deora loans have remained unchanged over an extended period. The system already existed in its present form in 1957–8, at the time of the first survey of the village. We might add that very similar systems of seasonal loans in kind have existed elsewhere in India for a long time. For instance, deora is mentioned in William Crooke's nineteenth-century glossary of north Indian peasant life (Crooke 1989: 166), where it is described in the same terms as those applying in Palanpur today. There is also much historical evidence of the existence of the deora system, or some local equivalent, in many other parts of north India in the nineteenth century.[611]

Cash Loans:

Like kind loans, cash loans from village lenders are usually small, short-term, and unsecured, and they bear high interest rates. There are, however, some important differences in the terms of cash loans compared with those of kind loans (other than the choice of numeraire).

First, in the case of cash loans interest is *simple* rather than compound, i.e. unpaid interest is not added to the principal to form the

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[609] Uncertainty considerations could either reinforce or qualify this conclusion, depending especially on whether wheat prices are more uncertain than other prices, and on the weight of wheat in the price index.

[610] The fact that seasonal loans in kind tend to have good recovery rates has also been observed in a number of other studies (see section 6).

[611] See e.g. Pouchepadass (1983) on Bihar, Whitcombe (1972: 164) and Appendix I of the Famine Commission report of 1880 (p. 194) on Uttar Pradesh, and Brennan *et al.* (1984: 10) on Bengal.

basis of future interest calculations. This contrasts with the system of compound interest outlined earlier for deora loans.

Second, cash loans can, in principle, be taken and repaid at any time. The same interest rate applies throughout the year. Interest rates are stated in monthly terms, e.g. the traditional '*adhanni*' system (from *adha,* one half, and *anna,* one sixteenth of a rupee) implies interest payments of one half anna per rupee of principal per month.

Third, the interest rates applying on cash loans are much less 'standardized' than is the case with deora loans. While a recognized 'norm' usually exists in a particular year (e.g. the standard interest rate on cash loans was 5 per cent per month in 1983–4), the norm does change over time, and even at a particular time some variation can be observed around the prevailing norm. The deviations from the norm may reflect particular features of the loan (e.g. the provision of collateral may lead to some reduction of interest rate), as well as inter-personal variations in contractual terms (e.g. a tenant is sometimes able to obtain a loan on concessional terms from her or his landlord).

The last point, and the particular issue of inter-personal variations in contractual terms, deserves elaboration. Before proceeding, it is useful to recall the important role played by village-level norms in the specification of contractual terms for the exchange of production factors, especially those (e.g. land and labour) that are mostly traded within the village. In the case of casual agricultural labour, for instance, a 'standard' daily wage is found to apply at a particular time (6 rupees per day in late 1983), and daily-wage labour contracts rarely deviate from this standard, despite substantial and observable differences of productivity between labourers. Similarly, all sharecropping contracts follow accepted norms (e.g. concerning input and output shares), leaving little scope for bargaining between individual tenants and landlords, despite known variations in land quality, farming skills, etc. Thus, many important contracts are 'standardised', despite relevant differences in personal characteristics, and to a large extent this applies to credit contracts as well.[612]

We have already noted this feature in the case of kind loans: the deora system defines impersonal contractual terms that apply

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[612] For further discussion, see chapter 1. As noted there, the pervasive influence of village-wide norms (the going daily wage, the standard sharecropping contract, the prevailing interest rate, etc.) on the terms of individual contracts has been observed in a number of other villages studies in India.

Table 16 : Interest Rates on Interest-Bearing Cash Loans, by Date of Issue

Interest rate (%/month)	Number of loans issued by four regular moneylenders in different years[a]				Number of loans outstanding at the time of the credit survey (1984)
	before 1982	1982	1983	1984[b]	
1.5	Mohan (1)	–	–	–	1
2	Harpal (1)	Mohan (1) Gulabo (1)	–	–	3
3	Gulabo (1)	–	Mohan (1)	–	2
3.5	Harpal (1)	Harpal (2) Gulabo (2)	Harpal (1) Gulabo (1)	Gulabo (1)	8
5	–	Gulabo (1)	Nisar (1) Gulabo (3)	Gulabo (4)	9

[a]   For want of better information, only loans outstanding at the time of the credit survey in 1984 have been recorded in this table. This is the main reason for the small number of loans issued in early years.

[b]   The coverage of loans issued in 1984 is quite incomplete, as the credit survey took place in the middle of that year.

Note: For clarity we have, in this table, regarded the traditional adhanni system (see text), equivalent to 37.5 per cent per year (or 3.125 per cent per month), as identical with 3 per cent per month, and indeed we have no indication that the two rates are considered as different. Similarly with 40 per cent per year vs 3.5 per cent per month, 25 per cent per year vs 2 per cent per month, and 19 per cent per year (one quarter-anna per rupee per month) vs 1.5 per cent per month.

irrespective of the identity of the borrower or lender. In the case of cash loans, however, the situation is a little more complicated.

Table 16 indicates the distribution of outstanding interest-bearing cash loans from Palanpur moneylenders by date of issue, interest rate, and identity of the lender.[613] It can be seen (from the last column) that cash loans outstanding in 1984 carried quite a wide range of interest rates, from 1.5 to 5 per cent per month. However, a large part of this variation arises from differences in dates of issue, with more recent loans carrying higher interest rates. This pattern arises because (1) the (nominal) interest rate applying to a particular loan is fixed once and for all at the time of the initial contract, and (2) the 'standard' interest rate on cash loans has been steadily increasing in recent decades, from 2 per cent per month in the 1950s to 5 per cent per month in 1984. But this does not mean that differences in interest rates on outstanding loans can be entirely attributed to differences in dates of issue, and that in any particular year a well-defined standard rigidly applies to all credit contracts. There are, in fact, three important sources of departure from the prevailing norm.

First, there are periods when the standard interest rate is undergoing change, and within those periods it may not be completely clear what the current standard actually is. When we re-visited Palanpur in 1985 and 1986, we were consistently told that the 'going rate' for interest-bearing cash loans was 5 per cent per month, and our survey data suggest that this standard was already widely accepted by mid-1984.[614] During the survey year itself, however, the move to this new standard (from the earlier standard of 3.5 per cent per month) was still in progress, and it would have been hard at that time to describe 5 per cent as the accepted norm. As Table 16 suggests (and this is also corroborated by direct enquiry), it is Gulabo, the elderly widow, who took the lead in setting the new 5 per cent standard — until 1984 most loans at that rate had been issued by her. Between 1982, when Gulabo first charged 5 per cent on a loan, and 1984, when she charged 5 percent

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[613] It should be borne in mind that the information presented in Table 16 is restricted to cash loans that were outstanding at the time of the survey. Since cash loans often have a short duration, this table does not give a reliable idea of the total number of loans issued in different years; however, it does provide useful indications about the *distribution of interest rates* in different years, and this is what concerns us here.

[614] Out of 7 interest-bearing cash loans issued in 1984 and recorded in our credit survey, 6 were given at an interest rate of 5 per cent per month (5 of these 7 loans were given by Gulabo and the other two by occasional lenders).

on *all* her loans (except one for which she obtained a collateral), and when even 'occasional lenders' were found to apply that standard, the bulk of cash loans were issued *either* at the 'old' interest rate of 3.5 per cent per month *or* at the 'new' rate of 5 per cent per month, with the latter rate becoming gradually more common.[615] There was, during that period, some ambiguity about the current standard.

Second, there are variations in lending policy between different moneylenders, which can include some deviation from accepted interest rates. The most important example concerns Mohan, an affluent Murao farmer who charges lower interest rates than other moneylenders and often gives interest-free loans (see Tables 13 and 16).[616] One of the likely motives for this tendency to lend at concessional rates is calculated patronage. For instance, in order to cultivate his large landholding with little family labour, Mohan depends on regular and loyal services from several agricultural labourers; giving them interest-free loans is a helpful means of maintaining a good rapport with them, which Mohan explicitly uses. However, some of Mohan's interest-free loans (e.g. to a destitute widow of the Passi caste) would be hard to explain in this way, and some people in the village also attribute his soft lending policies to a paternalistic or altruistic disposition, possibly related to his being childless.[617] Be that as it may, it is clear that the 5 per cent standard does not apply to Mohan.

Finally, individual moneylenders occasionally discriminate between different clients, charging higher interest rates to some than to others. Usually, this takes the form of granting loans at 'concessional' rates to relatives, tenants, or persons with whom the lender has some other kind of special bond. A comparatively low interest rate may also apply when the borrower provides a collateral (e.g.

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[615] During that period, three 'concessional' loans were also issued, at a rate lower than 3.5 per cent per month (see Table 16) : one by Gulabo to a relative and two by Mohan who, as will be explained shortly, is a somewhat unusual moneylender and often lends at concessional rates.

[616] Mohan has several outstanding deora loans (see Table 13), and for those loans he does follow the standard rule of charging 50 per cent in kind. Informal evidence, however, suggests that he does not always enforce full repayment, at least from poor borrowers.

[617] The view that Mohan's compassionate attitudes are related to his having no children was expressed by several commentators in Palanpur. For instance, one very poor agricultural labourer who occasionally gets an interest-free loan from him said: 'Mohan thinks that he has no children because he has done something wrong in an earlier life, and he hopes that his good actions will bring him reward in future lives'.

Gulabo gave a loan at 3.5 per cent per month in 1984 to a Teli farmer who gave her the ownership certificate of one of his buffaloes for the duration of the loan). Conversely, an acquisitive moneylender may charge an unusually high interest rate to a borrower who is desperate to obtain a loan after being turned down by other lenders; the most obvious example of this type of price discrimination based on temporary monopoly power is that of gambling-related lending.

On the whole, the application of village-wide contractual norms is clearly less rigid in the case of cash loans than in the case of kind loans. An identifiable norm usually does exist for interest rates on cash loans, and moneylenders tend to refrain from departing from that norm unless they have compelling and socially 'legitimate' reasons to do so (e.g. a special relationship with the borrower); in particular, we find little indication of moneylenders discriminating between different borrowers based on their perceived trustworthiness, endowments, track record, and related characteristics.[618] As the preceding discussion indicates, however, there are periods of transition when a single norm may not apply, and there are also other possible sources of interpersonal variations in interest rates on cash loans.

A full explanation of this particular contrast between kind loans and cash loans will not be attempted here.[619] We shall merely observe that kind loans and cash loans are, in an important sense, complementary. Deora loans in kind provide a simple, predictable, and well-tested system to enable poor households to plan for their subsistence needs over the year. Cash loans complement this basic structure, by providing additional short-term borrowing opportunities on terms that can be — to some extent — adjusted according to the circumstances of the borrower and the lender. It is more helpful to consider cash and kind loans as two aspects of one credit system than to contrast them as if each stood on its own.

5.3 Occasional Lenders

So far in this section, we have concentrated on 'regular moneylenders'. Before moving on, it may be useful to comment briefly on

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[618] Kaushik Basu (personal communication) reports a similar observation for the village of Navadhi (Hazaribagh district, Bihar): local moneylenders charge a uniform interest rate to all borrowers. As it happens, the standard interest rate in the late 1980s was the same as in Palanpur (5 per cent per month).

[619] For a general discussion of the contrast between 'personalized' and 'standardized' contracts in rural India, see chapter 1.

the contribution of 'occasional lenders' to the credit market. As explained in section 1, we consider as an occasional lender any person who had at least one interest-bearing loan outstanding at the time of our credit survey in 1984, and who was not a regular moneylender.

We were able to identify 14 such lenders. Most of them (10 to be precise) had only one interest-bearing loan outstanding, and only one had more than three loans outstanding. Almost half of the 23 loans issued by these 14 occasional lenders were deora loans in kind. Out of 12 cash loans, 8 bore an interest rate of 3 to 5 per cent per month, and the remainder were issued either on the basis of 'usufruct mortgage' or under unknown terms.

We have recorded only two cases of interest-bearing cash loans issued by occasional lenders during the first half of 1984 (recall that our credit survey was carried out in mid-1984). Interestingly, both loans were given at an interest rate of 5 per cent per month, supporting the notion, discussed in the preceding section, that this interest rate had already become the new 'standard' in 1984.

The single occasional lender with more than three loans outstanding in 1984 is an interesting case. This lender, who appears in Table 14 under the name of Triloki, is an upwardly mobile farmer who belonged to the second-richest decile of the per capita income scale in 1983–4. He reported four deora loans (issued in 1983, and adding up to 300 kgs of wheat) and one interest-bearing cash loan. He also told us that, seven or eight years earlier, he had made the mistake of lending 175 kgs of wheat to two poor individuals (a Jatab labourer and the village barber) for consumption purposes, which he never recovered. He further explained that in 1983, being 'more experienced', he had taken care to lend wheat only for sowing purposes, and that he was much more hopeful of recovering his loans this time. He may be disappointed, and join the ranks of those who have failed in their attempts to earn effortlessly through money-lending. But if his new lending strategy proves effective, and if his economic status continues to improve, it is also possible that this 'occasional lender' will gradually emerge as another 'regular moneylender'.

While occasional lenders account for a relatively small share of outstanding interest-bearing loans (about half of the corresponding figure for regular moneylenders), the fact that there are as many as 14 of them in a small village of 143 households is quite impressive and is an important aspect of the structure of the market. As we saw earlier, not everyone can be a successful moneylender, even with a lot of

money; in that sense, established moneylenders enjoy some potential monopoly power. The fact that the regular moneylenders have, to some extent, segmented their clientele (with, for instance, Nisar having built a special relationship with Jatab borrowers) further enhances this feature of the local credit market. But the possible entry of occasional lenders, which Triloki's story aptly illustrates, qualifies these observations. At the very least, the monopoly power of regular moneylenders, such as it is, has to be seen as potentially contestable.[620]

5.4 Motives and Characteristics of Borrowers

Since interest-bearing loans from village lenders are the most expensive source of credit, and since advance planning of cash flows gives many households a good chance of obtaining loans, if necessary, from alternative sources, loans from village lenders (especially cash loans) are usually taken to deal with some unanticipated and pressing need for extra resources, e.g. as a result of illness. Given that poor households tend to be more vulnerable to this kind of distress, and to have more restricted access to other sources of credit (such as institutional credit or collateral-based credit from urban moneylenders), one would expect the clients of village lenders to consist mainly of poor households.

There is much formal and informal evidence that this expectation is basically correct, but it needs to be qualified in at least three ways. First, we have to remember that in a village like Palanpur wealth is often held in the form of rather illiquid or indivisible assets such as land, agricultural equipment, buildings, and animals. As a result, even relatively affluent households can be affected from time to time by a pressing need for cash that leads them to knock at the door of a village moneylender. In fact, Palanpur moneylenders themselves have been observed to take interest-bearing loans from other private lenders — though usually outside the village — in times of temporary cash shortage (e.g. to cope with wedding expenses).

Second, it should also be borne in mind that not all loans from village lenders are expensive. While the standard interest rate in

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[620] A more extreme assumption, which has been used in some recent analyses of informal credit in developing countries (e.g. Aleem 1990, Hoff 1992, Hoff and Stiglitz 1992), is that the structure of the market conforms to the 'monopolistic competition' model. This model, however, relies crucially on the assumption that there are substantial fixed costs in moneylending; while such costs have been well-documented in some specific contexts (see Aleem 1990), it is difficult to see what they might be in the case of Palanpur.

Palanpur is now 5 per cent per month, which is certainly high, we have seen that 'concessional' rates apply in a variety of circumstances. For these concessional loans, it is more doubtful that the typical pattern is one where the borrower is a poor household in a situation of distress.

Third, moneylenders are often reluctant to give loans to *very* poor households, on the grounds that they have little capacity to repay. This is what prompted Mahavir, the landless labourer mentioned in the introduction, to assert that nowadays 'no one gives a loan to a poor man' — a statement which we have also heard from other respondents. Moneylenders themselves sometimes told us of their reluctance to deal with indigent borrowers. A related observation, made by some labourers, is that deora loans are not easy to obtain for those who have no land ('*mehanat se milta hai*', 'it takes a lot of effort [for a landless labourer] to obtain these loans'). This assertion is consistent with our survey data, and with the notion that deora loans are essentially based on using the borrower's harvest as a quasi-collateral (see section 5.2).

Finally, the survey data indicate that Jatab households did not have a single cash loan outstanding in 1984. This is primarily a reflection of the fact that village lenders are reluctant to lend to Jatabs (this was repeatedly confirmed in informal discussions with borrowers and lenders). Like urban moneylenders, village lenders are convinced that Jatabs are 'protected' by the government.[621] It is possible that some of them also consider Jatabs as unreliable partners, either out of prejudice or from past experience. Deora loans, however, are considered by lenders to be relatively safe, and, as we saw earlier, Jatabs frequently borrow on those terms.

5.5 Trends in Interest Rates

Using information from earlier surveys of the village (in 1957–8, 1962–3 and 1974–5), as well as recall data collected in 1984 and 1985, we can infer that the recent course of the 'standard' interest rate for cash loans in Palanpur has included the following steps: 2 per cent per month in the 1950s, 3 per cent per month in the mid-1970s, 3.5 per cent in the early 1980s, 5 per cent per month in the mid-1980s. This

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[621] Relatedly, they also believe that lending to Jatabs is illegal in Uttar Pradesh. We found no mention of such a restriction in legal documents, but the issue here is more the perception of the law than its actual content. Similarly with the notion that Jatabs are protected by the government, for which we found no independent support.

involves an increase of *real* interest rates from about 2 per cent per month in the 1950s to a little over 4 per cent per month in the mid-1980s.[622]

An interesting aspect of this increase in interest rates over time is that it has taken place along with a major *expansion* of credit from public institutions. In 1957–8, the total amount due by Palanpur residents to public lending institutions was only Rs 7,322.[623] By 1984, this figure had increased to Rs 339,607, or about Rs 64,000 at 1957–8 prices. It would have been reasonable to expect such a large expansion of subsidized credit to lead to a decline, or at least to prevent a sharp increase, in private interest rates. This, in fact, has not happened.

