palgrave pivot

TEACHER DISTRIBUTION IN DEVELOPING COUNTRIES

Teachers of Marginalized Students in India, Mexico, and Tanzania

Thomas F. Luschei and Amita Chudgar

Teacher Distribution in Developing Countries

Thomas F. Luschei • Amita Chudgar

Teacher Distribution in Developing Countries

Teachers of Marginalized Students in India, Mexico, and Tanzania

palgrave
macmillan

Thomas F. Luschei
Claremont Graduate University
Claremont, California, USA

Amita Chudgar
College of Education
Michigan State University
East Lansing, Michigan, USA

ISBN 978-1-137-57925-6 ISBN 978-1-137-57926-3 (eBook)
DOI 10.1057/978-1-137-57926-3

Library of Congress Control Number: 2016958448

Printed on acid-free paper

This Palgrave Macmillan imprint is published by Springer Nature
The registered company is Nature America Inc. New York
The registered company address is: 1 New York Plaza, New York, NY 10004, U.S.A.

TL: I dedicate this book to Andrew Martin Luschei, Linda Gabriela Luschei, and Yasmín Uribe-Luschei. Thank you for your patience, support, and cariño. I also dedicate this work to the Chudgar/Luschei partnership. I am sure there will be much more to come.

AC: I dedicate this book to the Chudgar family in India and the growing Chudgar family in Michigan. Thank you for your love and support. I also dedicate this work to the Luschei/Chudgar partnership. I look forward to the adventures ahead.

Acknowledgments

This book draws on research conducted for a large cross-national study of the teachers of marginalized children, which was supported through a Project Cooperation Agreement between Michigan State University and the United Nations Children's Fund (UNICEF). The objective of the UNICEF study was to develop a systematic region- and nation-specific profile of teachers of marginalized children and an understanding of current policies and practices related to these teachers. The UNICEF study consisted of nine reports, including a comprehensive review of related literature; quantitative cross-national analyses of the distribution of teachers in Asia, Latin America, and sub-Saharan Africa; and case studies of teacher-related policies and practices in India, Mexico, and Tanzania. The quantitative analysis found compelling, systematic, cross-national evidence of an uneven distribution of teachers that may further exacerbate the marginalization faced by disadvantaged children across the world (Chudgar & Luschei, 2013). The qualitative case studies shed light on policies and practices that may either perpetuate or ameliorate marginalized children's access to qualified teachers. In this book, we synthesize the results of the conceptual framework, which uses a teacher labor markets framework to examine the composition and distribution of the teacher workforce, and our qualitative case studies from India, Mexico, and Tanzania, which shed light on policies and practices that influence who teaches marginalized children. The opinions expressed are those of the authors and do not represent the views of UNICEF.

We have many people to thank for their support as we researched and wrote this book. We must first acknowledge the dedication and brilliance of our graduate student research assistants. Our research assistants at

Claremont Graduate University were Rebecca Devereaux, Loris Fagioli, Charlina Gozali, and Giselle Navarro. At Michigan State University, we received valuable support from Madhur Chandra, Ben Creed, and James Pippin. We also acknowledge support from a pre-doctoral training grant from the Institute of Education Sciences, U.S. Department of Education (Grant R305B090011), for Chandra and Creed. We also recognize the important support of research and grants offices and institutional review boards at Claremont Graduate University and Michigan State University. Ms. Karla Bellingar at Michigan State University provided particularly important support to ensure the smooth operation of the project. Support staff at UNICEF, New York, particularly Ms. Heather Milkiewicz, also provided important assistance throughout the project.

Some of the country background information reported in Chapter 3 was compiled for a background report on teacher deployment for UNESCO's 2015 *Global Monitoring Report* (Luschei & Chudgar, 2015). We thank Alyssa Morley from Michigan State University for her excellent research assistance to support this work, as well as Nihan Blanchy-Koseleci of UNESCO for providing valuable assistance in completing the report.

Our work in India benefited from the support and advice of many. We must acknowledge Ms. KanuPriya Jhunjhunwala, who provided excellent consultancy support and gathered all the data in the field. Without her diligent efforts and extensive knowledge of the Indian education landscape, the Indian case study would not have been as comprehensive. Ms. Jhunjhunwala was also responsible for identifying transcription support in India, which was crucial for detailed data analysis. The authors would also like to thank representatives of UNICEF India; UNICEF state offices in Karnataka, Rajasthan, and Madhya Pradesh; and the Azim Premji Foundation, who all provided invaluable assistance in identifying and contacting participants.

In Mexico, we received tremendous support from several sources. In particular, the authors would like to thank representatives of UNICEF Mexico, who provided invaluable assistance in identifying and contacting participants. Representatives of non-governmental organizations in Mexico City, Yucatán, and Zacatecas provided many valuable insights. Dr. Carlos Ornelas (not a formal participant in our interviews) also provided us with important advice as we set out to identify important issues and to better understand the Mexican context.

In conducting the Tanzania case study, the authors received important assistance and support from the UNICEF Tanzania office. We also

acknowledge the assistance of Rebecca Sima, who conducted interviews in Dar es Salaam and Lindi Region. Mr. Roland Maanga provided important translation support and Mr. John Gwai and Mr. Felix Kamkala ably transported us to conduct our interviews. Mr. Mashuhuri at COSTECH facilitated our application for research approval. Others who advised us on the Tanzanian context and facilitated our data collection efforts include Dr. Richard Ashford, Dr. Anjum Halai, Ms. Mary Malekela, Ms. Rose Mhina, Dr. Kristin Phillips, Dr. Daniel Roberts, Dr. Diane Ruonavaara, Dr. Suleman Sumra, and Mr. Mtemi Zombwe.