One possible explanation is that, over the period under consideration, the transformation of agricultural technology (the so-called Green Revolution) has caused a surge in credit demand and in the marginal productivity of capital, only partly compensated by the expansion of institutional credit. This argument is quite appealing, since an increase in the marginal productivity of capital (which is also the opportunity cost of funds for money-lending farmers) would lead to an increase in interest rates charged by village moneylenders under a wide range of assumptions about market structure. Even today, however, the marginal productivity of capital in agriculture can hardly be higher than, say, one per cent per month in real terms (otherwise one would see some farmers in Palanpur getting quite rich in a relatively short time). Thus, we can safely assume that the opportunity cost of capital for money-lending farmers has increased by less than one percentage point (in monthly terms) since 1957–8. Meanwhile, real monthly interest rates have increased by a little over two percentage points. Thus, it is not obvious that the recent increase in the marginal productivity of capital provides a satisfactory explanation for the entire increase of interest rates over the survey period; the adequacy of this explanation would depend on the precise assumptions about market structure, default rates, and other bases of the wedge between real interest rates and the opportunity cost of capital.

Another hypothesis is that the propensity of borrowers to default has

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[622] The annual inflation rate, negligible in the 1950s, was of the order of 7 per cent in the 1960s, 9 per cent in the 1970s and 9 per cent for the first half of the 1980s (calculations based on the Wholesale Price Index series reported in Chandhok *et al.* 1990).

[623] Ansari (1964: 56). At that time, the Farmers' Service Society was the only source of institutional credit in Palanpur.

increased; this, too, would lead to an increase of interest rates in a wide range of models. Palanpur villagers are certainly fond of saying that borrowers have become less honest and reliable than they used to be. And it is plausible that, as mutual dependence among members of the village society declines (e.g. because of closer integration with the wider economy), and as the personal bonds of the traditional social order weaken, less reliance can be placed on the concern of a borrower for his or her reputation.[624] But the notion that default has become more common may also reflect misplaced nostalgia for the 'good old days', or some other cheerful illusion about how things used to be in the past.

A third line of argument is the following. Interest rates in Palanpur reflect some monopoly power on the part of a small number of regular moneylenders who have the ability to enforce repayment. Further, the expansion of institutional credit, with a pronounced bias in favour of privileged households, has largely taken care of *anticipated* cash requirements, leaving the distress cash needs of poor households to be met by village lenders. As a result, the demand for private credit, which may have shrunk in quantitative terms, has also become more *inelastic,* leading, under monopolistic pricing, to an increase in interest rates.[625] Institutional credit may also have soaked up the 'good risks', leading village lenders to deal with greater exposure to default by charging higher interest rates.

In connection with the last argument, the findings of another detailed empirical study of credit in rural India, by M.J. Bhende (1983, 1986), are highly relevant.[626] This study includes an instructive comparison between three villages of Maharashtra and Andhra Pradesh. In the first village, Aurepalle, institutional credit is poorly developed, and private moneylenders are the main source of credit. As a result, a large amount of borrowing from private sources is found among all classes of households, and interest rates are relatively low (between 18 and 24 per cent per year). By contrast, in the other two villages

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[624] Opportunities and incentives to default may also have changed. For instance, there is now greater scope for out-migration, which is a major escape route for those who have accumulated crippling debts.

[625] A similar possibility emerges in some models of monopolistic competition in rural credit markets; see Hoff and Stiglitz (1992). Note that the effect of an expansion of institutional credit on private interest rates depends not only on the degree of monopoly power among moneylenders but also on the extent to which they were initially able to exercise price discrimination between different borrowers.

[626] See also Walker and Ryan (1990: chapter 7).

(Shirapur and Kanzara), institutional credit is well developed, with a major bias in favour of large farmers (as in Palanpur). For these two villages, where interest rates charged by private lenders range from 25 to 120 per cent per year (again, much as in Palanpur), the author makes the following observations:

> In Shirapur and Kanzara moneylenders operate on a small scale. Money-lenders serve a residual group of individuals who cannot obtain credit from institutional sources or their friends and relatives. They are high risk clients paying correspondingly high costs.[627]

Thus, counter-intuitive as it may seem, there is a distinct possibility that the growth of subsidized institutional credit in rural India has sometimes exerted an *upward* pressure on private interest rates. This development, if real, is especially striking in view of the fact that one of the major official motivations for promoting the growth of public lending institutions in rural India has been to break the monopolistic power of moneylenders and drive down rural interest rates.[628]

6. Credit Institutions in Comparative Perspective

There is a great deal of variation in the nature and functioning of credit institutions in different parts of India.[629] In this section, we

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[627] Bhende (1986: A-123). In a comparison between two villages of Tamil Nadu, Konur and Gokilapuram, Swaminathan (1990b) also notes that 'Gokilapuram, the village with greater access to formal credit, [and] higher levels of production . . . had higher rates of interest on informal credit transactions' (p. 46). Further, the evidence on change in Gokilapuram between 1977 and 1985 (a period of rapid expansion of institutional credit) 'contradicts the widely-held view that the expansion of formal banking systems, and improvements in agricultural production, lead to a reduction in the rates of interest charged in the informal sector' (pp. 8–9). For a different view elsewhere, see Iqbal (1988), Athreya *et al.* (1990) and Harriss (1991).

[628] Many official documents on this subject, from the British colonial administration onwards, explicitly refer to that objective. To cite one early example, in its discussion of the need for 'the establishment of agricultural banks', and after reviewing money-lending practices in rural areas, the Famine Commission Report of 1880 (Appendix 1, p. 194) argued: 'One of the greatest advantages consequent on the establishment of such [agricultural] banks will be that money-lenders will *necessarily lower their rates,* and the cause of the cultivators' grievance, the exaction of high rates of interest by the money-lenders, *will be removed without difficulty* ' (emphasis added).

[629] The term 'credit institution' should be understood here in a broad sense, which refers to different arrangements through which people can borrow and lend.

present a brief comparison of our empirical findings on credit institutions in Palanpur with those of similar studies elsewhere. The comparison suggests two interesting features of regional variations in credit institutions: (1) in many respects, the functioning of *specific institutions* is remarkably similar in different regions, and (2) to a large extent, regional variations take the form of differences in the *institutional composition* of the credit market.

To begin with, we note that the broad categorization of credit sources outlined in section 1 of this chapter for Palanpur seems to be widely applicable, even though the precise content of each category varies (for instance, there are many different kinds of 'urban money-lenders'). Accordingly, the discussion in this section continues to be structured around the four major sources of credit identified there.

Public Lending Institutions:

As noted in section 5.5, formal institutional credit has dramatically expanded in Palanpur during the last 40 years or so. There is considerable evidence that a similar expansion has taken place in most regions of India, leading to a major change in the composition of rural credit in favour of institutional sources.[630]

The contribution of formal credit institutions to rural development is hard to assess. Farmers and agricultural labourers are certainly in great need of well-functioning credit arrangements at reasonable rates, but the failures of public lending institutions are also far from negligible. We have noted their bureaucratic, corrupt, and inequitable mode of functioning in Palanpur, and it is fair to say that similar — though not always equally critical — observations on institutional credit in rural India have been made in a large number of other studies.[631]

The distributionally regressive impact of public lending institutions, in particular, has been extensively documented.[632] This can take at least four different forms: (1) larger farmers have a disproportionate

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[630]　See e.g. Bell (1990a) for a discussion of the evidence. The author argues that official figures may overstate the importance of formal institutional credit, but the basic trend is firmly established.

[631]　For some relevant evidence, see Kamble (1979a, 1979b), Bhende (1983, 1986), Swaminathan (1986, 1990b), Copestake (1987), Dey (1987), Gupta and Shroff (1987), Chen (1988), Sarap (1986, 1987), Braverman and Guasch (1989), Drèze (1990b), Gill (1990), Walker and Ryan (1990), Olsen (1996), among others.

[632]　See Bell and Srinivasan (1985b), Binswanger and Rosenzweig (1986b), Bhende (1986), Iqbal (1988), Bouman (1989), Krishnan (1990), Banik (1992), among others. For a telling case study, see Sarap (1987).

share of subsidized institutional credit (this finding emerges in most available studies); (2) larger farmers have higher default rates, largely due to their greater clout and privileged connections (Bhende 1986, Sarap 1987); (3) larger farmers effectively pay lower interest rates, because they take larger loans with lower transaction costs (Banik 1992); (4) disadvantaged groups are the principal targets of fraudulent accounting practices (as our case study of Palanpur illustrates). As Bell and Srinivasan (1985a) aptly put it with reference to institutional credit in rural Punjab, 'the ruling principle appears to be: "to him that hath shall be given", although the poor are by no means wholly excluded' (p. 10).

Urban Moneylenders:

As in Palanpur, the main urban-based sources of informal credit in rural India usually consist of pawnbrokers (often goldsmiths) and/or traders.

The basic rules of pawnbroking in different regions tend to be strikingly similar to those described in section 4 for Palanpur.[633] Common features of particular interest are the lending strategies of pawnbrokers, the range of interest rates, the link between interest rate and collateral type, and the relationship between the value of the collateral and the value of the loan. For instance, it seems to be a common practice among pawnbrokers to ask for a collateral of about twice the value of the loan.[634] Another finding of interest is that the role of pawnbrokers in the rural economy has been growing quite rapidly in recent years, in some regions at least (Bouman 1989). This expansion may be a reflection of the growing links between the rural and the urban economy, and also of growing opportunities for profitable 'arbitrage' between public lending institutions and the informal credit market in rural areas.

Several recent studies bring out the important — and growing — role of urban-based traders as moneylenders in some regions of India. These regions tend to be those with a relatively advanced and commercialized agriculture, and well-developed economic links between rural and urban areas, e.g. Punjab (Bell 1990a) and parts of TamilNadu

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[633] See Bouman and Houtman (1988) and Bouman (1989) for an enlightening survey, and Sarap (1987, 1991b) and Swaminathan (1990b) for more recent case studies.

[634] See Platteau, Murickan and Delbar (1985: 79), Bouman (1989: 83), Swaminathan (1990b: 27–8), for evidence from Kerala, Maharashtra, and Tamil Nadu respectively; also section 4 of this paper.

(Swaminathan 1990b, Harriss 1991), Maharashtra (Bouman 1989) and Andhra Pradesh (Da Corta 1993). The role of traders as rural moneylenders is not new (see for example, Harper 1958, for a detailed account of the moneylending activities of arecanut merchants in Mysore in the 1950s), but it does seem to have grown quite rapidly in recent years, along with other links between urban-based traders and the rural population. Having said this, the importance of tradelinked credit in India's rural economy appears to have been somewhat exaggerated in some recent studies, to the point of being transformed into a ghost 'stylized fact'.[635]

Loans from traders often consist of advances on future sales of agricultural produce, and this has led some researchers to consider them as a form of 'interlinkage'. It is not entirely clear that the term 'interlinkage' is more helpful than the term 'advance' in this context. Essentially, trade-linked credit consists of treating future sales as a quasi-collateral, much as in the case of seasonal loans in kind (where the future harvest plays a similar role, as discussed in section 5.2). There is no great advantage in obscuring the operation of this fairly transparent arrangement by using the term 'interlinkage', with its convoluted connotations. Note also that borrowing from a trader does not necessarily take the form of an advance on future sales. Traders have cash, and often belong to mercantile castes with high business skills; it is quite natural for them to supplement their trading activities with some money-lending, without necessarily 'interlinking' the two.

Interest-Free Credit:

The empirical evidence on interest-free credit in rural India is relatively meagre. Many studies of rural credit list

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[635] See particularly the otherwise enlightening symposium papers on 'Imperfect Information and Rural Credit Markets' published in *World Bank Economic Review*, September 1990. Hoff and Stiglitz (1992: 7) go so far as to say that 'the dominant role of trade-linked credit in informal lending' is 'a striking empirical regularity in the data obtained by different investigators working in various Asian developing countries', and add that 'the only exception of which we are aware arises in the village of Palanpur, India' (sic). But the only India-based study cited by the same authors in support of this point (namely Bell 1990a) clearly shows that, while trade-linked credit is indeed important in Punjab (as mentioned by Hoff and Stiglitz), it is of minor importance in Bihar and Andhra Pradesh (the other two states included in Bell's study). The literature cited in this section confirms that the actual importance of traders as a source of credit in rural India varies widely between different areas, from insignificant (e.g. Athreya *et al.* 1990; Walker and Ryan 1990: 199; and this study) to considerable (see studies cited in the text).

'friends and relatives' as one of the relevant sources, and mention that it is generally interest-free. But few studies explicitly investigate the role and functioning of interest-free credit.

For Palanpur, we have noted that interest-free credit within the village is quite limited, and that interest-free credit from outside the village essentially comes from relatives, particularly in-laws. The fact that most studies have little to say on interest-free credit suggests that it is generally of limited importance in quantitative terms. One qualification is that a good deal of interest-free credit may be 'hidden', not only from nosy investigators but also from other villagers and even household members. Even when hidden interest-free credit is relatively small in aggregate quantitative terms, it may be quite important for the economic security of poor households. Chen (1988), for instance, finds that in Maatisar village (Gujarat), 'most of the reciprocal credit between kin and caste-neighbors is negotiated woman-to-woman, often without the knowledge of men' (p. 22), and that these small credit transactions make a significant contribution to the survival strategies of deprived households.[636]

Another qualification is that interest-free credit is quite important in certain specific environments. In some coastal Indian villages, for instance, short-term reciprocal interest-free credit is extensively used by fishing families to cope with individual day-to-day fluctuations in catches (see Platteau and Abraham 1987, and Platteau 1990). One reason for the effectiveness of interest-free credit as an insurance mechanism in that environment is that individual day-to-day fluctuations in catches are to a large extent uncorrelated. The situation is quite different in settled agrarian villages like Palanpur, where the problem of covariate risks reduces the scope for active systems of reciprocal interest-free credit. As discussed in section 3.3, however, the contrasting incidence of interest-free credit in these two settings may also reflect other factors than the covariance of income fluctuations. Another consideration of possible importance is that the agrarian economy is more heterogeneous and unequal, making it

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[636] On this, see also Abraham (1985), and Gupta *et al.* (1987). Similar remarks can be made about rotating savings associations, which are quite popular in many parts of India; see for example, Harper (1958) and Oommen (1993) on *chitu fundus* in Karnataka and Kerala, respectively, Bouman (1989) on *bishi mandals* in Maharashtra, Walker and Ryan (1990) on chit funds in the ICRISAT villages, and the earlier literature cited in these studies. On the economics of rotating credit and savings associations, see Besley, Coate, and Loury (1993).

harder to foster relations of reciprocity or mutual solidarity. This view is consistent with the fact that cooperative savings and reciprocal credit arrangements have also been observed, despite much covariate risk, in societies that have a relatively egalitarian tradition, such as the Santhals of eastern India.[637]

Village Lenders:

Village lenders are found in different guises — the professional moneylender, the agriculturist-moneylender, the occasional lender, and others. Interestingly, professional moneylending appears to be among the many traditional 'crafts' that have been massively displaced in recent decades by modern state-based and market-based institutions (including, in this case, public lending institutions and urban traders). Available survey estimates confirm that the number of professional moneylenders in rural India is now quite small (e.g. one for every 23 villages or so in Uttar Pradesh according to Ghatak 1976, p. 13). During the pre-independence period, professional moneylenders were more common; they often belonged to particular castes or communities, and in some areas they had developed highly sophisticated ways of spreading their activities over several villages, gathering and sharing information on borrowers, assessing their creditworthiness, keeping complicated accounts, recovering unsecured loans, etc.[638] Another interesting type of professional moneylender was the itinerant moneylender, who apparently specialized in short-term consumption loans to high-risk groups.[639] Even during the colonial period, however, professional

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[637] See for example, Rogaly (1994), p. 159. Note also that, in many societies, mutual support appears to *increase* rather than decrease in the early stages of a collective food crisis (Dirks 1980),   contrary to the prediction of an analysis focusing on covariate risk only. It is an interesting possibility that, in some circumstances, covariate risk enhances rather than undermines mutual insurance arrangements, by promoting empathy and solidarity.

[638] Irfan Aleem's (1985) detailed study of the operations of the urban-based *Beoparis* in Sindh (Pakistan) offers interesting insights into some of these practices, in a different context. See also Sarap's (1986) account of the operations of *Lal Bangla* lenders in rural Orissa, and Walker and Ryan (1990: 201–6) on traditional moneylending practices in the ICRISAT villages.

[639] 'The "Kabuli" (or "Peshawari", or "Punjabi", or "Mughal") was a familiar figure throughout Northern India [in the nineteenth century], coming from Afghanistan or the North-West frontier, selling warm clothing or blankets on credit at the start of the winter at exorbitant prices, or simply lending money at rates no less so. After the harvest he returned to claim his dues, using intimidation and sometimes violence' (Pouchepadass 1983: 141).

moneylenders did not have anything like a monopoly of credit transactions, and in some regions they represented only 'a very minor element among the vast world of rural moneylenders' (Pouchepadass 1983, p. 139, on colonial Bihar; see also Whitcombe 1972, chapter 4).