We must also thank Professor Jack Schwille at Michigan State University, who provided important guidance throughout our research project and who shared valuable insights as a discussant for our presentation at the 2013 meeting of the Comparative and International Education Society. Similarly, we acknowledge the valuable perspectives and advice shared by Dr. Motoko Akiba, who served as a discussant for our presentation at the 2014 meeting of the American Educational Research Association. We thank all other participants in these sessions, as well as participants in our presentation at the 2012 Task Force on Teachers for EFA Policy Dialogue Forum in Windhoek, Namibia; 2013 Global Education First Initiative Round Table in Washington, DC, USA; and the 2013 UKFIET meeting in Oxford, England.

We reserve our greatest thanks for Dr. Changu Mannathoko and Dr. Jordan Naidoo at UNICEF, who showed great faith in us and provided us with important guidance and support throughout the project.

Finally, we acknowledge and thank all of the anonymous interview participants in India, Mexico, and Tanzania for sharing their stories and insights with us. We sincerely hope that this research will result in improvements in educational opportunities for marginalized children in these and many other countries.

References

Chudgar, A., & Luschei, T. F. (2013). *Final report: Study of teachers for children marginalized by social origin, economic status, or location*. New York: UNICEF.

Luschei, T. F., & Chudgar, A. (2015). *Background report for Education for All Global Monitoring Report 2015: Evolution of policies on teacher deployment to disadvantaged areas. Submitted to UNESCO*. New York, NY: UNESCO.

Contents

List of Tables

CHAPTER 1

Reaching and Teaching Marginalized Children

Abstract Despite the "worldwide revolution" in educational enrollment during the twentieth century, a clear division continues to separate marginalized children from their peers: the quality of their teachers. Ample evidence from the United States and growing cross-national evidence demonstrate that children who are poor, who come from ethnic or racial minority groups, who have less educated parents, or who live in rural areas have access to less qualified teachers than their more advantaged peers. Given considerable evidence of the importance of teachers for children's academic success, the teacher quality division between more and less advantaged children may be as influential in determining these children's futures as access to formal education was one hundred years ago. In this chapter, we introduce our rationale for studying teachers of marginalized children and we describe the objectives, contributions, and organization of the book.

Keywords Teacher distribution • Teacher quality • Educational equity

For most of human history, access to formal primary education has been a privilege enjoyed by only a fraction of the globe's most advantaged children. At the beginning of the twentieth century, about one third of the world's children were enrolled in school (Benavot & Riddle, 1988). By and large, these children were in school because they had the good fortune of being born in developed countries or to wealthy families in developing

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_1

countries. They were also much more likely than out-of-school children to hail from urban areas and to be boys (Benavot & Resnik, 2006; Foster, 1977; Sutton, 1998). There was a clear educational division and pathway for in- and out-of-school children: those enrolled in school would likely continue their education and take their parents' place as members of the social and economic elite, while out-of-school children would work in low-skill jobs or agriculture with few prospects for a secure livelihood. Girls were more likely than not to drop out of school early or never enroll (Benavot & Resnik, 2006; Carnoy, 1974; Sutton, 1998).

The twentieth century brought with it an "education revolution" that eroded centuries-old barriers to formal education. The number of children enrolled in primary schools across the world increased from less than 100 million in 1900 to more than 650 million in 2000 (Baker, 2014; UNESCO Institute for Statistics [UIS], 2015). By 2015, global primary school enrollments had exploded. A series of international conferences beginning in the late 1900s triggered a worldwide educational movement enlisting hundreds of nations and non-governmental organizations. Led by UNESCO, this movement to ensure "Education for All" by 2015 catalyzed tremendous growth in school enrollments. UNESCO's 2015 Education for All *Global Monitoring Report* notes that the number of out-of-school children and adolescents was nearly cut in half between 1999 and 2012, from 204 million to 121 million (UNESCO, 2015a, p. 3). By 2015, an estimated 93 % of the world's primary-aged children were enrolled in primary school, compared to 84 % in 1999 (UNESCO, 2015a, p. xii).

In spite of the worldwide revolution in educational access, a clear division continues to separate marginalized children from their peers: the quality of their teachers. Ample evidence from the United States, coupled with growing cross-national evidence, demonstrates that children who are poor, who come from ethnic or racial minority groups, who have less educated parents, or who live in rural areas have access to less qualified teachers than their more advantaged peers (Akiba, LeTendre, & Scribner, 2007; Bacolod, 2007; Goldhaber, Lavery, & Theobald, 2015; Lankford, Loeb, & Wyckoff, 2002; Luschei, Chudgar, & Rew, 2013; UNESCO, 2014a). These are largely the same groups of children who were denied access to formal education for most of our history. Given considerable evidence of the importance of teachers for children's academic success (e.g., Rivkin, Hanushek, & Kain, 2005), the teacher quality division between more and less advantaged children may be just as influential in determining these children's futures as access to formal education was one hundred years ago.

Ironically, global expansion of educational opportunities has exacerbated the gap in teacher qualifications between more and less advantaged children. The enrollment of tens of millions of additional children has created an enormous demand for teachers to work with these students, leading to massive global teacher shortages. UNESCO's 2015 Education for All *Global Monitoring Report* estimated that between 2012 and 2015, 4 million primary teachers would need to be recruited to meet worldwide demand (UNESCO, 2015a). These include 2.6 million to replace teachers leaving due to retirement, changing occupations, or death or illness and 1.4 million to make up for shortfalls. Gagnon and Legault (2015) of the UNESCO Institute of Statistics estimate that to ensure global universal primary education by 2020, 12.5 million teachers must be recruited across the world, 2.4 million teachers will be needed to staff new classrooms, and more than 10 million will be required to make up for shortages caused by teacher turnover (Gagnon & Legault, 2015, p. 392). Teacher shortages are concentrated primarily in sub-Saharan Africa, which accounts for about 63 % of the global shortage (UNESCO, 2015a, p. 198). According to Gagnon and Legault, countries in sub-Saharan Africa must recruit 3 million teachers between 2012 and 2020 to ensure universal primary enrollment, which would cost an additional US$ 5.2 billion per year (Gagnon & Legault, 2015, p. 392).