Today, most rural moneylenders are simply affluent members of the village community, often landowners who combine moneylending with agriculture or other occupations (see e.g. Bell 1990, Table 5). If one includes 'occasional lenders', village lenders represent a substantial portion of the rural population. In Maatisar, for instance, 18 per cent of all households engage in some form of moneylending, *not* including interest-free lending (Chen 1988, p. 6); in Palanpur, the corresponding figure is 14 per cent (see section 1).[640] The common notion that the typical rural moneylender is an unchallenged monopolist does not stand any scrutiny.[641]

There are several reasons why people borrow from village lenders, despite the fact that they charge higher interest rates than public lending institutions. First, the borrowers may have no alternative, given that institutional credit is rationed. Second, they may be reluctant to borrow from public lending institutions out of fear of being cheated, or of facing sanctions in the event of non-repayment, as the withdrawal of Jatab borrowers from cooperative credit in Palanpur illustrates.[642] Third, compared with public lending institutions village lenders are widely perceived to lend quickly, without formalities, for any purpose, and often without demanding a collateral (Bailey 1964: 128; Chambard 1980: 31; Bhende 1983; Bouman 1989; Swaminathan 1990b: 23; Pal 1994). The first reason has received most attention, and supports the notion that village lenders essentially provide a residual borrowing

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[640] Bell (1990a: 308) reports a somewhat lower estimate (6.3 per cent) for a sample of households in Andhra Pradesh, Bihar, and Punjab; a large-scale survey based on rapid investigation methods, however, is bound to produce an underestimate of the true figure, as the author himself points out.

[641] As always, there are exceptions. One notable example of a monopoly situation, occasionally mentioned in the literature, is the isolated tribal village where an enterprising (and often exploitative) outsider has implanted a trading-moneylending outpost. Interestingly, in the tribal belt of Chota Nagpur, 'the term "*diku*" (outsider/alien) was initially applied to the moneylenders' (Thapar and Siddiqi 1991).

[642] The fact that poor people often have deep apprehensions about borrowing from public lending institutions is a common finding of recent studies of 'anti-poverty programmes' in India; see e.g. Krishnan (1990: 51) and Srivastava (1996).

option, exercised (mostly by disadvantaged borrowers) when cheaper forms of credit are unavailable.[643] The other reasons, however, also seem to be quite important in some circumstances.

The coexistence of cash loans with seasonal loans in kind is mentioned in many studies. The deora system, as described earlier for Palanpur, seems to have a wide reach in north India (and a long history, as noted in section 5.2). In fact, among the studies we are aware of, most of those where seasonal loans in kind are mentioned describe the basic arrangement as one where grain loans have to be repaid with an interest of 50 per cent in kind after the harvest.[644] It is a remarkable fact that the basic terms of seasonal loans in kind should be so similar in different parts of north India, and so stable over time, despite wide variations in market structure, economic environment, and related factors.

Another common finding of much interest is the comparatively low incidence of default on seasonal loans in kind, discussed in section 5 for Palanpur. In a study of credit transactions in two villages of Orissa, for instance, Bailey (1964) notes: 'The paddy loan is only given to those who themselves have land, and the lender has first call on the harvest after it has been threshed. *I cannot remember any cases of default,* or, indeed, any disputes about this kind of transaction' (p. 112, emphasis added). Pouchepadass (1983) makes similar observations on seasonal kind loans in colonial Bihar: 'These debts were always short-term, covering a matter of a few months, and were secured by the following harvest, which explains why, unlike the majority of cash loans, *they were most generally reimbursed during the year that followed*' (p. 142, emphasis added). These statements apply almost word for word in Palanpur today.

In the case of cash loans, there is more diversity in the findings of different studies. For instance, some studies (e.g. Walker and Ryan 1990) report that cash loans from village lenders are generally unsecured, as in Palanpur, while other studies (e.g. Swaminathan 1990b)

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[643] For a theoretical analysis of this feature of the relationship between formal and informal credit, see Bell (1990a).

[644] These studies include Bailey (1964), Chambard (1980), Chen (1988), Karam Singh (1970), aside from the historical studies cited in section 5.2. Walker and Ryan (1990: 203) also mention that seasonal loans in kind in the ICRISAT villages in south and western India bear an interest rate of 50 per cent (25 per cent in the case of short-duration crops). This also appears to be the standard practice in West Bengal (Rudra 1982b: 71).

suggest that the use of collaterals is common. Even cash loans, however, do have certain widely-observed features, including the following: they are usually short-term; they are often, but not always, taken for consumption purposes; the clients are generally poor households; the incidence of default is much lower than for institutional loans, but higher than for seasonal loans in kind; interest charges are stated in monthly terms, and are calculated on the basis of simple interest;[645] in a particular locality, a 'standard' interest rate can often be identified, but interpersonal variations can also be observed, depending *inter alia* on the relationship between the borrower and the lender.

We end by noting that the upward trend in interest rates in recent decades, observed in Palanpur, is not an isolated phenomenon. Studies of informal credit in the 1950s and 1960s tend to report nominal interest rates ranging between 6 and 18 per cent per year, much lower than the rates of 60 per cent per year or more that are routinely reported in recent studies.[646] This suggests that our earlier discussion of the failure of institutional lending to contain the rise of private interest rates in Palanpur may have wider relevance.

7. Concluding Remarks

Based on the preceding account of credit transactions in Palanpur, it is hard to avoid the broad conclusion that the credit market does not work very well. The market is heavily segmented, with different rationing mechanisms regulating the allocation of credit from different sources, leading to the persistence of a wide spectrum of interest rates (ranging from 0 to 300 per cent per year and more) within the village.[647] Interest-free credit is governed by relatively rigid social

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[645] An interesting observation made in several studies (and which also applies in Palanpur) is that the lender often insists on regular payment of interest, but not of the principal. This makes sense: if a borrower pays interest regularly, the lender is better off continuing the relationship rather than trying to recover the principal to lend to some other client, who may or may not repay regularly. Whitcombe (1972: 165) also notes that in nineteenth-century north India, 'the principle on which a creditor operated was not to recover his principal with the profit of added charges for its use but to *secure a regular source of income* from high charges on money or goods loaned' (emphasis added).

[646] See Harper (1958), Ghatak (1976), Chambard (1980), Leaf (1984), among others. As stated earlier, the annual inflation rate was negligible in the 1950s, and a little below 10 per cent in the 1960s, 1970s, and 1980s.

[647] Segmentation and rationing may be a requirement of 'constrained' efficiency in credit allocation with asymmetric information and transaction costs, but it would be hard to argue that these features of the credit market in Palanpur primarily reflect efficiency requirements.

norms, and quite limited in scope. Institutional credit is nominally cheap, but allocated on the basis of cumbersome procedures, and also risky for those who are unable to protect themselves from fraud. Those who are unable or unwilling to borrow from institutional sources have to fall back on private moneylenders. They pay nominal interest rates of 2.5 to 3 per cent per month, if they have jewelry or some other collateral acceptable to urban-based goldsmiths and traders; and 5 per cent per month if they have no alternative than to approach village lenders. And even at the hard rate of 5 per cent per month (about 4 per cent per month in real terms), credit is not always available.

The problematic nature of credit arrangements has extensive ramifications in Palanpur's economy. Some illustrations follow:[648]

Inactive Land Market:

Land sales in Palanpur are uncommon, with less than one per cent of the village land changing hands every year (on average) through purchases and sales. The rising marginal cost of credit (as the amount borrowed increases), together with the lumpy nature of land transactions, is one reason why the reservation price of buyers is often below that of sellers.[649]

Retail Buying:

In Palanpur, domestic supplies are often bought in small quantities at regular intervals, rather than in bulk, despite the much higher cost of piecemeal buying. High credit costs help to account for this practice.

Slow Pace of Technological Change:

Palanpur farmers (small and large) are well aware of the high returns to modern inputs. One of their most frequent statements about farming practices is '*paidawaar laagaat ke oopar hai*', i.e. 'one reaps as one spends'. Inadequate credit facilities, however, have slowed down the adoption of modern cultivation methods.

Low Educational Investments:

High discount rates discourage longterm investments, of which educational investment is one example. This may have contributed to the persistence of widespread illiteracy

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[648] Note that, in each case, restricted access to credit at reasonable rates is only *one* of the causes of the observed phenomenon. The other causes need not concern us here.

[649] For further discussion, see chapters 2 and 3. On credit-market imperfections and land transactions, see also Binswanger and Rosenzweig (1986a).

in Palanpur, even among male children. As recently as 1993, only half of all male children aged 6–10 (and less than one-third of female children in the same age group) attended school.

Low Incidence of Cash Rents:

In the absence of credit-market imperfections, there are mutual advantages in switching from share-rent to cash-rent contracts in the event (now quite common in Palanpur) where the tenant is less risk-averse than the landlord. Cash rents, however, are always paid in advance, and, in the absence of convenient credit arrangements, they are still largely confined to situations where a cash crisis forces the lessor to reduce his or her reservation price.[650]

Absence of Landless Tenants:

As agriculture in Palanpur has become more capital-intensive, landless households have been virtually excluded from tenancy contracts.[651] One reason for this is that credit facilities are particularly restricted for landless labourers, who therefore find it difficult to contribute their share of non-labour inputs in sharecropping contracts (or, even more, to pay advance cash rents).

Limited Development of Non-Agricultural Self-Employment:

Non-agricultural employment of Palanpur residents consists overwhelmingly of wage employment outside the village. Self-employment occupations outside agriculture, such as they are, mostly involve activities requiring low levels of investment, such as rickshaw-pulling and petty trade.

Emergence of Implicit-Credit Arrangements:

Given the problematic nature of explicit credit transactions, there are potential gains in implicit-credit arrangements if the receiving party has a higher discount rate than the effective lender. The viability of these arrangements arises from the fact that, unlike explicit credit contracts, they tend to be relatively secure, being part of a broader relationship between the two parties. Some examples of implicit-credit arrangements were given in the introductory section.

Economic Insecurity:

Inadequate credit opportunities exacerbate economic insecurity among Palanpur households, by making it harder for them to deal with unanticipated income fluctuations. This point may be worth mentioning in view of the recent influence of empirical research suggesting that Indian village economies achieve something close to 'full insurance' (Townsend 1994). Our observations in Palanpur, where there are plenty of transparent examples

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[650] For further discussion, see chapter 8.

[651] A similar development has been observed in many other regions of India; see chapter 8.

of the influence of idiosyncratic income fluctuations on current consumption, lend little support to that thesis. The conclusions to be drawn from these earlier investigations are probably more in the nature of methodological lessons than of practical insights on Indian village economies.[652] That also seems to be the message of other studies on this subject (see Alderman and Paxson 1994).

On the positive side, the limitations of private credit arrangements suggest that there may be some potential for positive intervention. That this potential is real is well illustrated by the dazzling success of well-designed and well-managed credit programmes such as the Grameen Bank in Bangladesh and SEWA in India. The reasons why public lending institutions in rural India fare so poorly in comparison call for further investigation, and must inform future initiatives in this field. On this issue, one important lesson from this case study is that the institutional flaws on the supply side deserve no less attention than the behaviour of the borrowers.

Consider, for instance, the issue of low repayment. In analysing this problem, the tendency has been to focus on the inadequate incentives that the borrower has to repay (this concern is prominent, for instance, in 'principal-agent' models of the relationship between borrower and lender). Accordingly, a solution is often sought in the direction of better repayment incentives, based for instance on group lending and other means of 'making the poor creditworthy' (Pulley 1989).[653] There is much to learn from these analyses, and indeed, our own interpretation of the relative success of seasonal loans in kind in Palanpur (section 2.6) points *inter alia* to the role of better repayment incentives. Improving repayment incentives, however, is only one part of the problem, and probably not the hardest part. If public lending institutions in Palanpur were honestly and efficiently managed, we

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[652]   On some of the methodological issues, see Ravallion and Chaudhuri (1995).   In principle, there may be 'full insurance' even in the absence of well-functioning credit
        arrangements, but in practice it is difficult to see how the former could be achieved without the latter.

[653]   Several authors have suggested that the success of the Grameen Bank is largely due to the use of group lending. To our knowledge, however, there is no solid evidence of
        this link. The Grameen Bank's own Managing Director, Muhammed Yunus, takes the view that the Bank can lend equally successfully to groups and individuals (Mahajan
        1995: 64). And SEWA's lending schemes in Gujarat, which are no less successful, make little use of group lending. On the limitations of group lending, see also Riddell and
        Robinson (1995),   Hulme and Mosley (1996),   and Jain (1996).

doubt that they would have much difficulty in recovering a large proportion of their dues even without introducing major changes such as a shift to group lending.[654]

The main problem is not so much that means of enforcing repayment are not available, but rather that the use of these means has been undermined by endemic corruption and inertia. In particular, as we saw in section 2, bank managers have poor incentives to recover their loans, and sometimes even have positive incentives not to recover them.[655] More generally, our case study of public lending institutions in Palanpur suggests that the failure of these institutions is hard to understand without paying close attention to the politics of rural credit, including the role of institutional credit as an instrument of patronage, the use of debt cancellation as an electoral tactic, the nexus between credit cooperatives and political leaders, the unequal distribution of power among borrowers, and the lucrative rewards of 'transfer entry'. This is where the real contrast between these institutions and the successful credit programmes of organizations such as Grameen Bank and SEWA may well lie.

This diagnosis may seem discouraging, in so far as dealing with institutional corruption is a more exacting task than, say, clubbing borrowers into groups. There are, however, some signs of a growing willingness to address issues of institutional corruption in India, if need be through sweeping reforms. An extension of this resolve to rural credit is long overdue.

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[654] Available confiscation procedures, for instance, could be used with good effect by targeting a few rich defaulters. This would strike terror in the hearts of other borrowers and boost repayment levels, and this approach would be not only effective but also equitable.

[655] Similarly, cancellation of institutional loans has been used by various political parties as a major electoral plank. Popular slogans in recent elections include 'we will vote for those who cancel our debts'.

References

Abraham, Anita (1985), 'Subsistence Credit: Survival Strategies among Traditional Fishermen', *Economic and Political Weekly,* 20 (February 9).

ACC/SCN (1994), 'Maternal and Child Nutrition' (Special Issue), *SCN News,* 11 (Geneva: United Nations ACC Sub-Committee on Nutrition).

Acharya, S. (1989), 'Agricultural Wages in India: A Disaggregated Analysis', *Indian Journal of Agricultural Economics,* 44.

Agarwal, Bina (1986), 'Women, Poverty and Agricultural Growth in India', *Journal of Peasant Studies,* 13.

—— (1988), *Structures of Patriarchy: State, Community and Household in Modernising Asia* (London: Zed Books and New Delhi: Kali for Women).

—— (1989), 'Women, Land and Ideology in India', in Afshar, H. and B. Agarwal (eds), *Women, Poverty and Ideology in Asia* (Basingstoke: Macmillan).

—— (1991), 'Social Security and the Family', in Ahmad, S.E., J.P. Drèze, J. Hills and A.K. Sen (eds), *Social Security in Developing Countries* (Oxford: Clarendon).

—— (1994), *A Field of One's Own: Gender and Land Rights in South Asia* (Cambridge: Cambridge University Press).

Akerlof, G. (1980), 'A Theory of Social Custom, of which Involuntary Unemployment May be One Consequence', *Quarterly Journal of Economics,* 94.

—— (1984), *An Economic Theorist's Book of Tales* (Cambridge: Cambridge University Press).

Akerlof, G. and Janet Yellen (eds) (1986), *Efficiency Wage Models of the Labor Market* (Cambridge: Cambridge University Press).

Alderman, Harold and Christina Paxson (1994), 'Do the Poor Insure? A Synthesis of the Literature on Risk and Consumption in Developing Countries', mimeo (Washington, DC: World Bank).

Aleem, Irfan (1985), 'Information, Uncertainty, and Rural Credit Markets in Pakistan', Ph.D. thesis, St Catherine's College, Oxford University.

—— (1990), 'Imperfect Information, Screening, and the Costs of Informal Lending: A Study of a Rural Credit Market in Pakistan', *World Bank Economic Review,* 4.

Allen, Franklin (1985), 'On the Fixed Nature of Sharecropping Contracts', *Economic Journal,* 95.

Altekar, A.S. (1956), *The Position of Women in Hindu Civilization* (Delhi: Motilal Banarsidass).

Anand, Sudhir (1983), *Inequality and Poverty in Malaysia: Measurement and Decomposition* (Oxford: Oxford University Press).

Anand, Sudhir and Christopher Harris (1990), 'Food and Standard of Living: An Analysis Based on Sri Lankan Data', in Drèze and Sen (1990).

Ansari, Nasim (1964), 'Palanpur: A Study of its Economic Resources and Economic Activities', Continuous Village Survey No. 41, Agricultural Economics Research Centre, University of Delhi.

Athreya, V.B., G. Djurfeldt and S. Lindberg (1990), *Barriers Broken: Production Relations and Agrarian Change in Tamil Nadu* (New Delhi: Sage).

Atkinson, A.B. (1970), 'On the Measurement of Inequality', *Journal of Economic Theory,* 2.

Attwood, D.W. (1979), 'Why Some of the Poor Get Richer: Economic Change and Mobility in Rural Western India', *Current Anthropology,* 20.

Baden–Powell, B.H. (1892), *Land Systems of British India,* 3 volumes (Oxford: Clarendon Press).

—— (1896), *The Indian Village Community* (London: Longman).

Bailey, F.G. (1957), *Caste and the Economic Frontier* (Manchester: Manchester University Press).

—— (1964), 'Capital, Saving and Credit in Highland Orissa (India)', in Firth, R. and B. Yamey (eds), *Capital, Saving and Credit in Peasant Societies* (London: Allen & Unwin).

Baland, Jean–Marie, Jean Drèze and Luc Leruth (1996), 'Daily Wages and Piece Rates in Agrarian Economies', Discussion Paper No. 71, Development Economics Research Programme, London School of Economics.

Baland, Jean–Marie and Debraj Ray (1991), 'Why Does Asset Inequality Affect Unemployment? A Study of the Demand Composition Problem', *Journal of Development Economics,* 35.

Banik, Arindam (1992), 'Structure of the Credit Market and its Link with the Other Markets: An Analysis of Village Survey Data in Bangladesh', mimeo, Delhi School of Economics.

Bardhan, Pranab (1976a), 'Variations in Extent and Forms of Agricultural Tenancy — I', *Economic and Political Weekly,* 11 (September 11).

—— (1976b), 'Variations in Extent and Forms of Agricultural Tenancy — II', *Economic and Political Weekly,* 11 (September 18).