UNESCO's 2010 Education for All *Global Monitoring Report* found that teacher shortages have led to severe negative consequences for marginalized children. When coupled with increasing enrollments, teacher shortages result in high pupil-teacher ratios (PTRs), which complicate both teaching and learning. Additionally, education systems often respond to teacher shortages by lowering the qualifications required to join the teaching force (OECD, 2005). To the extent that qualifications are correlated with teacher effectiveness, this change negatively affects the learning experiences of children. But this impact is not spread evenly across schools and classrooms. Instead, marginalized children—who may include poor children in remote rural areas, indigenous children, or pastoralist children—bear the brunt of teacher shortages. In some countries, PTRs vary considerably across regions or between urban and rural areas, with schools serving the most marginalized more likely to have the highest PTRs. Teacher shortages can also result in the deployment of the least experienced or trained teachers to the most marginalized areas, thereby perpetuating marginalization (UNESCO, 2010, 2015a).

The international education community has placed the improvement of teacher quantity and quality squarely on the agenda for improving global education quality and equity beyond 2015 (UNESCO, 2014a, 2015a). The equitable deployment of qualified teachers across regions, schools, and classrooms has also received growing attention from this community (UNESCO, 2014a, 2014b, 2015a). For example, Goal 6 of the "Muscat Goals" for 2030, issued at the Global Education for All Meeting in May 2014, demands that by 2030, "all governments ensure that all learners are taught by qualified, professionally-trained, motivated and well-supported teachers" (UNESCO, 2014b, p. 3).

As global consensus increasingly supports the idea that all children must have access to qualified teachers, educational decision makers must look to evidence that sheds light on why we see current patterns of teacher distribution and how we might reverse arrangements that favor more advantaged children. Unfortunately, there is little evidence related to these questions, particularly in developing countries. To our knowledge, this book represents the first attempt to systematically explore the causes of teacher distribution in developing countries. This book also offers one of the first cross-national attempts to understand the causes of unequal teacher distribution and provides insights into practices and policies that may help to ensure a more equitable distribution of teachers.

In this study, we draw on data from three large countries with vastly different social, economic, and political contexts: India, Mexico, and Tanzania. Although each of these countries faces a unique set of educational circumstances, all three countries contend with major challenges in terms of uneven teacher distribution. India is a fast-growing country with wide cross-state variations in educational circumstances. The nation faces challenges of teacher shortage, poor teacher preparation, and growing pressure on teacher education and allocation systems (Chudgar, 2013). Mexico has undergone significant educational reform in recent years but continues to contend with challenges of quality in teacher preparation, large urban-rural educational inequalities, and recruitment and deployment of teachers to marginalized areas (Luschei, 2012a; Puryear, Santibañez, & Solano, 2011). Tanzania has struggled in recruiting young people to become teachers, as well as allocating teachers to remote areas (Mkumbo, 2012; Mulkeen & Chen, 2008). Several efforts are in place to address these problems, but the outcomes of these efforts are not yet well understood. Despite many differences across these three countries, our research identifies common themes and explanations for teacher

distribution patterns, in addition to unique phenomena in each country. Our overarching observations from these three countries contribute to a common set of recommendations, described in detail in Chapter 6, for promoting equitable teacher deployment.

Rationale and Objective

Why is the distribution of teachers across students and schools important? Good teachers play a powerful role in ensuring the academic success of disadvantaged children. In fact, many studies have identified teacher quality as the most important educational lever available to policy makers seeking to improve educational quality and close racial or socioeconomic achievement gaps (Goldhaber, Brewer, & Anderson, 1999; Hanushek & Rivkin, 2004; Rivkin et al., 2005; Sanders, 1998). The distribution of teachers also provides an important measure of the allocation of resources across student groups. Teachers' salaries, which are determined largely by their education and experience, represent the lion's share of educational expenditures in most school systems (Organization for Economic Cooperation and Development [OECD], 2005). Education systems that allocate more experienced and educated teachers to schools populated with wealthy children enact a fundamental inequity in the distribution of educational resources. Growing global teacher shortages raise the stakes of teacher deployment decisions, as policy makers must allocate scarce teacher resources among competing constituencies. All too often, the result can be a vicious cycle, whereby the educationally rich get richer and poor and marginalized children find themselves in the classrooms of increasingly less qualified teachers.

The objective of this book is to shed light on the questions of who teaches marginalized children and why. Through the collection and analysis of data from qualitative case studies in India, Mexico, and Tanzania, we find substantial variation in policy and practice and their impact on equitable teacher distribution. At the same time, we find a number of common themes across these diverse settings. In some cases, decisions and efforts of policy makers and administrators—the "demand side"—have emerged as ad hoc reactions to difficult situations, whereas in others they stem from long-term strategies to promote quality and equity in the teacher labor force. We also note instances where, inadvertently or by design, teacher-related policies and practices exacerbate inequities in disadvantaged children's access to qualified teachers.

The distribution of the teacher labor force also depends on the preferences and choices of individual teachers, or the "suppliers" of teacher labor. Like members of any other occupation, teachers make choices about where they work based on both monetary and non-monetary factors. Focusing on teachers' attributes and preferences underscores the tremendous challenges that teachers face and the sacrifices they make when teaching in difficult circumstances. This focus also illustrates how teachers may respond to these challenges in dysfunctional ways, such as resorting to improper practices or corruption to secure better teaching posts.

Our core argument is that teacher demand interacts with local context and teacher supply factors—especially preferences of teachers for living and working conditions—to place children in difficult locations at a disadvantage in terms of their access to qualified teachers. We further argue that well-designed policies can ameliorate inequities in the distribution of teachers. Using our analysis of data from India, Mexico, and Tanzania as a foundation, we explore implications and advance recommendations for ensuring a more equitable distribution of teachers, whereby access to qualified and committed teachers can support the integration and academic success of marginalized children around the world.

Contributions of this Book

This book addresses at least two key gaps in related literature. First, very little attention has focused on the problem of teacher distribution in developing countries. The limited cross-national evidence available suggests that due to "teacher quality gaps" in many countries, poor children often have less access to qualified teachers than more advantaged students (Akiba et al., 2007; Luschei, Chudgar, & Rew, 2013). Although this problem is likely to be acute in developing countries, we have little evidence regarding who teaches disadvantaged children in developing countries and why. Second, there are very few cross-national studies—either in developed or developing countries—that explore the causes of inequitable (or equitable) teacher distribution. Yet cross-national study is essential to understand whether educational phenomena are universal or vary according to local or national context. As Farrell (1979) has argued in discussing the impact of different cultural and social contexts on educational processes and outcomes, "every proposition regarding education (indeed, regarding human behavior generally) ultimately requires cross-national treatment" (Farrell, 1979, p. 9).

In the United States, research has found that minority and socioeconomically disadvantaged children have systematically less access to qualified teachers than more advantaged children (Bacolod, 2007; Goldhaber et al., 2015; Lankford et al., 2002). Yet this research often assumes a context in which teachers and schools or school districts negotiate locally for teaching positions. In each of our case study countries, teacher hiring and placement take place more centrally than in the United States' decentralized system. This difference may result in distinct teacher distribution arrangements in these countries. In sum, this book represents one of the first cross-national attempts to understand why disadvantaged children often have access to relatively less qualified teachers and how this situation may be ameliorated through teacher-related practices and policies.

This book is also unique in its use of a teacher labor markets perspective to identify and explore the objectives, motivations, and preferences of both sides of the teacher distribution equation, demand and supply. "Demand-side" considerations in the hiring and assignment of teachers include the objectives, policies, and practices of schools, districts, or national education systems. Many studies of teacher-related policies have focused entirely on demand-side decisions and actions. Some of these studies portray teachers as unmotivated, disengaged agents who must be monitored closely through stronger accountability mechanisms. A common narrative in developing countries characterizes teachers as shirking work through behaviors like absence or reduced effort (Bruns, Filmer, & Patrinos, 2011). While we acknowledge these problems, they did not emerge consistently in our research. We also recognize how such problems might occur, given the difficult living and teaching conditions that teachers of marginalized children often must endure. As key partners in educational reform, teachers must receive more thoughtful consideration; their needs and preferences must be a central focus of research and policy. Of course, other studies have sought to include teachers' voices in important policy discussions, but few of these studies have captured the interaction of teachers with their demand-side employers. In this study we examine the interaction and frequent misalignment between the demand and supply sides and the impact of this misalignment on the educational opportunities of marginalized children. We also identify several promising approaches to ensure greater alignment and more equitable opportunities.

Organization

This book is organized into six chapters. This chapter introduces the topic and its importance and describes the objectives, contributions, and organization of the book. In Chapter 2 we introduce our conceptual framework for understanding the complex processes that lead to the educational marginalization of children through differential access to teacher quality. We first discuss the relationship between education and marginalization and describe key processes that marginalize children. We then relate educational marginalization directly to the quality and distribution of teachers. This discussion leads to our presentation of the teacher labor markets framework that informs our subsequent examination of the teachers of marginalized children in India, Mexico, and Tanzania.

In Chapter 3 we provide background information related to our three case study countries. We first describe levels of economic development and social inequality, which determine the resources available to employ teachers and the degree to which disadvantaged populations have access to these resources. We then briefly describe each country's geography, as the difficulties of living and teaching in remote rural areas with few amenities to support daily life constrain education officials' efforts to recruit and deploy teachers to these areas. We then turn to a discussion of relevant aspects of these education systems and key issues related to teacher deployment and distribution. To further set the stage for the subsequent analysis, we describe the methodology of our study, including our comparative approach and our data collection and analysis strategies.

In Chapter 4 we discuss key junctures in the education system where inequities in teacher distribution appear. These include: (1) the recruitment of talented young people into teacher training, initial teacher preparation, and recruitment into teaching; (2) hiring qualified teachers and distributing them equitably across regions and schools; and (3) continuously supporting and retaining teachers through attractive working conditions, induction and support for new teachers, and continuous, high-quality professional development. In the last section, we include a discussion of teacher transfers, which can either remedy or worsen inequities that occur during initial teacher hiring and assignment to schools. We also describe efforts to attract or retain teachers to work in difficult locations through monetary or non-monetary incentives. At each step, we discuss how demand-side actions reinforce an inequitable (or equitable) distribution of teachers.

In Chapter 5 we complete the teacher labor markets picture by discussing the working and teaching conditions of teachers of marginalized children and the preferences and attributes of these teachers. We first discuss the difficult circumstances faced by teachers of marginalized children, including lack of basic amenities, large workloads, challenging teaching conditions, limited opportunities for professional development, and inadequate or irregular compensation. We then explain how these conditions conflict with the natural preferences of teachers to work in pleasant environments and to be close to home. Finally, we discuss how teacher age, experience, and gender influence teachers' preferences and decisions regarding where they teach.