Bardhan, Pranab (1984a), *Land, Labour and Rural Poverty: Essays in Development Economics* (New York: Columbia University Press).

—— (1984b), *The Political Economy of Development in India* (Oxford: Basil Blackwell).

Bardhan, Pranab (ed.) (1989a), *Conversations Between Economists and Anthropologists* (Delhi: Oxford University Press).

—— (1989b): *The Economic Theory of Agrarian Institutions* (Oxford: Clarendon).

Bardhan, Pranab and Ashok Rudra (1978), 'Interlinkage of Land, Labour and Credit Relations: An Analysis of Village Survey Data in East India', *Economic and Political Weekly,* 13 (6–7).

—— (1980a), 'Terms and Conditions of Sharecropping Contracts: An Analysis of Village Survey Data in India', *Journal of Development Studies,* 16.

—— (1980b), 'Labour, Employment and Wages in Agriculture; Results of a Survey in West Bengal 1979', *Economic and Political Weekly,* 15 (45–6).

—— (1981), 'Terms and Conditions of Labour Contracts in Agriculture: Results of a Survey in West Bengal 1979', *Oxford Bulletin of Economics and Statistics,* 43.

—— (1986a), 'Terms and Conditions of Labour Contracts', *Journal of Peasant Studies,* 13.

—— (1986b), 'Labour Mobility and the Boundaries of the Village Economy', *Journal of Peasant Studies,* 13.

Bashir, Sajitha *et al.* (1993), *Education for All: Baseline Survey of Three Districts of Uttar Pradesh, India,* 2 volumes (New Delhi: New Concept Consultancy Services).

Basu, Alaka Malwade (1992), *Culture, the Status of Women and Demographic Behaviour* (Oxford: Clarendon Press).

Basu, Kaushik (1984), *The Less Developed Economy: A Critique of Contemporary Theory* (Oxford: Basil Blackwell).

—— (1986), 'The Market for Land', *Journal of Development Economics,* 20.

—— (1991), 'The Broth and the Cooks: A Theory of Surplus Labour', *World Development,* 19.

Beaton, G., A. Kelly, J. Kevany, R. Martorell and J. Mason (1990), 'Appropriate Uses of Anthropometric Indices in Children', ACC/SCN State-of-the-Art Series, Nutrition Policy Discussion Paper 7, United Nations Administrative Committee on Coordination/Subcommittee on Nutrition (ACC/SCN).

Beck, Tony (1994), *The Experience of Poverty: Fighting for Respect and Resources in Village India* (London: Intermediate Technology Publications).

Becker, Gary S. (1981), *A Treatise on the Family* (Cambridge, MA: Harvard University Press).

Bell, C. (1986), 'The Choice of Tenancy Contract', paper presented at the Eighth World Congress of the International Economic Association, New Delhi, December 1986.

—— (1988), 'Credit Markets and Interlinked Transactions', in Chenery, H. and R.N. Srinivasan (eds).

—— (1989), 'A Comparison of Principal Agent and Bargaining Solutions: The Case of Tenancy Contracts', in Bardhan (1989b).

—— (1990a), 'Interactions Between Institutional and Informal Credit Agencies in Rural India', *World Bank Economic Review,* 4.

—— (1990b), 'Reforming Property Rights in Land and Tenancy', *World Bank Research Observer,* 5.

—— (1991), 'Markets, Power and Productivity in Rural Asia', *Journal of Development Economics,* 36.

Bell, C. and T.N. Srinivasan (1985a), 'Transactions in Rural Credit Markets in Andhra Pradesh, Bihar and Punjab: An Anatomy', mimeo (Washington, DC: World Bank).

—— (1985b), 'An Anatomy of Transactions in Rural Credit Markets in Andhra Pradesh, Bihar and Punjab', Working Paper No. 8, World Bank Agriculture and Rural Development Department, Washington, DC.

—— (1985c), 'The Demand for Attached Farm Servants in Andhra Pradesh, Punjab and Bihar', mimeo (Washington, DC: World Bank).

—— (1989), 'Interlinked Transactions in Rural Markets: An Empirical Study of Andhra Pradesh, Bihar and Punjab', *Oxford Bulletin of Economics and Statistics,* 51.

Bell, Clive and Minhas Zusman (1976), 'A Bargaining Approach of Crop-sharing Contracts', *American Economic Review,* 66.

Berreman, G.D. (1963), 'Caste and Community Development', *Human Organisation,* 22.

Besley, T., S. Coate and G. Loury (1993), 'The Economics of Rotating Savings and Credit Associations', *American Economic Review,* 83.

Béteille, André (1965), *Caste, Class and Power* (Berkeley: University of California Press).

—— (1979), 'The Indian Village: Past and Present', in Hobsbawm, E. *et al.* (eds), *Peasants in History* (New Delhi: Oxford University Press).

Bhalla, Sheila (1987), 'Labour Markets in Haryana', mimeo (Delhi: Jawaharlal Nehru University).

Bharadwaj, K. and P.K. Das (1975), 'Tenurial Conditions and Mode of Exploitation: A Study of Some Villages in Orissa', *Economic and Political Weekly,* 10 (annual number).

Bhatia, Bela (1993), 'Lush Fields and Parched Throats: The Political Economy of Groundwater in Gujarat', *Economic and Political Weekly,* 28 (51–2).

—— (1995), 'We are Not Alone! A Case Study of Widows' Action in North Gujarat', *Social Action,* 45.

Bhattacharya, N. and G.S. Chatterjee (1974), 'On Disparities in Per Capita Household Consumption in India', in Srinivasan and Bardhan.

Bhatty, Kiran (1997), 'India's Educational Deprivation: Survey of Field Investigations', mimeo (New Delhi: Indian Social Institute), forthcoming in *Economic and Political Weekly.*

Bhende, M.J. (1983), 'Credit Markets in the Semi-arid Tropics of Rural South India', Progress Report No. 56, Economics Program, ICRISAT, Patancheru.

—— (1986), 'Credit Markets in Rural South India', *Economic and Political Weekly,* 21 (38–9), Review of Agriculture.

Bhende, M.J., T.S. Walker, S.S. Lieberman and J.V. Venkataraman (1992), 'EGS and the Poor: Evidence from Longitudinal Village Studies', *Economic and Political Weekly,* 27 (13).

Billig, M.S. (1991), 'The Marriage Squeeze on High-Caste Rajasthani Women', *Journal of Asian Studies,* 50.

—— (1992), 'The Marriage Squeeze and the Rise of Groomprice in India's Kerala State', *Journal of Comparative Family Studies,* 23.

Binswanger, H.P., V. Balaramaiah, V.B. Rao, M.J. Bhende and K.G. Kshirsagar (1985), 'Credit Markets in Rural South Asia: Theoretical Issues and Empirical Analysis', Report No. ARU 45, World Bank, Washington, DC.

Binswanger, H.P. and M.R. Rosenzweig (1986a), 'Behavioural and Material Determinants of Production Relations in Agriculture', *Journal of Development Studies,* 22.

—— (1986b), 'Credit Markets, Wealth and Endowments in Rural South India', paper presented at the 8th World Congress of the International Economic Association, New Delhi, December 1986.

Binswanger, H.P. and M.R. Rosenzweig (eds) (1984), *Contractual Arrangements, Employment, and Wages in Rural Labor Markets in Asia* (New Haven and London: Yale University Press).

Blaxter, Kenneth and J.C. Waterlow (eds) (1985), *Nutritional Adaptation in Man* (London: John Libbey).

Bliss, Christopher and Nicholas Stern (1978a), 'Productivity, Wages and Nutrition: Part I, The Theory', *Journal of Development Economics,* 5.

—— (1978b), 'Productivity, Wages and Nutrition: Part 2, Some Observations', *Journal of Development Economics,* 5.

—— (1982), *Palanpur: The Economy of an Indian Village* (Oxford: Oxford University Press).

Bose, Ashish (1991), *Demographic Diversity of India* (Delhi: B.R. Publishing).

Boserup, E. (1965), *The Conditions of Agricultural Growth* (London: Allen & Unwin).

Bottomley, A. (1975), 'Interest Rate Determination in Underdeveloped Rural Areas', *American Journal of Agricultural Economics,* 57.

Bouman, F. (1989), *Small, Short and Unsecured: Informal Rural Finance in India* (Delhi: Oxford University Press).

Bouman, F. and R. Houtman (1988), 'Pawnbroking as an Instrument of Rural Banking in the Third World', *Economic Development and Cultural Change,* 36.

Bourgignon, F. (1979), 'Decomposable Income Inequality Measures', *Econometrica,* 47.

Brass, Paul (1965), *Factional Politics in an Indian State: The Congress Party in Uttar Pradesh* (Berkeley: California University Press).

—— (1980), 'The Politicization of the Peasantry in a North Indian State', *Journal of Peasant Studies,* 7 (4) and 8 (1).

—— (1985), *Caste, Faction and Party in Indian Politics: Volume Two — Election Studies* (Delhi: Chanakya Publications).

Braverman, A. and J.L. Guasch (1989), 'Rural Credit in Developing Countries', Working Paper 219, Agriculture and Rural Development Department (Washington, DC: World Bank).

Breman, Jan (1974), *Patronage and Exploitation* (Berkeley: University of California Press).

—— (1985), *Of Peasants, Migrants and Paupers: Rural Labour Circulation and Capitalist Production in West India* (Delhi: Oxford University Press).

—— (1994), *Wage Hunters and Gatherers* (Delhi: Oxford University Press).

Breman, Jan, Peter Kloos and Ashwani Saith (eds) (1997), *The Village in Asia Revisited* (Delhi: Oxford University Press).

Brennan, L., L. Heathcote and A. Lucas (1984), 'The Causation of Famine: A Comparative Analysis of Lombok and Bengal', *South Asia,* 7.

Byrd, William (1993), 'Anti-Poverty Programs', mimeo (New Delhi: World Bank).

Byres, T. (1981), 'The New Technology, Class Formation and Class Action in the Indian Countryside', *Journal of Peasant Studies,* 8.

Cain, Mead (1986), 'The Consequences of Reproductive Failure: Dependence, Mobility, and Mortality among the Elderly of Rural South Asia', *Population Studies,* 40.

Cain, Mead and A.B.A. Mozumder (1980), 'Labour Market Structure, Child Employment and Reproductive Behaviour in Rural South Asia', Working Paper 89, WEP 2–21, International Labour Organisation, Geneva.

Caldwell, J.C. and P. Caldwell (1987), 'Where there is a Narrower Gap Between Female and Male Situations', mimeo, Australian National University.

Caldwell, J.C., R.H. Reddy and P. Caldwell (1988), *The Causes of Demographic Change* (Madison: University of Wisconsin Press).

Chadha, G.K. (1996), 'Gender and Employment in India: Trends, Patterns and Policy Implications', paper presented at a seminar on Gender and Employment in India held at the Institute of Economic Growth, Delhi, 18–20 December.

Chadha, G.K. and S.K. Bhaumik (1992), 'Changing Tenancy Relations in West Bengal: Popular Notions, Grassroot Realities', *Economic and Political Weekly,* 27 (20–1).

Chakravarti, Anand (1997), 'Social Power and Everyday Class Relations', mimeo, Delhi School of Economics; to be published as a monograph.

Chambard, J.L. (1980), *Atlas d'un Village Indien* (Paris: Mouton).

Chambers, Robert (1983), *Rural Development: Putting the Last First* (Harlow, UK: Longman).

Chanana, Karuna (ed.) (1988), *Socialisation, Education and Women: Explorations in Gender Identity* (New Delhi: Orient Longman).

Chandhok, H.L. and the Policy Group (1990), *India Database: The Economy,* 2 volumes (New Delhi: Living Media).

Chandrasekhar, C.P. (1993), 'Agrarian Change and Occupational Diversification: Non-agricultural Employment and Rural Development in West Bengal', *Journal of Peasant Studies,* 20.

Chatterjee, S. and A. Rudra (1989), 'Relations of Production in Pre-colonial India', *Economic and Political Weekly,* 24 (May 27).

Chaudhuri, S. and M. Ravallion (1994), 'How Well Do Static Welfare Indicators Identify the Chronically Poor?', *Journal of Public Economics,* 53.

Chen, Marty (1988), 'Trade and Moneylending', mimeo, Harvard Institute for International Development, October 1988; partly published in Chen (1991).

—— (1989), 'A Gamble on the Monsoon: Coping with Seasonality and Drought in Western India', Ph.D. dissertation, University of Pennsylvania.

—— (1991), *Coping with Seasonality and Drought* (London: Sage).

Chen, Marty and Jean Drèze (1992), 'Widows and Health in Rural North India', *Economic and Political Weekly,* 27 (October 24–31).

—— (1995), 'Recent Research on Widows in India', *Economic and Political Weekly,* 30 (September 30).

Chenery, H.B. and T.N. Srinivasan (eds) (1988), *Handbook of Development Economics* (Amsterdam: North-Holland), vol. 1.

Cheung, S.N.S. (1969), *The Theory of Share Tenancy* (Chicago: University of Chicago Press).

Cohn, B.S. (1959), 'Madhopur Revisited', *Economic Weekly,* 11; reprinted in Cohn (1987).

Cohn, B.S. (1987), *An Anthropologist Among Historians and Other Essays* (Delhi: Oxford University Press).

Cooper, A. (1983), 'Sharecropping and Landlords in Bengal, 1930–50: The Dependency Web and its Implications', *Journal of Peasant Studies,* 10.

Copestake, J. (1987), 'Loans for Livelihoods? An Assessment of Government Sponsored Credit Schemes Designed to Promote Rural Development in India', mimeo, Tamil Nadu Agricultural University.

—— (1995), 'The Integrated Rural Development Programme Revisited', mimeo, University of Bath.

Cowell, Frank (1980), 'On the Structure of Additive Inequality Measures', *Review of Economic Studies,* 47.

—— (1984a), 'The Structure of American Income Inequality', *Review of Income and Wealth,* 30.

—— (1984b), 'Family Splits and Income Inequality', Discussion Paper No. 77, STICERD, London School of Economics.

—— (1995), *Measuring Inequality,* 2nd edition (Harvester Wheatsheaf).

Crooke, William (1989), *A Glossary of North Indian Peasant Life* (Delhi: Oxford University Press).

da Corta, Lucia (1993), 'Household Mobility and Class Differentiation in South Indian Villages', Ph.D. thesis, University of Oxford.

Danda, A.K. (1987), *A Rural Community in Transition* (New Delhi: Inter-India Publications).

Dandekar, V.M. and N. Rath (1971), *Poverty in India* (Bombay: Sameeksha Trust).

Das, Arvind (1987), 'Changel: Three Centuries of an Indian Village', *Journal of Peasant Studies,* 15.

—— (1992), *India Invented: A Nation in the Making* (New Delhi: Manohar).

Das, Jishnu (1996), 'Common Property Resources in Garhwal', mimeo (New Delhi: Indian Social Institute).

Das Gupta, Monica (1987), 'Selective Discrimination against Female Children in Rural Punjab', *Population and Development Review,* 13.

—— (1993), 'Fertility Decline in Punjab, India', mimeo, Harvard Center for Population and Development Studies, Harvard University.

—— (1994a), 'What Motivates Fertility Decline? Lessons from a Case Study of Punjab, India', mimeo, Center for Population and Development Studies, Harvard University.

—— (1994b), 'Life Course Perspectives on Women's Autonomy and Health Outcomes', paper presented at a meeting of the Population Association of America, Miami, May 1994.

Das Gupta, Monica and P.N. Mari Bhat (1995), 'Intensified Gender Bias in India: A Consequence of Fertility Decline', Working Paper No. 95/02, Harvard Center for Population and Development Studies.

Das Gupta, S., R.C. Sekhar, T. Shah and K. Singh (1989), 'Jawahar Rozgar Yojana: A Critical Review', report of a workshop held at the Institute of Rural Management, Anand (Gujarat), July 4–7.

Dasgupta, Ajit (1993), *A History of Indian Economic Thought* (London and New York: Routledge).

Dasgupta, Partha (1993), *An Inquiry into Well-being and Destitution* (Oxford: Clarendon).

Dasgupta, Partha and Debraj Ray (1986), 'Inequality as a Determinant of Malnutrition and Unemployment: Theory/Policy', *Economic Journal,* 96–97.

—— (1990), 'Adapting to Undernourishment', in Drèze and Sen.

Datt, Gaurav (1989), 'Wage and Employment Determination in Agricultural Labour Markets in India', Ph.D. thesis, Australian National University.

—— (1996), *Bargaining Power, Wages and Employment: An Analysis of Agricultural Labor Markets in India* (New Delhi: Sage).

Datta, S.K. and J.B. Nugent (1989), 'Transaction Cost Economics and Contractual Choice: Theory and Evidence', in Nabli and Nugent (1989b).

Davidson, S., R. Passmore, J.F. Brock and A.S. Trusswell (1979), *Human Nutrition and Dietetics,* 7th edition (Edinburgh: Churchill Livingstone).

Deolalikar, Anil and Vijayendra Rao (1996), 'The Demand for Dowries and Bride Characteristics in Marriage: Empirical Estimates for Rural South-Central India', paper presented at a workshop held at the National Council of Applied Economic Research, New Delhi, 12–14 January.

Deolalikar, A.B. and P.L. Vashishtha (1992), 'The Utilization of Government and Private Health Services in India', mimeo (New Delhi: National Council of Applied Economic Research).

de Ville de Goyet, C., J. Seaman and U. Geijet (1978), *The Management of Nutritional Emergencies in Large Populations* (Geneva: WHO).

Dey, B.K. (1987), 'Village Planning and Development in a Block Frame: A Case Study of Nepura Village', Ph.D. thesis, Berhampur University.

Dhingra, Kiran (1991), *Improving the Information System for Planning the Quality of Primary Education: The Case of India* (Paris: International Institute for Educational Planning).