In our interviews in India, Mexico, and Tanzania, we found that participants on both the demand and supply sides are uniformly in favor of more equity-enhancing policies and practices. However, realities do not always align with rhetoric. Although we identified some policies and practices as explicitly inequitable, most inequities occur as unintended consequences of seemingly equity-neutral practices. When the demand and supply sides meet, their interests and objectives often clash. In these cases, marginalized children lose. We begin Chapter 6 by discussing key areas where the misalignment of demand and supply results in an inequitable distribution of teachers. These areas include the use or lack of salary and incentives, seniority-based transfers, and improper or corrupt practices. We then offer examples from our research of promising efforts to align the demand and supply sides to ensure greater access of marginalized children to qualified teachers. Specifically, we discuss the importance of ensuring equity in teacher assignments and transfers, recognizing and acting on teacher preferences, carefully designing incentives, giving voice to marginalized children and their communities, investing in local infrastructure and human capital, and involving civil society to act as an intermediary between the demand and supply sides. Using these examples as a foundation for future action, we offer a set of recommendations to work toward more equitable access of marginalized children to qualified teachers. Finally, we summarize the key conclusions of our study, the study's limitations, and areas for future research.

References

Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Reseacher, 36*(7), 369–387.

Bacolod, M. (2007). Who teaches and where they teach: College graduates of the 1990s. *Educational Evaluation and Policy Analysis, 29*(3), 155–168.

Baker, D. P. (2014). *The schooled society: The educational transformation of global culture*. Stanford, CA: Stanford University Press.

Benavot, A., & Resnik, J. (2006). Lessons from the past: A comparative socio-historical analysis of primary and secondary education. In J. E. Cohen, D. E. Bloom, & M. B. Malin (Eds.), *Educating all children: A global agenda* (pp. 123–229). Cambridge, MA: MIT Press.

Benavot, A., & Riddle, P. (1988). The expansion of primary education, 1870–1940: Trends and issues. *Sociology of Education, 61*(3), 191–210.

Bruns, B., Filmer, D., & Patrinos, H. A. (2011). *Making schools work: New evidence on accountability reforms*. Washington, DC: World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/2270

Carnoy, M. (1974). *Education as cultural imperialism*. New York: Longman.

Chudgar, A. (2013). Teacher labor force and teacher education in India: An analysis of a recent policy change and its potential implications. In M. Akiba (Ed.), *Teacher reforms around the world: Implementations and outcomes* (Vol. 19 & pp. 55–76). Bingley, UK: Emerald Group Publishing Limited.

Farrell, J. P. (1979). The necessity of comparisons in the study of education: The salience of science and the problem of comparability. *Comparative Education Review, 23*(1), 3–16.

Foster, P. (1977). Education and social differentiation in less developed countries. *Comparative Education Review, 21*(2/3), 211–229.

Gagnon, A., & Legault, E. (2015). Closing the primary teacher gap in Sub-Saharan Africa: How many teachers are needed, and how much would it cost? *Prospects, 45*, 391–406.

Goldhaber, D. D., Brewer, D. J., & Anderson, D. J. (1999). A three-way error components analysis of educational productivity. *Education Economics, 7*(3), 199–208.

Goldhaber, D. D., Lavery, L., & Theobald, R. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher, 44*(5), 293–307. doi:10.3102/0013189X15592622.

Hanushek, E. A., & Rivkin, S. G. (2004). How to improve the supply of high-quality teachers. In D. Ravitch (Ed.), *Brookings papers on education policy 2004* (pp. 7–44). Washington, DC: Brookings Institution Press.

Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis, 24*(1), 37–62.

Luschei, T. F. (2012a). In search of good teachers: Patterns of teacher quality in two Mexican states. *Comparative Education Review*, *56*(1), 69–97. Retrieved from http://www.jstor.org/stable/10.1086/661508

Luschei, T. F., Chudgar, A., & Rew, J. W. (2013). Exploring differences in the distribution of teacher qualifications across Mexico and South Korea: Evidence

from the Teaching and Learning International Survey. *Teachers College Record*, *115*, 1–38. Retrieved from http://www.tcrecord.org/DefaultFiles/SendFileToPublic.asp?ft=pdf&FilePath=c:\WebSites\www_tcrecord_org_documents\38_16964.pdf&fid=38_16964&aid=2&RID=16964&pf=Content.asp?ContentID=16964

Mkumbo, K. A. (2012). Teachers' commitment to, and experiences of, the teaching profession in Tanzania: Findings of focus group research. *International Education Studies, 5*(3), 222–227.

Mulkeen, A., & Chen, D. (2008). *Teachers for rural schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. Washington, DC: World Bank.

Organization for Economic Cooperation and Development [OECD]. (2005). *Teachers matter: Attracting, developing, and retaining effective teachers.* Paris, France: OECD.

Puryear, J. M., Santibañez, L., & Solano, A. (2011). *Education in Mexico, a new vision for Mexico: Achieving prosperity for all.* Washington, DC: The Centennial Group.

Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools and academic achievement. *Econometrica, 73*(2), 417–458.

Sanders, W. L. (1998). Value-added assessment: A method for measuring the effects of the system, school and teacher on the reate of student academic progress. *The School Administrator, 55*(11), 24–27.

Sutton, M. (1998). Girls' educational access and attainment. In N. P. Stromquist (Ed.), *Women in the Third World: An encyclopedia of contemporary issues* (pp. 381–396). New York: Garland Publishing, Inc.

UNESCO. (2010). *Reaching the marginalized. Education for all Global Monitoring Report 2010.* Paris, France: UNESCO.

UNESCO. (2014a). *EFA Global Monitoring Report 2013/4. Teaching and learning: Achieving quality for all.* Paris, France: UNESCO.

UNESCO. (2014b). *The Muscat Agreement.* Paris, France. Retrieved from http://unesdoc.unesco.org/images/0022/002281/228122e.pdf

UNESCO. (2015a). *EFA Global Monitoring Report 2015. Education For All 2000–2015: Achievements and challenges.* Paris, France: UNESCO.

UNESCO Institute for Statistics [UIS]. (2015). *UIS.Stat.* Retrieved from http://data.uis.unesco.org/#

CHAPTER 2

Conceptual Framework: Marginalized Children and Their Teachers

Abstract In this chapter we introduce our conceptual framework for understanding the complex processes that lead to the educational marginalization of children through differential access to teacher quality. We first discuss the relationship between education and marginalization and describe key processes that marginalize children. We then relate educational marginalization directly to the quality and distribution of teachers. This discussion leads to our presentation of the teacher labor markets framework that informs our subsequent examination of the teachers of marginalized children in India, Tanzania, and Mexico.

Keywords Marginalized children • Teacher quality • Teacher distribution • Teacher labor markets

Why and how might the teachers of marginalized children be different from other teachers? The answer rests on a complex set of processes and interactions, beginning with the role of formal education in marginalizing certain children. As the local classroom representative of the education system, the teacher represents a key instrument of educational marginalization. Depending on his or her preparation and skill, the teacher can either perpetuate or attenuate this marginalization. All too often, the quality of teachers experienced by marginalized children is inferior to that of other teachers. This difference stems from interactions between the formal

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_2

school system, as represented by educational decision makers and school leaders (the demand side), and the preferences and decisions of individual teachers (the supply side). Together, these factors determine whether teacher allocation arrangements exacerbate, reduce, or leave unchanged educational marginalization and inequity.

In this chapter we describe our conceptual framework for understanding the complex processes that lead to the educational marginalization of children through differential access to teacher quality. We first discuss the relationship between education and marginalization and describe key processes that marginalize children. We then relate educational marginalization directly to the quality and distribution of teachers. This discussion leads to our presentation of the teacher labor markets framework that informs our subsequent examination of the teachers of marginalized children in India, Tanzania, and Mexico.

Education and Marginalization

UNESCO's 2010 Education for All *Global Monitoring Report,* which is devoted to the theme of "Reaching the Marginalized," provides a compelling rationale for examining marginalization in education:

> Education has the power to transform lives. It broadens people's freedom of choice and action, empowering them to participate in the social and political lives of their societies and equipping them with the skills they need to develop their livelihoods. For the marginalized, education can be a route to greater social mobility and a way out of poverty. (UNESCO, 2010, p. 135)

Of course, education, or the lack of educational opportunity, can also lead to or exacerbate marginalization. According to UNESCO, marginalization in education is "a form of acute and persistent disadvantage rooted in underlying social inequalities" (UNESCO, 2010, p. 135). UNESCO cites the work of Nobel Prize-winning economist Amartya Sen, whose arguments for a broad vision of development as human freedom identify education as a key constituent of this development (Sen, 2001). Quoting Sen's (2009) discussion of justice, UNESCO argues that marginalization in education represents a "'stark form of clearly remediable injustice'" (Sen, 2009, p. vii; UNESCO, 2010, p. 135).

What causes the injustice of educational marginalization? UNESCO (2010) argues that marginalization begins before children enter school

and persists into their adult years. For the most part, this marginalization is informal, and is "embedded in social, economic, and political processes that restrict life chances for some groups and individuals" (p. 135). These processes may include differential allocation of educational resources across groups and locations, the requirement of fees to attend government schools, the building of social and cultural barriers between groups, the preference of one language over others, the allocation of educational resources to boys over girls, failure to recognize the needs and potential of children with disabilities, and conflict among groups within or between countries. Children who bear the brunt of these processes include, but are not limited to the poor, children living in rural areas, ethnic or racial minorities, girls, children with disabilities, and those living in conflict situations. Of course, many of these categories overlap, so that some subsets of children suffer even more acute marginalization. As UNESCO (2010) points out, "poverty, gender, ethnicity and other characteristics interact to create overlapping and self-reinforcing layers of disadvantage that limit opportunity and hamper social mobility" (p. 136).

Teacher Quality and Educational Marginalization

The good news for marginalized children is that educational marginalization can be remedied through "good policies backed by a commitment to equity" (UNESCO, 2010, p. 137). Specifically, "education systems can play a central role in overcoming marginalization by giving disadvantaged children access to a good-quality learning environment, including properly financed schools, motivated and well-trained teachers, and instruction in an appropriate language" (UNESCO, 2010, p. 137). We focus here on the provision of motivated and well-trained teachers for marginalized children. As we describe in Chapter 1, teachers are important for at least three reasons: they have an important impact on students' academic success, their compensation requires substantial financial resources, and they are in short supply across much of the globe. Education systems that can ensure consistent access to high-quality teachers for all children will go far in remedying the injustice of educational marginalization. Conversely, systems that disproportionately allocate lower-quality teachers to the classrooms of marginalized children will perpetuate unequal resource distribution and marginalization.

Unfortunately, abundant evidence from the United States demonstrates that poor children, children in urban central cities, lower-achieving children,

and ethnic and racial minority children have on average less qualified teachers than more advantaged children (Bacolod, 2007; Goldhaber, Lavery, & Theobald, 2015; Lankford, Loeb, & Wyckoff, 2002). The international evidence on teacher distribution is less robust, especially in developing countries, but emerging international evidence suggests that poor children, children in rural areas, and children with less educated parents experience teachers who are, on average, less qualified than the teachers of more advantaged children (Akiba, LeTendre, & Scribner, 2007; Luschei, 2012a; Luschei, Chudgar, & Rew, 2013).