Dirks, R. (1980), 'Social Responses during Severe Food Shortages and Famine', *Current Anthropology,* 21.

Doniger, Wendy (ed.) (1991), *The Laws of Manu* (New Delhi: Penguin).

Drèze, Jean (1988), 'Social Insecurity in India', mimeo, Development Economics Research Programme, STICERD, London School of Economics.

Drèze, Jean (1990a), 'Widows in Rural India', Discussion Paper No. 26, Development Economics Research Programme, London School of Economics.

—— (1990b), 'Poverty in India and the IRDP Delusion', *Economic and Political Weekly,* 25 (39).

—— (1997), 'Economic Development in Palanpur, 1957–93: Occupational Change, Land Ownership and Social Inequality', in Breman *et al.*

Drèze, Jean and Haris Gazdar (1997), 'Uttar Pradesh: The Burden of Inertia', in Drèze and Sen.

Drèze, Jean, Peter Lanjouw and Nicholas Stern (1992), 'Economic Mobility and Agricultural Labour in Rural India: A Case Study', *Indian Economic Review,* 27 (special number).

Drèze, Jean and Anindita Mukherjee (1989), 'Labour Contracts in Rural India', in Chakravarty, S. (ed.), *The Balance Between Industry and Agriculture in Economic Development* (London: Macmillan), vol. iii.

Drèze, Jean and Mrinalini Saran (1995), 'Primary Education and Economic Development in China and India: Overview and Two Case Studies', in Basu, K., P. Pattanaik and K. Suzumura (eds), *Choice, Welfare, and Development* (Oxford: Oxford University Press).

Drèze, Jean and Amartya Sen (1989), *Hunger and Public Action* (Oxford: Clarendon).

—— (1995), *India: Economic Development and Social Opportunity* (Oxford and New Delhi: Oxford University Press).

Drèze, Jean and Amartya Sen (eds) (1990), *The Political Economy of Hunger,* 3 volumes (Oxford: Clarendon Press).

—— (1997), *Indian Development: Selected Regional Perspectives* (Oxford and New Delhi: Oxford University Press).

Drèze, J. and P.V. Srinivasan (1995), 'Widowhood and Poverty in Rural India: Some Inferences from Household Survey Data', Discussion Paper No. 62, Development Economics Research Programme, STICERD, London School of Economics; forthcoming in *Journal of Development Economics.*

—— (1996), 'Poverty in India: Regional Estimates, 1987–8', Discussion Paper No. 70, Development Economics Research Programme, London School of Economics.

Dube, L. (1988), 'On the Construction of Gender: Hindu Girls in Patrilineal India', in Chanana (1988).

Dube, S.C. (1958), *India's Changing Villages: Human Factor in Community Development* (London: Routledge and Kegan Paul).

Dubey, S.M. (1965), 'Role of Kinship and Ideology in Rural Factionalism: A Study of Factions in a Village of Eastern U.P. with Special Reference to the Role of Patti', *Eastern Anthropologist,* 18.

Dyson, Tim and Mick Moore (1983), 'On Kinship Structure, Female Autonomy, and Demographic Behavior in India', *Population and Development Review,* 9.

Elder, J.W. (1970), 'Rajpur: Change in the Jajmani System of an Uttar Pradesh Village', in Iswaran.

Epstein, T.S. (1973), *South India: Yesterday, Today and Tomorrow* (London: Macmillan).

Esfahani, H.S. and D. Mookherjee (1995), 'Productivity, Contracting Modes, and Development', *Journal of Development Economics,* 46.

Eswaran, M. and A. Kotwal (1985a), 'A Theory of Contractual Structure in Agriculture', *American Economic Review,* 75.

—— (1985b), 'A Theory of Two-tier Labor Markets in Agrarian Economies', *American Economic Review,* 75.

FAO/WHO/UNU (1985), *Energy and Protein Requirements,* Report of a joint FAO/WHO/UNU Expert Consultation, WHO Technical Report Series No. 724, World Health Organisation, Geneva.

Fei, J., G. Ranis and S. Kuo (1978), 'Growth and Family Distribution of Income by Factor Components', *Quarterly Journal of Economics,* 92.

Folbre, Nancy (1986), 'Hearts and Spades: Paradigms of Household Economics, *World Development*', 14.

Foster, Andrew and Mark Rosenzweig (1995), 'Learning by Doing and Learning from Others: Human Capital and Technical Change in Agriculture', *Journal of Political Economy,* 103.

Freebairn, D.K. (1995), 'Did the Green Revolution Concentrate Incomes? A Quantitative Study of Research Reports', *World Development,* 23.

Freeman, James M. (1977), *Scarcity and Opportunity in an Indian Village,* The Kiste and Ogan Social Change Series in Anthropology, No. 6, Menlo Park, Cummings.

Fukunaga, Masaaki (1993), *Society, Caste and Factional Politics* (New Delhi: Manohar).

Fuhs, F.W. (1988), *Agrarian Economy of Sunari: Stability and Change* (Saarbrucken: Verlag Breitenbach Publishers).

Gaiha, Raghav (1988), 'Income Mobility in Rural India', *Economic Development and Cultural Change,* 36.

Gaiha, Raghav and Anil Deolalikar (1990), 'Permanent, Expected and Innate Poverty: Estimates for Semi-Arid Rural South India', mimeo, World Institute for Development Economics Research (WIDER), Helsinki.

Garcia, M. and H. Alderman (1989), 'Patterns and Determinants of Malnutrition in Children in Pakistan: Impact of Community Health', Reprint No. 215, International Food Policy Research Institute, from *The Pakistan Development Review,* 28 (4): 891–902.

Gazdar, Haris (1992), 'Rural Poverty, Public Policy and Social Change: Some Findings from Surveys of Six Villages', Working Paper No. 98, World Institute for Development Economics Research, Helsinki.

Ghatak, S. (1976), *Rural Money Markets in India* (Delhi: Macmillan).

Gill, I. (1984), 'Migrant Labour: A Mirror Survey of Jullunder and East Champaran', *Economic and Political Weekly*, 19.

Gill, Manmohan Singh (1990), 'Weaker Sections and Credit Facilities: An Analysis of Delivery System', *Prajnan: Journal of Social and Management Sciences*, 19.

Gillespie, Stuart (1995), 'Nutrition Trends in India: Latest Data', mimeo, UNICEF, New Delhi.

Gopalan, C. (1983), 'Measurement of Undernutrition: Biological Considerations', *Bulletin of the Nutrition Foundation of India*.

—— (1990), 'Health/Nutrition "Technology" Transfer', *Economic and Political Weekly*, 25 (January 27).

Gough, Kathleen (1981), *Rural Society in Southeast India* (Cambridge: Cambridge University Press).

—— (1983), 'Agricultural Labour in Thanjavur', in Mencher, J. (ed.), *Social Anthropology of Peasantry* (Madras: Somaiya Publishers).

Government of India (1880), *Report of the Indian Famine Commission 1880* (London: HMSO).

—— (1974), *Towards Equality: Report of the Committee on the Status of Women in India* (New Delhi: Ministry of Education and Social Welfare).

—— (1988a), 'Child Mortality Estimates of India', Occasional Papers, No. 5, Demography Division, Office of the Registrar General, Ministry of Home Affairs, New Delhi.

—— (1988b), *Integrated Rural Development Programme and Allied Programmes: A Manual* (New Delhi: Department of Rural Development, Ministry of Agriculture).

—— (1989), *Jawahar Rozgar Yojana: Manual* (New Delhi: Department of Rural Development, Ministry of Agriculture).

—— (1991), *Economic Survey 1990–91* (New Delhi: Ministry of Finance).

—— (1992), 'Jawahar Rozgar Yojana: A Quick Study', mimeo, Programme Evaluation Organisation, Planning Commission, New Delhi.

—— (1993a), *Sample Registration System: Fertility and Mortality Indicators 1991* (New Delhi: Office of the Registrar General).

—— (1994a), *Sample Registration System: Fertility and Mortality Indicators 1992* (New Delhi: Office of the Registrar General).

—— (1994b), *Rural Labour Enquiry Report on Employment and Unemployment, Main Report, NSS 43rd Round* (New Delhi: Labour Bureau, Ministry of Labour).

Government of Madhya Pradesh (1995), *The Madhya Pradesh Human Development Report 1995* (Bhopal: Government of Madhya Pradesh).

Guha, A. (1989), 'Consumption, Efficiency and Surplus Labour', *Journal of Development Economics,* 31.

Gupta, A.K. and M. Shroff (1987), 'Rural Credit: How do the Poor See It?', *Vikalpa,* 12.

Gupta, A.K. *et al.* (1987), 'Role of Women in Risk Adjustment in Drought Prone Regions', Working Paper No. 704, Indian Institute of Management, Ahmedabad.

Gupta, Dipankar (ed.) (1991), *Social Stratification* (Delhi: Oxford University Press).

Gupta, S.C. (1963), *Agrarian Relations and Early British Rule in India* (Bombay: Asia Publishing House).

Harper, Edward B. (1958), 'Economic Structure of a South Indian Village', Ph.D. thesis, Cornell University.

Harris, J.R. and M. Todaro (1970), 'Migration, Unemployment and Development', *American Economic Review,* 40.

Harris, Marvin (1993), 'The Evolution of Human Gender Hierarchies: A Trial Formulation', in Miller.

Harriss, Barbara (1987), 'Poverty in India: Micro Level Evidence', paper presented at a workshop on Poverty in India, Queen Elizabeth House, Oxford.

—— (1990), 'The Intrafamily Distribution of Hunger in South Asia', in Drèze and Sen.

—— (1996), 'Notes on the Classification of Village Households', paper presented at a workshop on 'Adjustment and Development: Agrarian Change, Markets and Social Welfare in South India, 1973–93' held at the Madras Institute of Development Studies, March 27–9.

Harriss, B., S. Gillespie and J. Pryer (1990), 'Poverty and Malnutrition at Extremes of South Asian Food Systems', *Economic and Political Weekly,* 31 (December 21).

Harriss, John (1989), 'Knowing About Rural Economic Change: Problems Arising from a Comparison of the Results of "macro" and "micro" Research in Tamil Nadu', in Bardhan (1989a).

—— (1991), 'The Green Revolution in North Arcot: Economic Trends, Household Mobility, and the Politics of the "Awkward Class" ', in Hazell and Ramaswamy.

—— (1992), 'Does the "Depressor" Still Work? Agrarian Structure and Development in India: A Review of Evidence and Argument', *Journal of Peasant Studies,* 19.

Hartmann, B. and J. Boyce (1983), *A Quiet Violence: View from a Bangladesh Village* (London: Zed Press).

Hasan, Zoya (1989), 'Power and Mobilization: Patterns of Resilience and Change in Uttar Pradesh Politics', in Frankel, F. and M.S.A. Rao (eds), *Dominance and State Power in Modern India* (Delhi: Oxford University Press).

—— (1995), 'Shifting Ground: Hindutva Politics and the Farmers Movement in Uttar Pradesh', in Brass, Tom (ed.), *New Farmers Movements in India* (Ilford: Frank Cass).

Hatti, N. and S. Raagaard (1985), 'Agricultural Labourers and Small Cultivators in Sirsi Taluk, Karnataka', Project Paper A.85.3, Centre for Development Research, Copenhagen.

Hayami, Yujiro and Keijiro Otsuka (1993), *The Economics of Contract Choice: An Agrarian Perspective* (Oxford: Clarendon).

Hazell, P. and C. Ramaswamy (eds) (1991), *The Green Revolution Reconsidered* (Baltimore: Johns Hopkins).

Heyer, Judith (1992), 'The Role of Dowries and Daughters' Marriages in the Accumulation and Distribution of Capital in a South Indian Community', *Journal of International Development,* 4 (4): 419–36.

Hill, P. (1986), *Development Economics on Trial* (Cambridge: Cambridge University Press).

Hitchcock, John T. (1975), 'The Idea of the Martial Rajput', in Singer, M. (ed.), *Traditional India: Structure and Change* (Jaipur: Rawat Publications).

Hobbes (1651), *Leviathan,* chapter 30; quoted in Kay, J.A. and M.A. King (1980), *The British Tax System,* 2nd edition (Oxford: Oxford University Press).

Hodgson, G.M. (1988), *Economics and Institutions: A Manifesto for a Modern Institutional Economics* (Cambridge: Polity Press).

Hoff, Karla (1992), 'A Monopolistic Competition Theory of Informal Rural Credit Markets', mimeo, Department of Economics, University of Maryland.

Hoff, Karla, A. Braverman and J. Stiglitz (1993), *The Economics of Rural Organization: Theory, Practice, and Policy* (Oxford: Oxford University Press).

Hoff, Karla and Joseph Stiglitz (1990), 'Imperfect Information and Rural Credit Markets: Puzzles and Policy Perspectives', *World Bank Economic Review,* 4.

—— (1992), 'A Theory of Rural Credit Markets with Costly Enforcement', mimeo, Department of Economics, University of Maryland.

Holström, M. (1991), 'Who are the "Working Class"?', in Gupta.

Hopper, W.D. (1957), 'The Economic Organisation of a Village in North Central India', Ph.D. thesis, Cornell University.

—— (1965), 'Allocation Efficiency in Traditional Indian Agriculture', *Journal of Farm Economics,* 47.

Howell, J. (ed.) (1980), *Borrowers and Lenders: Rural Financial Markets and Institutions in Developing Countries* (London: ODI).

Howes, Stephen (1993), 'Income Distribution: Measurement, Transition and Analysis of Urban China, 1981–90', Ph. D. thesis, London School of Economics.

Hulme, D. and P. Mosley (1996), *Finance Against Poverty* (London: Routledge).

Hurwicz, Leonid and Leonard Shapiro (1978), 'Incentive Structures Maximizing Residual Gain under Incomplete Information', *Bell Journal of Economics,* 9.

ICCW (1983), *Hungry Children* (New Delhi: Indian Council for Child Welfare).

ILO-ARTEP (1993), 'India: Employment, Poverty and Economic Policies', International Labour Office, New Delhi.

Indian Institute of Management (1985), *Study of Facility Utilization and Programme Management in Family Welfare* (Ahmedabad: Public Systems Group, Indian Institute of Management).

Institute of Social Studies Trust (1984), 'India's Female-headed Households', report submitted to the ILO, Geneva.

—— (1988), 'Bibliography on Female-headed Households', mimeo.

International Institute for Population Sciences (1994a), *National Family Health Survey: India 1992–93* (Bombay: IIPS).

—— (1994b), *National Family Health Survey 1992–93: Uttar Pradesh* (Bombay: IIPS).

—— (1994c), *National Family Health Survey 1992–93,* State volumes (Bombay: IIPS).

Iqbal, F. (1988), 'The Determinants of Moneylender Interest Rates: Evidence from Rural India', *Journal of Development Studies,* 24.

Iswaran, K. (ed.) (1970), *Change and Continuity in India's Villages* (New York: Columbia University Press).

Jain, A.K. (1993), 'Study of Socioeconomic Conditions of Village Raithal', training assignment, Lal Bahadur Shastri National Academy of Administration, Mussoorie.

Jain, L.R., K. Sundaram and S.D. Tendulkar (1988), 'Dimensions of Rural Poverty: An Inter-Regional Profile', *Economic and Political Weekly,* 23 (special issue, November).

Jain, S. Pankaj (1996), 'Managing Credit for the Rural Poor: Lessons from the Grameen Bank', *World Development,* 24.

Jaramillo, M. and P. Pinstrup–Anderson (1986), 'The Impact of Technological Change in Rice Production on Food Consumption and Nutrition in North Arcot, India', mimeo (Washington, DC: International Food Policy Research Institute).

Jayaraman, Raji and Peter Lanjouw (1997), 'Living Standards in Rural India: A Perspective from Longitudinal Village Studies', mimeo (Washington, DC: World Bank).

Jaynes, Gerald (1984), 'Economic Theory and Land Tenure', in Binswanger and Rosenzweig.

Jeffery, Patricia (1979), *Frogs in a Well: Indian Women in Purdah* (New Delhi: Vikas).

Jeffery, P., R. Jeffery and A. Lyon (1984), 'When Did You Last See Your Mother? Aspects of Female Autonomy in Rural North India', mimeo, University of Edinburgh.

—— (1987), 'Domestic Politics and Sex Differences in Mortality: A View from Rural Bijnor District, U.P.', paper presented at a workshop on Differential Female Mortality and Health Care in South Asia, BAMANEH/SSRC, Dhaka.

—— (1989), *Labour Pains and Labour Power: Women and Childbearing in India* (London: Zed).

Jejeebhoy, S. and S. Kulkarni (1989), 'Demand for Children and Reproductive Motivation: Empirical Observations from Maharashtra', in Singh, S.N. *et al.* (eds), *Population Transition in India* (New Delhi: B.R. Publishing).

Jelliffe, D.B. (1966), *The Assessment of the Nutritional Status of the Community* (Geneva: WHO).

Jelliffe, D.B. and E.F. Jelliffe (1989), *Community Nutritional Assessment* (Oxford: Oxford University Press).

Jha, Praveen (1995), 'Changing Condition of Agricultural Labourers in Post-independence India: A Case Study from Bihar', Ph.D. thesis, Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi.

Jodha, N.S. (1981), 'Agricultural Tenancy: Fresh Evidence from Dryland Areas in India', *Economic and Political Weekly*, 16 (52).

—— (1984), 'Agricultural Tenancy in Semi-Arid Tropical India', in Binswanger and Rosenzweig.

Jose, A.V. (1973), 'Wage Rates of Agricultural Labourers in Kerala', *Economic and Political Weekly*, 8 (4–6).

Kabeer, Naila (1989), 'Monitoring Poverty as if Gender Mattered: A Methodology for Rural Bangladesh', Discussion Paper No. 255, Institute of Development Studies, University of Sussex.

—— (1990), 'Poverty, Purdah and Women's Survival Strategies in Rural Bangladesh', in Bernstein *et al.* (eds), *The Food Question* (London: Earthscan).