In a cross-country quantitative analysis of the teachers of marginalized children in 24 education systems across Asia, Latin America, and sub-Saharan Africa, we found systematic evidence of an uneven distribution of teachers spanning a number of key teacher attributes, including demographic characteristics, qualifications, and attitudes and status vis-à-vis their work environments. In terms of demographics, teachers of marginalized children are disproportionately male, young, and inexperienced relative to teachers of other children. Our results are surprisingly consistent across countries and regions (Chudgar & Luschei, 2013). Teacher gender is important for a number of reasons, including evidence of teacher-student gender interactions in student performance (Chudgar & Sankar, 2008; Dee, 2007; Luschei, 2012b). Research also indicates that the school participation and performance of girls in marginalized areas is particularly sensitive to the presence or absence of female teachers (Herz & Sperling, 2004; Lockheed & Mete, 2007; UNESCO, 2015b). A disproportionate concentration of male teachers working with marginalized children has important but underexplored implications for both the teacher labor force and the academic success of children, especially girls. A teacher's age signals not only experience and skill, but also his or her seniority and position in the teacher labor force. When education systems concentrate their least experienced teachers in the classrooms of marginalized children, they deprive these children of accumulated teaching skill and the financial resources associated with teacher experience. This situation can also reduce novice teachers' sense of efficacy and increase the likelihood that they will either seek teaching positions in more desirable locations or exit teaching. The resulting turnover can have a serious negative impact on academic achievement of the marginalized (Ronfeldt, Loeb, & Wyckoff, 2013).

Our cross-country analysis found less consistency in the distribution of teachers' qualifications—such as education, training, and certification—across students and schools, but we did find strong evidence that

the teachers of marginalized children have, on average, less education and less training. These teachers are also less likely to be certified. These results suggest that marginalized children experience less teaching acumen than other children, which limits their potential to overcome marginalization. This situation also reduces educational efficiency, as substantial evidence indicates that educational resources, including teachers, have a greater impact in lower-income contexts (Chudgar & Luschei, 2009; Hanushek, 1995; Heyneman & Loxley, 1983). When educational resources are instead concentrated in wealthier settings and among more advantaged children, they have less impact. Moreover, as we argue above, teacher education (along with experience) determines teacher salaries across most of the globe; education systems that deploy more educated (and experienced) teachers to wealthier children skew the allocation of resources toward the economic elite and perpetuate educational inequity.

In addition to teacher attributes related to demographics and qualifications, our cross-country analysis found that teachers of marginalized children consistently express lower levels of satisfaction and a greater desire to change schools relative to other teachers (Chudgar & Luschei, 2013). Our case study work described below makes clear that teachers of marginalized children in developing countries must contend with very challenging living and working conditions, often without daily amenities like safe housing, reliable transportation, potable water, or electricity. Dissatisfaction of these teachers is likely to result from their reactions to both the initial assignment to work in marginalized areas and to the difficult living and working conditions they encounter once they begin work.

Finally, the disproportionate concentration of male, young, less qualified, and less satisfied teachers is further aggravated by teacher shortages, which often place a disproportionate burden on marginalized children. Pupil-teacher ratios in many countries vary widely across urban and rural areas and across wealthy and poor children (Mulkeen & Chen, 2008). This arrangement negatively impacts the learning experience of marginalized children, further skews the allocation of resources away from these children, and places a heavy burden on those charged with teaching marginalized children.

According to international evidence, marginalized children experience much less teacher quality and quantity than other children. This situation perpetuates vicious cycles of educational marginalization and failure and skews resources toward the social and economic elite. Given sufficient political will and financial resources, these problems are remediable. But

the remedy is not clear. We must first identify key actors and mechanisms that result in such consistently inequitable arrangements, to explore *why* we find such consistent inequities across nations. To date, research on teacher distribution has not been able to explain why we see inequitable patterns. A few researchers have suggested that inequities may stem from the level of educational decision making (centralized vs. decentralized) of an education system or the overall commitment to equity in society and the education system (Akiba et al., 2007; Luschei, Chudgar, & Rew, 2013). To shed further light on the question of why, we turn to the conceptual tools of teacher demand and supply.

Teacher Demand and Supply

The educational experiences available to marginalized children depend on both the composition and the distribution of the teacher labor force. The composition of the teacher labor force, which is reflected in the overall qualifications and characteristics of who teaches—such as levels of certification, education, experience, age, and gender—is an important dimension of educational quality. The distribution of the teacher labor force—that is, which types of teachers work with which groups of students—relates directly to educational equity. If the teacher labor force is composed of uniformly well-prepared and high-quality teachers, distributional aspects of the labor force become less salient, because the chances are that marginalized children will have access to good teachers (Luschei, Chudgar, & Rew, 2013). However, in the countries we examined in the quantitative analysis described above, as well as in our three case study countries, the composition of the teacher labor force is very heterogeneous. Key compositional issues that we discuss below include who chooses to become a teacher and how prospective teachers are recruited, trained, and supported. These aspects of teacher composition lead us to distributional questions of who teaches whom. Specifically, we explore how teacher demand and supply forces interact with each other and national context to result in an uneven distribution of teachers that places marginalized children at a disadvantage.

In recruiting, hiring, and deploying teachers to schools, governments enact both written policies and unwritten practices that reflect their priorities and commitments regarding equity of educational provision. When selecting their schools, teachers act on their preferences for where and with whom they work. In other words, the distribution of teachers

results from decisions made by those who hire teachers (the demand side) and teachers themselves (the supply side). Both demand- and supply-side decisions are influenced by micro- and macro-level forces. On the demand side, a key micro-level consideration could be the individual preferences of a local school principal and his or her influence on teacher hiring and allocation decisions. Supply-side decisions are influenced at the micro level by characteristics of individual teachers like age, sex, years of experience, and the living and working conditions of their school environments. All else equal, teachers are more likely to choose to work in schools and communities with more pleasant work environments and greater resources.

Teacher demand and supply are in turn affected by broader macro-level social, political, and economic factors. In general it appears that countries with large socioeconomic inequalities, for example in the distribution of income, also have correspondingly large inequities in the distribution of educational resources, including teachers. Conversely, societies with greater socioeconomic equality and a stronger orientation toward equity are more likely to put in place educational policies and practices that demand and ensure equity in children's access to educational resources. For example, education systems that have a strong commitment to equity are more likely to offer incentives for teachers to work in difficult areas and with marginalized children. We also note that in countries that are either extremely wealthy or very poor, the distribution of resources may appear more equal, either because there are enough resources for everyone, or so few that virtually no one enjoys a distinct advantage. Countries with more challenging geographical terrain may also find it harder to ensure equitable teacher distribution than smaller and geographically more homogeneous countries due to the challenges of transportation and living conditions in remote areas (Chudgar & Luschei, 2013).