—— (1991), 'Gender, Production and Well-being: Rethinking the Household Economy', Discussion Paper No. 288, Institute of Development Studies, University of Sussex.

Kakar, Sudhir (1981), *The Inner World: A Psycho-Analytic Study of Childhood and Society in India* (Delhi: Oxford University Press).

Kamble, N.D. (1979a), *Rural Growth and Decline: A Case Study of Selected Villages* (New Delhi: Ashish Publishing House).

—— (1979b), *Poverty Within Poverty: A Study of the Weaker Sections in a Deccan Village* (New Delhi: Sterling Publishers).

Kandasamy, A. (1964), 'Study of the Demand for and Supply of Hired Labour in Agriculture in the Lower Bhavni Project Area', M.Sc. thesis (Coimbatore: Agricultural College and Research Institute).

Kane, P.V. (1974), *History of Dharmasastra* (Pune: Bhandarkar Oriental Research Institute).

Kantowsky, D. (1968), 'Local Politics in Rameshvar, a Multi-Caste Village in Eastern U.P., India', seminar paper no. 7 (1967/69), in collected seminar papers on autonomy and dependence in 'parochial' politics, Institute of Commonwealth Studies, University of London.

Kapadia, K.M. (1966), *Marriage and the Family in India,* third edition (Bombay: Oxford University Press).

Kapadia, Karin (1993a), 'Mutuality and Competition: Female Landless Labour and Wage Rates in Tamil Nadu', *Journal of Peasant Studies,* 20.

—— (1993b), 'Marrying Money: Changing Preference and Practice in Tamil Marriage', *Contributions to Indian Sociology,* 27.

Karve, Iravati (1965), *Kinship Organisation in India* (Bombay: Asia Publishing).

Kelkar, G. and D. Nathan (1991), *Gender and Tribe: Women, Land and Forests in Jharkand* (New Delhi: Kali for Women).

Kessinger, T.G. (1974), *Vilyatpur 1848–1968: Social and Economic Change in a North Indian Village* (Berkeley: University of California Press).

Khan, M.E., R. Anker, S.K. Ghosh Dastidar and S. Bairathi (1989), 'Inequalities between Men and Women in Nutrition and Family Welfare Services: An Indepth Enquiry in an Indian Village', in Caldwell, J.C. and G. Santow (eds), *Selected Readings in the Cultural, Social and Behavioral Determinants of Health,* Health Transition Series No. 1 (Canberra: Health Transition Centre, Australian National University).

Khan, M.E., R.B. Gupta, C.V.S. Prasad and S.K. Ghosh Dastidar (1988), *Performance of Health and Family Welfare Programme in India* (Bombay: Himalaya Publishing House).

Khan, M.E., C.V.S. Prasad and A. Majumdar (1980), *People's Perceptions about Family Planning in India* (New Delhi: Concept).

Khan, Niaz Mohammad (1963), *An Economic Survey of Abbaspur* (Lahore: The Board of Economic Enquiry).

Khare, R.S. (1962), 'Group Dynamics in a North Indian Village', *Human Organisation,* 21 (3).

Kingdon, Geeta Gandhi (1994), 'An Economic Evaluation of School Management Types in Urban India: A Case Study of Uttar Pradesh', Ph.D. thesis, University of Oxford.

—— (1996), 'Private Schooling in India: Size, Nature and Equity Effects', *Economic and Political Weekly,* 31 (December 21).

Kishor, Sunita (1993), ' "May God Give Sons to All": Gender and Child Mortality in India', *American Sociological Review,* 58.

Kishwar, Madhu (1995), 'When Daughters are Unwanted', *Manushi,* No. 86 (Jan–Feb).

Kohli, Atul (1987), *The State and Poverty in India* (Cambridge: Cambridge University Press).

Kolenda, Pauline (1983), 'Widowhood among "Untouchable" Chuhras', in Ostor, A., L. Fruzzetti and S. Barnett (eds), *Concepts of Person: Kinship, Caste and Marriage in India* (Delhi: Oxford University Press).

—— (1984), 'Woman as Tribute, Woman as Flower: Images of "Woman" in Weddings in North and South India', *American Ethnologist,* 11.

—— (1987), *Regional Differences in Family Structures in India* (Jaipur: Rawat Publications).

Krishnaji, N. (1980), 'Agrarian Structure and Family Formation: A Tentative Hypothesis', *Economic and Political Weekly,* 15 (Review of Agriculture, March).

—— (1984), 'Family Size, Levels of Living and Differential Mortality in Rural India', *Economic and Political Weekly,* 19 (February 11).

Krishnan, S. (1990), 'Levels of Distortions and Inequalities in Village Systems', *The Administrator,* 35.

Kumar, A.K. Shiva (1995), 'UNDP Gender-related Development Index: A Computation for Indian States', mimeo, UNICEF, New Delhi.

Kumari, Ranjana (1989), *Women-headed Households in Rural India* (New Delhi: Radiant).

Kuran, Timur (1995), *Private Truths, Public Lies* (Cambridge, MA: Harvard University Press).

Kynch, Jocelyn (1994), 'Food and Human Growth in Palanpur', Discussion Paper No. 57, Development Economics Research Programme, STICERD, London School of Economics.

Kynch, Jocelyn and Mike Maguire (1986), 'Report on the Nutritional Status of Families in Palanpur, Uttar Pradesh, India', mimeo, Institute of Economics and Statistics, Oxford.

—— (1989), 'Wasted Cultivators and Stunted Little Girls: Variations in Nutritional Status in a North Indian Village', Discussion Paper 69, Institute of Economics and Statistics, University of Oxford.

Labenne, Sophie (1995), 'Analyse Econométrique du Travail des Enfants en Inde', M.Sc. thesis, Department of Economics, Université de Namur, Belgium.

Lal, Deepak (1976), 'Agricultural Growth, Real Wages and the Rural Poor in India', *Economic and Political Weekly,* 11 (26).

Lanjouw, Jean Olson (1997), 'Information and the Operation of Markets: Tests Based on a General Equilibrium Model of Land Leasing in India', Economic Growth Center Discussion Paper, Yale University.

Lanjouw, Jean Olson and Peter Lanjouw (1997), 'Poverty Comparisons with Noncompatible Data: Theory and Illustrations', Policy Research Working Paper 1709, Policy Research Department, World Bank, Washington, DC.

Lanjouw, Peter (1992), 'Inequality, Poverty and Mobility: The Experience of a North Indian Village', Ph.D. thesis, London School of Economics.

—— (1994), 'Living Standards in a North Indian Village', in Lloyd, T. and O. Morris (eds), *Poverty, Inequality and Rural Development* (London: Macmillan).

Lanjouw, Peter and Martin Ravallion (1995), 'Poverty and Household Size', *Economic Journal,* 105.

Lanjouw, Peter and Nicholas Stern (1989), 'Agricultural Change and Inequality in Palanpur', Discussion Paper No. 24, Development Economics Research Programme, STICERD, London School of Economics.

Lanjouw, Peter and Nicholas Stern (1991), 'Poverty in Palanpur', *World Bank Economic Review,* 5.

Laws of Manu, translated by Wendy Doniger and Brian K. Smith (New Delhi: Penguin, 1991).

Laxminarayan, H. and S.S. Tyagi (1977a), 'Tenancy: Extent and Interstate Variations', *Economic and Political Weekly,* 12 (May 28).

—— (1977b), 'Inter State Variations in Types of Tenancy', *Economic and Political Weekly,* 12 (September 24).

—— (1983), *Changes in Agrarian Structure in India* (New Delhi: Agricole).

Leaf, M.J. (1984), *Song of Hope: The Green Revolution in a Punjab Village* (New Brunswick: Rutgers University Press).

Leung, Siv Fai (1991), 'A Stochastic Dynamic Analysis of Parental Sex Preferences and Fertility', *Quarterly Journal of Economics,* 106.

Lévi-Strauss, Claude (1955), *Tristes Tropiques* (Paris: Librairie Plon).

Lewis, O. and V. Barnouw (1958), *Village Life in Northern India* (Urbana: University of Illinois Press).

Lewis, W.A. (1954), 'Economic Development with Unlimited Supplies of Labour', *Manchester School of Economic and Social Studies,* 22.

Lieten, G.K. (1994), 'The North Indian Kulak Farmer and his Deficient Democracy', Occasional Paper 1994/4, Indo-Dutch Programme on Alternatives in Development, Indian Council of Social Science Research, New Delhi.

Lipton, Michael (1983), 'Labor and Poverty', World Bank Staff Working Paper No. 616, World Bank, Washington DC.

Lipton, Michael with Richard Longhurst (1989), *New Seeds and Poor People* (London: Unwin Hyman).

Macdorman, M. (1986), 'Contemporary Marriage Practices in North India: Evidence from Three Uttar Pradesh Villages', Ph.D. thesis, Australian National University.

Maclachlan, M.D. (1983), *Why They Did Not Starve: Biocultural Adaptation in a South Indian Village* (Philadelphia: Institute for the Study of Human Issues).

Madan, G. and Tara Madan (1983), *Village Development in India* (Delhi: Allied).

Madan, T.N. (1989), *Family and Kinship: A Study of the Pandits of Rural Kashmir,* second enlarged edition (Delhi: Oxford University Press).

Mahajan Aprajit (1995), 'Not Group Lending Alone: The Importance of Grameen Institutional Structure in Facilitating Group Lending and Improving Repayment Rates', mimeo, Stanford University.

Mahendra Dev, S. (1995), 'Social Security for the Poor in India', mimeo, Indira Gandhi Institute of Development Research, Mumbai.

Malamoud, C. (ed.) (1983), *Debts and Debtors* (New Delhi: Vikas).

Mandelbaum, D.G. (1960), 'Social Organization and Planned Culture Change in India', in Srinivas.

—— (1970), *Society in India* (Berkeley: University of California Press).

—— (1988), *Women's Seclusion and Man's Honour: Sex Roles and their Consequences in North India, Pakistan and Bangladesh* (Tucson: University of Arizona Press).

Mankiw, Gregory (1995), 'The Growth of Nations', Brookings Papers on Economic Activity, 25th Anniversary Issue, Brookings Institution, Washington, DC.

Mari Bhat, P.N., K. Navaneetham and S.I. Rajan (1995), 'Maternal Mortality: Model Estimates of Levels, Trends and State Differentials', in Das Gupta, M., T.N. Krishnan and L. Chen (eds), *Women's Health in India: Risk and Vulnerability* (Delhi: Oxford University Press).

Marriott, McKim (1960a), 'Social Structure and Change in a U.P. Village', in Srinivas.

Marriott, McKim (ed.) (1960b), *Village India* (Chicago: University of Chicago Press).

Marshall, Alfred (1959), *Principles of Economics* (London: Macmillan).

Mathai, John (1915), *Village Government in British India* (London: T. Fisher Unwin).

May, David A. and David M. Heer (1968), 'Son Survivorship, Motivation and Family Size in India: A Computer Simulation', *Population Studies,* 22.

McKeown, T. (1979), *The Role of Medicine: Dream, Mirage or Nemesis?* (Oxford: Basil Blackwell).

McNeill, G., P. Payne and J. Rivers (1987), 'Patterns of Adult Energy Nutrition in a South Indian Village', Occasional Paper 11, Department of Nutrition, London School of Hygiene and Tropical Medicine, London.

Middleton, John *et al.* (1993), 'Uttar Pradesh Basic Education Project: Staff Appraisal Report', report No. 11746-IN, Population and Human Resources Operations Division, World Bank, Washington, DC.

Miller, B. (1981), *The Endangered Sex* (Ithaca: Cornell University Press).

Miller, B. (ed.) (1993), *Sex and Gender Hierarchies* (Cambridge: Cambridge University Press).

Minhas, B.S., L. R. Jain and S.D. Tendulkar (1991), 'Declining Incidence of Poverty in the 1980s: Evidence Versus Artefacts', *Economic and Political Weekly,* 26 (July 6–13).

Minturn, L. with S. Kapoor (1993), *Sita's Daughters: Coming Out of Purdah: The Rajput Women of Khalapur Revisited* (New York: Oxford University Press).

Mitra, M. (1989–90), 'Women in Santhal Society', *Samya Shakti,* vols 4–5.

Montgomery, Edward (1995), 'Affirmative Action and Reservations in the American and Indian Labor Markets: Are They Really That Bad?', mimeo, Department of Economics, University of Maryland at College Park.

Mooij, Jos E. (1994), 'Public Distribution System as a Saftey Net: Who is Saved', *Economic and Political Weekly,* 29 (January 15).

—— (1996), 'Food Policy and Politics', Ph.D. thesis, University of Amsterdam; forthcoming as a monograph.

Mukherjee, Anindita (1991), 'Rural Labour Markets and Seasonality: A Theoretical and Empirical Analysis', Ph.D. thesis, Indian Statistical Institute, New Delhi.

—— (1993), 'Income Opportunities in an Indian Village', mimeo, Institute for Economic Development, Boston University.

Mukherjee, Anindita and Debraj Ray (1991), 'Involuntary Unemployment and Wages in the Slack Season of a Village Economy', *Journal of Development Economics,* 37.

—— (1992), 'Labour Tying', Discussion Paper, Institute for Development Economics, Boston University.

—— (1995), 'Labour Tying', *Journal of Development Economics,* 47.

Mukherjee, P. (1992), 'Report of a Study on Sociological Constraints on Rural Labour', mimeo, Indian Statistical Institute.

Munshi, Kaivan (1995), 'Social Learning and Technology Diffusion: An Application to Indian Agriculture', mimeo, Department of Economics, Massachusetts Institute of Technology.

Murthi, Mamta, Anne–Catherine Guio and Jean Drèze (1995), 'Mortality, Fertility and Gender Bias in India', *Population and Development Review*, 21.

Muthiah, C. (1970), 'The Agricultural Labour Problems in Thanjavur and the New Agricultural Strategy', *Indian Journal of Agricultural Economics*, 25.

Nabli, M.K. and J.B. Nugent (1989a), 'The Institutional Economics and Economic Development: An Introduction', in Nabli and Nugent (1989b).

Nabli, M.K. and J.B. Nugent (eds) (1989b), *The New Institutional Economics and Development* (Amsterdam: North-Holland).

Nagarajan, R. and S. Krishnamoorty (1992), 'Landholding and Fertility Relationship in a Low-Fertility Agricultural Community in Tamil Nadu', in Bose, A. and M.K. Premi (eds), *Population Transition in South Asia* (Delhi: B.R. Publishing).

Nair, K.N., P. Sivandan and V.C.V. Retnam (1984), 'Education, Employment and Landholding Pattern in a Tamil Village', *Economic and Political Weekly*, 29 (24–5).

Nanda, Amulya Ratna (1991), 'Provisional Population Totals: Workers and their Distribution', Census of India 1991, Series 1, Paper 3 of 1991, Office of the Registrar-General, New Delhi.

—— (1992a), 'Final Population Totals', Census of India 1991, Series 1, Paper 1 of 1992, Office of the Registrar-General, New Delhi.

—— (1992b), 'Final Population Totals: Brief Analysis of Primary Census Abstract', Census of India 1991, Series 1, Paper 2 of 1992, Office of the Registrar-General, New Delhi.

Nandwana, Shobha and Ramesh Nandwana (1994), 'Land Rights of Widows in Rural Rajasthan', paper presented at a workshop on Widows in India held at the Indian Institute of Management, Bangalore, March 1994.

Narayan, D. and P.C. Joshi (1969), 'Magnitude of Agricultural Tenancy', *Economic and Political Weekly*, 4 (September 27).

National Sample Survey Organisation (1990), 'Results of the Fourth Quinquennial Survey of Employment and Unemployment, All India', *Sarvekshana*, special number, September.

Neale, W.C. (1962), *Economic Change in Rural India: Land Tenure and Reform in Uttar Pradesh 1800–1955* (New Haven: Yale University Press).

NNMB (1981), *Report for the Year 1980* (Hyderabad: National Nutrition Monitoring Bureau).

Nuna, Sheel (1990), *Women and Development* (New Delhi: National Institute of Education and Public Administration).

O'Hanlon, Rosalind (1985), *Caste, Conflict and Ideology: Mahatma Jotirao Phule and Low Caste Protest in Nineteenth-Century Western India* (Cambridge: Cambridge University Press).

Oldenburg, Philip (1992), 'Sex Ratio, Son Preference and Violence in India: A Research Note', *Economic and Political Weekly*, 27 (December 5–12).

Olsen, Wendy (1996), 'Interest Norms and a Social Approach to Banking in the Context of (Non?) Adjustment: A Discussion with Reference to Field Material from Andhra Pradesh', paper presented at a workshop on 'Adjustment and Development: Agrarian Change, Markets and Social Welfare in South India, 1973–1993' held at the Madras Institute of Development Studies, March 27–9.

Omvedt, Gail (1980), *We Will Smash this Prison! Indian Women in Struggle* (London: Zed).

—— (1993), *Reinventing Revolution: New Social Movements and the Socialist Tradition in India* (London: M.E. Sharpe).

—— (1994), *Dalits and the Democratic Revolution* (New Delhi: Sage).

Oommen, M.A. (1993), *The Kerala Economy* (New Delhi: Oxford & IBH).

Osmani, S.R. (1988), 'Wage Determination in Rural Labour Markets: The Theory of Implicit Cooperation', mimeo, World Institute for Development Economics Research (WIDER), Helsinki.

—— (1990), 'Wage Determination in Rural Labour Markets: The Theory of Implicit Cooperation', *Journal of Development Economics*, 34.

—— (forthcoming), *Growth and Poverty in South Asia* (Oxford: Clarendon).

Otsuka, K. and Y. Hayami (1988), 'Theories of Share Tenancy: A Critical Survey', *Economic Development and Cultural Change*, 37.

Otsuka, K., H. Chuma and Y. Hayami (1992), 'Land and Labor Contracts in Agrarian Economies: Theories and Facts', *Journal of Economic Literature*, 30.

Pacey, Arnold and Philip Payne (1985), *Agricultural Development and Nutrition* (Hutchinson: London).

Padhi, S. (1985), 'Property in Land, Land Market and Tenancy Relations in the Colonial Period: A Review of Theoretical Categories and Study of a Zamindari District', in Raj, K.N. *et al.* (eds), *Essays in the Commercialization of Indian Agriculture* (Delhi: Oxford University Press).

Padmanabha, P. (1981), *Survey on Infant and Child Mortality 1979* (New Delhi: Office of the Registrar General).

Paglin, M. (1965), 'Surplus Agricultural Labour and Development: Facts and Theories', *American Economic Review*, 55.

Pal, Sarmistha (1994), 'Choice of Casual and Regular Labour Contracts in Indian Agriculture: A Theoretical and Empirical Analysis', Ph.D. thesis, London School of Economics.

Palmer–Jones, R.W. (1993), 'Groundwater Markets in South Asia: A Discussion of Theory and Evidence', paper presented at a workshop on Water Management held at Viksat, Ahmedabad; mimeo, School of Development Studies, University of East Anglia.

Papola, T.S. (1992), 'Rural Nonfarm Employment: An Assessment of Recent Trends', *Indian Journal of Labour Economics,* 35.

Park, R.L. and I. Tinker (eds) (1963), *Leadership and Political Institutions in India* (Princeton: Princeton University Press).

Parry, J.P. (1979), *Caste and Kinship in Kangra* (London: Routledge and Kegan Paul).

Parthasarathy, G. (1987), 'Changes in the Incidence of Rural Poverty and Recent Trends in Some Aspects of Agrarian Economy', *Indian Journal of Agricultural Economics,* 42 (1).

Patnaik, Utsa (1976), 'Class Differentiation within the Peasantry: An Approach to the Analysis of Indian Agriculture', *Economic and Political Weekly,* 11 (39), Review of Agriculture.

—— (1980), 'Empirical Identification of Peasant Classes Revisited', *Economic and Political Weekly,* 15 (9).

—— (1987), *Peasant Class Differentiation: A Study in Method with Reference to Haryana* (Delhi: Oxford University Press).

—— (1988), 'Ascertaining the Economic Characteristics of Peasant Classes-in-Themselves in Rural India', *Journal of Peasant Studies,* 15.

Patnaik, Utsa (ed.) (1990), *Agrarian Relations and Accumulation: The 'Mode of Production' Debate in India* (Bombay: Oxford University Press).

Paul, S. (1989), *Inequality, Poverty and Consumption* (New Delhi: Commonwealth Publishers).

Payne, P. and M. Lipton (1988), 'How Third World Households Adapt to Dietary Energy Stress', mimeo, International Food Policy Research Institute, Washington, DC.

Pelletier, D. (1994), 'The Relationship between Child Anthropometry and Mortality in Developing Countries: Implications for Policy, Programs and Future Research', *Journal of Nutrition,* 124.

Pelletier, D., L. Msukwa and U. Ramakrishnan (1991), 'Nutrition in Project Planning: Intra-household Risks and Determinants', *Food Policy,* 16.

Platteau, Jean–Philippe (1990), 'Traditional Systems of Social Security and Hunger Insurance', in Ahmad, Drèze, Hills and Sen (eds), *Social Security in Developing Countries* (Oxford: Clarendon).

—— (1995), 'A Framework for the Analysis of Evolving Patron-Client Ties in Agrarian Economies', *World Development,* 23.

Platteau, Jean–Philippe and Anita Abraham (1987), 'An Inquiry into Quasi-Credit Systems in Small-Scale Fishermen Communities: The Role of Reciprocal Credit and Mixed Contracts', *Journal of Development Studies,* 23.

Platteau, J.P., J. Murickan and E. Delbar (1985), *Technology, Credit and Indebtedness in Marine Fishing* (Delhi: Hindustan Publishing).

Pouchepadass, J. (1983), 'Peasant Debt in Colonial Bihar', in Malamoud.

Prabhu, K.S. and Somnath Chatterjee (1993), 'Social Sector Expenditures and Human Development: A Study of Indian States', mimeo, Department of Economic Analysis and Policy, Reserve Bank of India, Bombay.

Prabhu, K.S., P.C. Sarker and A. Radha (1995), 'Gender Related Development Index for Indian States: A Preliminary Exercise', paper presented at a workshop on 'The Human Development Report 1995' organized by Friedrich Ebert Stiftung and UNDP, Neemrana, 12–13 December 1995.

Prasad, Eswara (1994), 'Social Security for Destitute Widows in Tamil Nadu', paper presented at a conference on Widows in India held at the Indian Institute of Management, Bangalore, March 1994.

Pritchett, Lant and Deepa Narayan (1997), 'Cents and Sociability: Household Income and Social Capital in Rural Tanzania', World Bank Policy Research Working Paper, June.

Pulley, R.V. (1989), 'Making the Poor Creditworthy: A Case Study of the Integrated Rural Development Program in India', Discussion Paper No. 58, World Bank, Washington, DC.

Pursell, G. and A. Gulati (1995), 'Liberalising Indian Agriculture: An Agenda for Reform', in Cassen, R. and V. Joshi (eds), *India: The Future of Economic Reform* (Delhi: Oxford University Press).

Putnam, Robert D., with Robert Leonardi and Raffealla Y. Nanetti (1993), *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton, NJ: Princeton University Press).

Pyatt, G., C. Chen and J. Fei (1980), 'The Distribution of Income by Factor Components', *Quarterly Journal of Economics,* 92.

Quibria, M.G. and S. Rashid (1984), 'The Puzzle of Sharecropping: A Survey of Theories', *World Development,* 12.

Rahman, H.Z. and S.P. Das (1982), 'The Rural Labour Market in Noakhali', Project Paper A.82.12, Centre for Development Research, Denmark.

Rajaraman, Indira (1983), 'Economics of Bride-Price and Dowry', *Economic and Political Weekly,* 18 (February 19).

—— (1986), 'Offered Wage and Recipient Attribute: Wage Functions for Rural Labour in India', *Journal of Development Economics,* 24.

Rajasekhar, D. (1988), *Land Transfers and Family Partition: A Historical Study of an Andhra Village* (New Delhi: Oxford and IBH Publishing, and Trivandrum: Centre for Development Studies).

Ramachandran, V.K. (1990), *Wage Labour and Unfreedom in Agriculture: An Indian Case Study* (Oxford: Clarendon).

—— (1997), 'On Kerala's Development Achievements', in Dreze and Sen (1997).

Randeria, Shalini (1989), 'Marriage, Motherhood, Divorce, Widowhood and Remarriage: The Life Histories of "Untouchable" Women in Western India', *Journal of Anthropological Society of Oxford.*

Randeria, Shalini and Leela Visaria (1984), 'Sociology of Bride-Price and Dowry', *Economic and Political Weekly,* 19.

Ranjan, Sharad (1994), 'Rural Non-farm Employment in Uttar Pradesh, 1971–1991: A Regional Analysis', M.Phil. thesis, Centre for Development Studies, Trivandrum.

Ranjan, Sharad (1996), 'Regional Rural Non-farm Employment in Uttar Pradesh: Some Emerging Trends', *Indian Journal of Labour Economics,* 39.

Rao, S.V. (1984), 'Rural Labour: Case Study of a Karnataka Village', *Economic and Political Weekly,* 19 (18).

Rao, Vijayendra (1993), 'The Rising Price of Husbands: A Hedonic Analysis of Dowry Increases in Rural India', *Journal of Political Economy,* 101.

Rao, V.M. (1972), 'Land Transfers in Rural Communities: Some Findings in a Ryotwari Region', *Economic and Political Weekly,* 7 (40).

Rastogi, P.N. (1964), 'Factionalism, Politics and Crime in a U.P. Village', *Eastern Anthropologist,* 17.

—— (1965), 'Factions in Kurmipur', *Man in India,* 45.

—— (1966), 'Polarisation at Thakurpur: The Process and the Pattern', *Sociological Bulletin,* 15.

Rath, N. (1985), ' "Garibi Hatao": Can IRDP Do It?', *Economic and Political Weekly,* 20 (6).

Ravallion, Martin (1988), 'Expected Poverty under Risk-Induced Welfare Variability', *Economic Journal,* 98.

—— (1994), *Poverty Comparisons: A Guide to Concepts and Methods* (Chur: Harwood).

Ravallion, Martin and Shubham Chaudhuri (1995), 'Risk and Insurance in Village India: Comment', mimeo, World Bank; forthcoming in *Econometrica.*

Ravallion, Martin and Gaurav Datt (1995), 'Growth and Poverty in Rural India', Policy Research Working Paper No. 1405, World Bank, Washington, DC.

Ray, Debraj (1992), 'Labour Markets, Nutrition and Adaptability', Discussion paper, Institute for Economic Development, Boston University.

—— (1993), 'Labour Markets, Adaptive Mechanisms and Nutritional Status', in Bardhan, P. *et al.* (eds), *Development and Change: Essays in Honour of K.N. Raj* (Delhi: Oxford University Press).

Ray, P.C. (1901), *Indian Famines: Their Causes and Remedies* (Calcutta: Cherry Press).

Reddy, C.R. (1985), 'Rural Labour Market in Varhad: A Case Study of Agricultural Labourers in Rain-fed Agriculture in India', REPRP No. 75, World Employment Programme, International Labour Organisation.

Retzlaff, R.H. (1962), *Village Government in India: A Case Study* (New York: Asia).

Riddell, R. and M. Robinson (1995), *Non-Governmental Organizations and Rural Poverty Alleviation* (Oxford: Clarendon).

Robertson, A.F. (1987), *The Dynamics of Productive Relationships: African Share Contracts in Comparative Perspective* (Cambridge: Cambridge University Press).

Rodgers, G.B. (1975), 'Nutritionally Based Wage Determination in Low Income Labour Markets', *Oxford Economic Papers,* 27.

Roemer, J. (1982), *A General Theory of Exploitation and Class* (Cambridge: Harvard University Press).

Rogaly, Ben (1993), 'Explaining Diverse Labour Arrangements in Rural India', *Journal für Entwicklungspolitik,* 9.

—— (1994), 'Rural Labour Arrangements in West Bengal, India', Ph.D. thesis, St Antony's College, University of Oxford.

Rosenzweig, Mark R. (1988a), 'Risk, Implicit Contracts and the Family in Rural Areas of Low-income Countries', *Economic Journal,* 98.

—— (1988b), 'Labour Markets in Low-Income Countries', in Chenery and Srinivasan.

Rosenzweig, Mark R. and Paul T. Schultz (1982), 'Market Opportunities, Genetic Endowments, and Intrafamily Resource Distribution: Child Survival in Rural India', *American Economic Review,* 72.

Roumasset, J. and M.J. Uy (1980), 'Piece Rates, Time Rates and Teams', *Journal of Economic Behaviour and Organization,* 7.

Rubinstein, Ariel (1991), 'On the Interpretation of Game Theory', *Econometrica,* 59.

Rudra, Ashok (1982a), 'Extra-economic Constraints on Agricultural Labour: Results of an Intensive Survey of Some Villages Near Santiniketan, West Bengal', Asian Employment Programme Working Paper, ARTEP, ILO, Bangkok.

Rudra, Ashok (1982b), *Indian Agricultural Economics: Myths and Realities* (New Delhi: Allied Publishers).

—— (1988), 'Emerging Class Structure in Indian Agriculture', in Srinivasan and Bardhan.

Rudra, Ashok and Amartya Sen (1980), 'Farm Size and Labor Use: Analysis and Policy', *Economic and Political Weekly,* 15 (5–7).

Säävälä, Minna (1996), 'A Child is a Gift of God but How Will We Nourish Him? Rural Fertility Decline in Coastal Andhra Pradesh, South India', mimeo, Centre for Asian Studies, Amsterdam.

Sahay, B.N. (1969), 'Leadership, Conflict and Development Programme in a North India Village', in Vidyarthi, L.P. (ed.), *Conflict, Tension and Cultural Trend in India* (Calcutta, Punthi Pustak).

Saith, Ashwani and Ajay Tankha (1992), 'Longitudinal Analysis of Structural Change in a North Indian Village: 1970–87', Working Paper Series No. 128, Institute of Social Studies, The Hague, The Netherlands, July 1992.

—— (1995), 'Dynamics of Land Relations: Some Findings at Village Level, An Indian Case Study', paper presented at a workshop on The Village in Asia Revisited held at the Centre for Development Studies, Thiruvananthapuram, January 1995.

Sanyal, M.K. (1989a), 'Trends in Peasant Indebtedness and Dispossession: West Bengal Districts 1901–41', Occasional Paper 114, Centre for Studies in Social Sciences, Calcutta.

—— (1989b), 'Peasant Indebtedness and Dispossession: A Study in the Registered Debt and Sale of Land in West Bengal Districts (1901–41)', Occasional Paper 115, Centre for Studies in Social Sciences, Calcutta.

Sarap, Kailas (1986), 'Small Farmers' Demand for Credit with Special Reference to Sambalpur District, Western Orissa', Ph.D. thesis, University of Delhi.

—— (1987), 'Transactions in Rural Credit Markets in Western Orissa, India', *Journal of Peasant Studies,* 1.

—— (1991a): *Interlinked Agrarian Markets in Rural India* (New Delhi: Sage).

—— (1991b), 'Changing Contractual Arrangements in Agricultural Labour Market: Evidence from Orissa', *Economic and Political Weekly,* 26 (December 28).

—— (1992), 'Land Market Transactions in Rural India', mimeo, Delhi School of Economics.

Schaffner, J.A. (1995), 'Attached Farm Labour, Limited Horizons and Servility', *Journal of Development Economics,* 47.

Schelling (1960), *The Strategy of Conflict* (Cambridge, MA: Harvard University Press).

Schultz, T.W. (1964), *Transforming Indian Agriculture* (Oxford: Oxford University Press).

Seabright, Paul (1989a), 'Quality of Livestock Assets under Poverty Alleviation Schemes: Evidence from South Indian Data', mimeo, Churchill College, Cambridge.

—— (1989b), 'Failure of Livestock Investments under IRDP: Evidence from Two Villages in Tamil Nadu', *Economic and Political Weekly*, 24 (September 30).

Seckler, D. (1982), ' "Small but Healthy": A Basic Hypothesis in the Theory, Measurement and Policy of Malnutrition', in Sukhatme, P.V. (ed.), *Newer Concepts in Nutrition and their Implications for Policy* (Pune: Maharashtra Association for the Cultivation of Science).

Sen Gupta, S. (1970), *A Study of Women of Bengal* (Calcutta: Indian Publications).

Sen, Amartya (1962), 'An Aspect of Indian Agriculture', *The Economic Weekly*, 14 (annual number, February).

—— (1970), 'Aspects of Indian Education', Lal Bahadur Shastri Memorial Lecture at the Institute of Public Enterprise, Hyderabad; reprinted in Malik, S.C. (ed.), *Management and Organization of Indian Universities* (Simla: Institute of Advanced Study), and partly reprinted in Chaudhuri, P. (ed.) (1971), *Aspects of Indian Economic Development* (London: Allen and Unwin).

—— (1973), *On Economic Inequality* (Oxford: Clarendon).

—— (1987), *Ethics and Economics* (Oxford: Basil Blackwell).

—— (1990), 'Gender and Cooperative Conflicts', in Tinker, I. (ed.), *Persistent Inequalities* (New York: Oxford University Press).

Sen, Amartya and Sunil Sengupta (1983), 'Malnutrition of Rural Children and the Sex Bias', *Economic and Political Weekly*, 18 (Annual Number).

Sengupta, Sunil and Haris Gazdar (1997), 'Agrarian Politics and Rural Development in West Bengal', in Drèze and Sen.

Shah, A.M. (1973), *The Household Dimension of the Family in India* (New Delhi: Orient Longman).

Shankar, Kripa (1991a), 'Politics of Land Distribution in Uttar Pradesh', *Economic and Political Weekly*, 26 (April 27).

—— (1991b), 'Integrated Rural Development Programme in Eastern UP', *Economic and Political Weekly*, 26 (October 12).

—— (1994), 'Jawahar Rozgar Yojana: An Assessment in UP', *Economic and Political Weekly*, 29 (July 16).

Shapiro, C. and J. Stiglitz (1984), 'Equilibrium Unemployment as a Worker Discipline Device', *American Economic Review*, 74.

Sharma, Miriam (1978), *The Politics of Inequality: Competition and Control in an Indian Village* (New Delhi, India: Hindustan Publishing Corporation).

Sharma, Miriam (1985), 'Caste, Class and Gender: Production and Reproduction in North India', *Journal of Peasant Studies,* 12.

Sharma, Naresh (1992), 'Agricultural Tenancy in Palanpur', Ph.D. thesis, Indian Statistical Institute, New Delhi.

Sharma, Naresh and Jean Drèze (1990), 'Share-cropping in Palanpur', Discussion Paper No. 30, Development Economics Research Programme, STICERD, London School of Economics.

Sharma, Rita and Thomas Poleman (1993), *The New Economics of India's Green Revolution: Income and Employment Diffusion in Uttar Pradesh* (Ithaca: Cornell University Press).

Sharma, R.S. (ed.) (1971), *Land Revenue in India: Historical Studies* (Delhi: Motilal Banarsidass).

Sharma, Ursula (1980), *Women, Work and Property in North-West India* (London: Tavistock).

—— (1984), 'Dowry in North India', in Hirschon, R. (ed.), *Women and Property — Women as Property* (London: Croom Helm).

Shorrocks, A.F. (1980), 'The Class of Additively Decomposable Inequality Measure', *Econometrica,* 47.

—— (1982), 'Inequality Decomposition by Factor Components', *Econometrica,* 50.

—— (1983), 'Ranking Incomes Distributions', *Economica,* 50.

Singh, A.M. and A. Kelles–Viitamen (1987), *Invisible Hands: Women in Home-based Production* (Delhi: Sage).

Singh, Baljit and Shridhar Misra (1964), *A Study of Land Reforms in Uttar Pradesh* (Honolulu: East-West Center).

Singh, H.N. (1993), 'Social Background and Role Performance of Village Pradhans', Occasional Paper Series, No. 10, Institute of Social Sciences, New Delhi.

Singh, Inderjit (1990), *The Great Ascent: The Rural Poor in South Asia* (Baltimore: Johns Hopkins).

Singh, Iqbal (1989), 'Reverse Tenancy in Punjab Agriculture', *Economic and Political Weekly,* 24 (June 24).

Singh, Karam (1970), 'Structural Analysis of Interest Rates on Consumption Loans in an Indian Village', *Asian Economic Review,* 12.

Singh, Nirvikar (1989), 'Theories of Sharecropping', in Bardhan (1989b).

Singh, Surjeet (1990), 'Rural Credit: Issues for the Nineties', *Economic and Political Weekly,* 25 (November 17).

Singh, Yogendra (1970), 'Chanukera: Cultural Change in Eastern Uttar Pradesh', in Iswaran.

Sinha, Ajay (1996), 'A Profile of the Poorest among Poor: Missing Link in the Development Strategy', mimeo, Village Study Unit, LBS National Academy of Administration, Mussoorie.

Sinha, Amarjeet (ed.) (1995a), 'Village Visit Reports (Uttar Pradesh)', collection of reports submitted by IAS Officer Trainees (60th Foundational Course), Lal Bahadur Shastri National Academy of Administration, Mussoorie.

Sinha, Amarjeet and Ajay Sinha (1995), 'Primary Schooling in Northern India: A Field Investigation', mimeo, Centre for Sustainable Development, Lal Bahadur Shastri National Academy of Administration, Mussoorie.

Sinha, R.N. (1968), *Bihar Tenantry (1785–1833)* (Bombay: People's Publishing House).

Smucker, C.M., G.B. Simmons, S. Bernstein and B.D. Misra (1982), 'Neo-natal Mortality in South Asia: The Special Role of Tetanus', *Population Studies,* 36.

Srinivas, M.N. (1960), *India's Villages,* second edition (Bombay: Asia Publishing House).

—— (1962), *Caste in Modern India and Other Essays* (Bombay: Asia Publishing House).

—— (1966), *Social Change in Modern India* (Berkeley and Los Angeles: University of California Press).

—— (1976), *The Remembered Village* (London: University of California Press).

Srinivas, M.N. (1982), *India: Social Structure* (Delhi: Hindustan Publishing).

—— (1987), *The Dominant Caste and Other Essays* (Delhi: Oxford University Press).

—— (1992), *On Living in a Revolution and Other Essays* (Delhi: Oxford University Press).

Srinivasan, T.N. and P.K. Bardhan (eds) (1974), *Poverty and Income Distribution in India* (Calcutta: Statistical Publishing Society).

—— (1988), *Rural Poverty in South Asia* (New York: Columbia University Press).

Srivastava, P.K. (1991), *State Government and Politics in India* (New Delhi: Mittal Publications).

Srivastava, Ravi (1989a), 'Tenancy Contracts during Transition: A Study Based on Fieldwork in Uttar Pradesh (India)', *Journal of Peasant Studies,* 16.

—— (1989b), 'Interlinked Modes of Exploitation in Indian Agriculture during Transition', *Journal of Peasant Studies,* 16.

—— (1994), 'Emerging Characteristics of the Agricultural Labour Market in Uttar Pradesh', mimeo, Department of Economics, University of Allahabad.

Srivastava, Ravi (1995), 'Beneath the Churning: Studying Development in Two Villages in Uttar Pradesh', paper presented at a workshop on The Village in Asia Revisited, Trivandrum, January 1995.

—— (1996), 'Agricultural Reforms and the Rural Poor in Eastern Uttar Pradesh', mimeo (March 27), Department of Economics, University of Allahabad.

Stiglitz, Joseph (1974), 'Incentives and Risk Sharing in Sharecropping', *Review of Economic Studies,* 41.

—— (1987), 'The New Development Economics', *World Development,* 15.

—— (1988), 'Economic Organization, Information, and Development', in Chenery and Srinivasan.

—— (1990), 'Peer Monitoring and Credit Markets', *World Bank Economic Review,* 4.

Subbarao, K. (1988), 'Improving Nutrition in India: Policies, Programs and Impact', background paper written for the 1989 Country Economic Memorandum (India) of the World Bank; printed as Discussion Paper No. 49, World Bank.

Sugden (1986), *The Economics of Rights, Co-operation and Welfare* (Oxford: Basil Blackwell).

Sukhatme, P.V. and S. Margen (1982), 'Autoregulatory Homeostatic Nature of Energy Balance', *American Journal of Clinical Nutrition,* 55.

Sundari, T.K. (1981), 'Caste and the Rural Society: Report of a Field Study in Chingleput District', Centre for Development Studies, Trivandrum.

Swaminathan, Madhura (1986), 'Rural Credit in Two Villages in Madurai District', Final Research Report No. 1, Tamilnadu Agricultural University and University of Reading.

—— (1988a), 'A Study of IRDP in Onda Block, Bankura District, West Bengal', Agro-Economic Research Centre at Santiniketan.

—— (1988b), 'Inequality and Economic Mobility: An Analysis of Panel Data from a South Indian Village', Ph.D. Dissertation, Oxford University.

—— (1988c), 'Growth and Polarisation: Changes in Wealth Inequality in a Tamil Nadu Village', *Economic and Political Weekly,* 23 (43).

—— (1990a), 'Village Level Implementation of IRDP: Comparison of West Bengal and Tamil Nadu', *Economic and Political Weekly,* 25 (March 31).

—— (1990b), 'Segmentation, Collateral Undervaluation, and the Rate of Interest in Agrarian Credit Markets: Some Evidence from Two Villages in South India', mimeo, Centre for International Studies, Massachusetts Institute of Technology, July.

Swaminathan, Madhura (1991), 'Gainers and Losers: A Note on Land and Occupational Mobility in a South Indian Village', *Development and Change,* 22.

Swamy, Anand (1993), 'A Simple Test of the Nutrition-based Efficiency Wage Model', Working Paper 65, Centre for Institutional Reform in the Informal Sector, University of Maryland, forthcoming in *Journal of Development Economics.*

Swamy, D.S. (1988), 'Agricultural Tenancy in the 1970s', *Indian Journal of Agricultural Economics,* 43.

Swartzberg, L. (Jr.) (1979), *The North Indian Peasant Goes to Market* (Delhi: Motilal Banarsidass).

Tanner, J.M. (1981), *A History of the Study of Human Growth* (Cambridge: Cambridge University Press).

Taslim, M. (1985), 'The Empty Box of Interlocking Labour Markets: Issues and Some Empirical Evidence', mimeo, La Trobe University.

—— (1988), 'Tenancy and Interlocking Markets: Issues and Some Evidence', *World Development,* 16.

Thapar, Romila and Majid Hayat Siddiqi (1991), 'Tribals in History: The Case of Chota Nagpur', in Gupta.

Thomas, R. (1992), *Geomedical Systems: Intervention and Control* (London: Routledge).

Thorner, Alice (1982), 'Semi-feudalism or Capitalism? Contemporary Debate on Classes and Modes of Production in India', *Economic and Political Weekly,* 17 (49–51).

Thorner, Daniel (1973), *The Agrarian Prospect in India* (Delhi: Allied).

Townsend, R.M. (1994), 'Risk and Insurance in Village India', *Econometrica,* 62.

Tully, Mark (1995), *The Heart of India* (New Delhi: Viking).

Tyagi, P.N. (1993), *Education for All: A Graphic Presentation,* second edition (New Delhi: National Institute of Educational Planning and Administration).

Uberoi, Patricia (ed.) (1993), *Family, Kinship and Marriage in India* (Delhi: Oxford University Press).

United Nations Development Programme (1991), *Human Development Report 1991* (New York: UNDP).

—— (1994), *Human Development Report 1994* (New York: UNDP).

Unni, Jeemol (1996), 'Non-agricultural Employment and Rural Livelihoods: Macro *vis-à-vis* Micro View', *Indian Journal of Labour Economics,* 39.

Vaidyanathan, A. (1995), 'Socio-economic Characteristics of Villages in North Arcot: An Explanatory Study', mimeo, Madras Institute of Development Studies.

van Bastelaer, Thierry (1986), 'Essai d'Analyse des Systèmes de Paiements de Mariage: Le Cas de l'Inde', M.Sc. thesis, Université de Namur, Belgium.

Vatuk, Sylvia (1975), 'The Aging Woman in India: Self-perception and Changing Roles', in de Souza, A. (ed.), *Women in Contemporary India* (New Delhi: Indian Social Institute).

Verma, J.B. (1964), 'Agricultural Labour in a Rajasthan Village', in Vyas.

Vlassoff, Carol (1993), 'Against the Odds: The Changing Impact of Education on Female Autonomy and Fertility in an Indian Village', paper presented at a Workshop on Female Education, Autonomy and Fertility Change in South Asia, New Delhi, 8–10 April 1993.

Vyas, V.S. (1964), *Agricultural Labour in Four Indian Villages,* Studies in Rural Problems, No. 3, Agricultural Economics Research Centre, Sardar Patel University, Vallabh Vidyanagar.

—— (1970), 'Tenancy in a Dynamic Setting', *Economic and Political Weekly,* 5 (Review of Agriculture, June).

Wade, Robert (1988a), *Village Republics: Economic Conditions for Collective Action in South India* (Cambridge: Cambridge University Press).

—— (1988b), 'Why Some Indian Villages Cooperate', *Economic and Political Weekly,* 23 (April 16).

Wadley, S. and B.W. Derr (1986), 'Child Survival and Economic Status in a North Indian Village', paper presented at the Ninth European Conference on Modern South Asian Studies, Heidelberg.

—— (1989), 'Karimpur 1925–84: Understanding Rural India Through Restudies', in Bardhan (1989a).

Walker, T.S. and J.G. Ryan (1990), *Village and Household Economies in India's Semi-arid Tropics* (Baltimore: Johns Hopkins).

Waterlow, J.C., R. Buzina, W. Keller, J.M. Lane and M.Z. Nichaman (1977), 'The Presentation and Use of Weight and Height Data for Comparing the Nutritional Status of Groups of Children Under 10 Years Old', *Bulletin of the World Health Organisation,* 55: 489–98.

Weisell, R.C. and J. Francois (1982), 'Reference Weight for Height Standards: An Easier Approach for Computerisation', *Food and Nutrition,* 8.

Wheeler, E. (1984), 'Intra-household Food Allocation: A Review of Evidence', mimeo, London School of Hygiene and Tropical Medicine.

Whitcombe, Elizabeth (1972), *Agrarian Conditions in Northern India* (Berkeley: University of California Press), vol. 1.

Wiser, Charlotte (1978), *Four Families of Karimpur* (Syracuse, NY: Maxwell School of Citizenship and Public Affairs, Syracuse University).

Wiser, William and Charlotte Wiser (1971), *Behind Mud Walls* (University of California Press).

World Bank (1996a), background papers on economic reforms and rural poverty, prepared for the 1996 Country Economic Memorandum (World Bank, 1996b).

World Bank (1996b), *India: Country Economic Memorandum* (New Delhi: World Bank).

Yadav, Yogendra (1996), 'The Maturing of a Democracy', *India Today,* August 31.

Yellen, J. (1984), 'Efficiency Wage Models of Unemployment', *American Economic Review,* 74.

Young, H.P. (1994), *Equity: In Theory and Practice* (Princeton: Princeton University Press).

Zamora, M.D. (1990), *The Panchayat Tradition: A North Indian Village Council in Transition 1947–62* (New Delhi: Reliance Publishing House).

Glossary

adhanni Half of one *anna* (16 *annas* make one rupee).

anganwadi Crèche.

Badhai Carpenter; also, a caste of carpenters.

batai Sharecropping arrangement, involving equal output shares for tenant and landlord; shortened form of '*aadh batai*', literally the act of dividing into half.

bajra Pearl millet (a coarse grain, grown in the *kharif* season).

begar Unpaid labour.

Bhangi Caste of sweepers.

bhajan Devotional songs or singing.

bidi Local cigarette, made of smoking tobacco wrapped in *tendu* leaves.

bigha Unit of land area; in Palanpur, there are 6.4 *bighas* in one acre.

byaj Interest on loan.

byaj pe byaj Compounding of interest (normally on annual basis).

chakki Grinding stone; a small flour mill.

Chamar A scheduled caste, with leather work as its traditional occupation. In Palanpur, the term has been discarded and replaced by the term *Jatab*.

chanda Informal, voluntary collection of financial contributions for social, political, or religious purposes.

chaparasi Peon.

chauthai A variant of sharecropping, involving one-fourth share of gross output to the tenant.

charpai String cot.

chowkidar Watchman.

chhuachhoot Untouchability.

dai The village midwife.

daku Dacoit; robber; bandit.

deorh/deora One and one half times. A local system of grain lending,

involving repayment with 50 per cent interest after the subsequent wheat harvest.

dhari Unit of weight, approximately 6 kgs.

dharamshala A public place meant normally as a resting place for pilgrims or other travellers.

dharma Law in the broadest sense, including the natural order as well as norms pertaining to human propriety and personal ethics; for an individual, duty or moral norm, specific to social status and stage of life; also religion in the conventional sense.

Dhimar Caste of water carriers, formerly also called *Bhisti*.

Dhobi Washerman; caste of washermen.

Diwali Hindu festival of lights, celebrated in the month of *Kartik* (October-November).

Gadaria Caste of shepherds.

gharjamai Resident son-in-law (in the context of uxorilocal marriages).

ghee Clarified butter, which is often used for deep frying, and keeps for a long time at ordinary temperatures.

gram sabha Village assembly, consisting of all adult village members. Officially, the *gram sabha* has supreme authority among village institutions and owns village public properties.

gram sevak 'Village-level worker' (VLW), a government functionary; the term has now been replaced by 'village development officer' (VDO).

gram vikas Village Development Officer (VDO).

adhikari gur Jaggery (a sugarcane produce, made by processing sugarcane juice in open-pan furnaces, and used as a sweetener or eaten with meals).

Holi Hindu festival of colours, celebrated in the month of *Phalgun* (February-March).

ijjat Self-respect; honour.

jajmani Customary system of hereditary labour services (sometimes interpreted as patron-client relations).

Jatab See *Chamar*.

jati Caste.

jowar Sorghum (a coarse *kharif* grain).

kachcha Raw; unprocessed; made of mud (in the context of construction).

kanungo An official position in the *tehsil* civil administration.

kanyadaan Ritual giving away of a daughter as bride.

Kayasth A north Indian caste, with clerical and accounting work as its traditional occupation.

kharif Monsoon or summer season in the agricultural calendar, lasting from June to November-December. This season accounts for most of the natural precipitation.

khichri Mixture of rice and pulses, cooked together.

kolhu Common name for different types of crushers used for extracting oil, juice, etc. Used in particular for oil-pressing or sugarcane-crushing in *gur* making.

laut badal Transfer entry: a system of rolling over loans when a debtor is unable or unwilling to clear public institutional debt in time. Also called *laut fer*.

lekhpal An official position in the *tehsil* civil administration, concerned with the maintenance of land records; subordinate to the *kanungo*.

madarsa School (in Urdu).

maund Unit of weight (8 *dharis*).

mazdooree Wages; wage labour as an occupation.

Murao A caste, with agriculture (particularly vegetable-growing) as its traditional occupation.

namaz Muslim worship consisting of a certain sequence of utterances and actions — prescribed to be performed five times from dawn to evening by all able-bodied adult believers.

naukree Wage employment, of a stable form (e.g. in a factory or office).

nilgai A species of antelope; literally 'blue cow'.

nyare Separated; living separately.

pacca Hard; ripe; permanent; antonym of *kachcha*.

panchayat Elected village council.

Passi A caste of mat weavers, some of whom have migrated to Palanpur from eastern Uttar Pradesh.

punya Meritorious deed.

purdah Custom of a woman keeping her face covered with one end of her saree, or veil. By extension, the practice of female

seclusion. Adherence to this custom varies between different castes and with age.

rabi The winter season in the agricultural calendar, lasting from November-December to May. Rains are meagre in this season and cultivation is dependent on irrigation.

raja King, lord, chief. Literally, the one who pleases his subjects (*praja*).

Ramayana One of the two major Indian epics. Tells the story of Shri Rama.

roti Unleavened bread.

sajhe Living jointly; an activity taken up in partnership.

sajhe batai A variant of sharecropping involving two or more tenants jointly sharecropping land from a landowner.

sarpanch Head of the *panchayat*.

sati Woman steadfast in truth or her *dharma*. In contemporary popular usage, the term refers to a woman who perishes with her dead husband on the funeral pyre.

shramdaan 'Gift of labour'; voluntary labour contribution for public purposes (e.g. cleaning a tank).

sifarish Recommendation.

tehsil Administrative and revenue unit below a district (Uttar Pradesh districts are divided into three to six *tehsils*).

tehsildar Administrative head of the *tehsil*.

Teli A caste of oil pressers or oil sellers.

tihai A sharecropping arrangement, with one-third of the gross produce going to the tenant.

Thakur A martial caste, within the Kshatriya *varna*.

varna The classical four-fold division of Hindu society. The four *varnas* are Brahmin, Kshatriya, Vaishya and Shudra (those not covered under these four are outcastes). At the local level, caste (*jati*) tends to have greater social importance than *varna*.

zamindar Landlords or intermediaries, in north India, prior to land reforms initiated in the 1950s (bringing most cultivators in direct relation with the state).

zamindari System of landlordism in which the *zamindar* is the crucial intermediary between the state and the cultivators (particularly in matters of revenue collection).

Name Index

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