Another key macro-level influence on teacher distribution is the degree of centralization or decentralization in the education system. All else equal, educational decision makers in centralized systems have greater capacity to ensure qualified teachers for marginalized children because they have greater oversight regarding how and where teachers are deployed (Luschei, Chudgar, & Rew, 2013; UNESCO, 2006). In such systems, decision makers who are committed to equity can allocate teachers according to shortages and needs across many school locations. Provided that education officials commit themselves to equity, remain vigilant against corruption, and employ local oversight, centralized hiring and allocation of teachers

lends itself to a more equitable distribution of teachers (King & Orazem, 1999; Luschei & Carnoy, 2010; Luschei, Chudgar, & Rew, 2013; Steiner-Khamsi & Lefoka, 2011).

Over time, global trends toward educational decentralization have put greater responsibility in the hands of local leaders and communities (Sargent & Hannum, 2005), including the tasks of teacher hiring and deployment. Such local oversight can increase teacher accountability and minimize absenteeism (Duthilleul, 2005; Govinda & Josephine, 2005; Habib, 2010; Vegas & De Laat, 2003), but decentralization of teacher hiring may also lead to greater teacher quality gaps between advantaged and marginalized children, especially if the decentralized regions do not have access to equal resources (Akiba et al., 2007; Luschei, Chudgar, & Rew, 2013).

Ideally, educational decision makers, either in centralized or decentralized systems, will design and implement coherent policy to ensure a high-quality and equitably distributed teacher labor force. In their cross-national analysis of policies and practices to improve teacher quality, Akiba and LeTendre (2009) present a conceptual framework for how a "coherent policy for improving teacher quality" might look:

> A successful system for teachers attracts the most academically able candidates into teaching, provides high-quality teacher training, and continuously supports them through attractive working conditions and high-quality induction and professional development programs. Most important, the system is coherently structured to support teachers in continuously improving themselves toward becoming high-quality teachers, and is supported by multiple stakeholders across national, state, and local levels. (Akiba & LeTendre, 2009, pp. 12–13)

Unfortunately, in our research we found policies and practices that diverged considerably from this framework. We use this framework—as well as divergence from the framework that we found in our research—to guide our discussion of demand-side issues in Chapter 4.

Ultimately, teacher demand and supply interact with national and local context to determine whether the distribution of teachers across students and schools is inequitable, equity-neutral, or equity-enhancing. With an inequitable distribution of teachers, marginalized children will have, on average, access to lower-quality teachers than more advantaged children. An equity-neutral distribution of teachers has all children in the classrooms

of equally effective teachers. In an equity-enhancing system, marginalized children will have, on average, access to higher-quality teachers than more advantaged children.

Through the use of a teacher labor market perspective, our conceptual framework emphasizes the importance of micro- and macro-level decisions of both the consumers and suppliers of teacher labor. In the chapters that follow, our analysis of the distribution of teachers in three countries from distinct world regions identifies the influence and interactions of national context, demand-side policies and practices, and supply-side considerations related to teachers' preferences and decisions. In doing so, we draw on the conceptualizations of marginalization that we describe above. In sum, our conceptual framework provides us with conceptual and analytical tools to investigate cross-nationally who teaches whom and why.

References

Akiba, M., & LeTendre, G. K. (2009). *Improving teacher quality: The US teaching force in global context.* New York: Teachers College Press.

Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Reseacher, 36*(7), 369–387.

Bacolod, M. (2007). Who teaches and where they teach: College graduates of the 1990s. *Educational Evaluation and Policy Analysis, 29*(3), 155–168.

Chudgar, A., & Luschei, T. F. (2009). National income, income inequality, and the importance of schools: A hierarchical cross-national comparison. *American Educational Research Journal, 46*(3), 626–658. doi:10.3102/0002831209340043.

Chudgar, A., & Luschei, T. F. (2013). *Final report: Study of teachers for children marginalized by social origin, economic status, or location.* New York: UNICEF.

Chudgar, A., & Sankar, V. (2008). The relationship between teacher gender and student achievement: Evidence from five Indian states. *Compare: A Journal of Comparative and International Education, 38*(5), 627–642.

Dee, T. S. (2007). Teachers and the gender gaps in student achievement. *Journal of Human Resources, XLII*(3), 528–554.

Duthilleul, Y. (2005). *Lessons learnt in the use of "contract" teachers: Synthesis report.* Paris, France: UNESCO, International Institute for Educational Planning. Retrieved from http://eric.ed.gov/?id=ED495404

Goldhaber, D. D., Lavery, L., & Theobald, R. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher, 44*(5), 293–307. doi:10.3102/0013189X15592622.

Govinda, R., & Josephine, Y. (2005). Para-teachers in India: A review. *Contemporary Education Dialogues, 2*(2), 193.

Habib, M. (2010). *The impact of 2002 national teacher contract policy reform on teacher absenteeism in Lahore, Pakistan*. Unpublished Ed.D. Dissertation. Washington, DC: George Washington University.

Hanushek, E. A. (1995). Interpreting recent research on schooling in developing countries. *The World Bank Research Observer*, *10*(2), 227–246. Retrieved from http://wbro.oxfordjournals.org/content/10/2/227.short

Herz, B., & Sperling, G. B. (2004). *What works in girls' education: Evidence and policies from the developing world*. New York: Council on Foreign Relations.

Heyneman, S. P., & Loxley, W. A. (1983). The effect of primary-school quality on academic achievement across twenty-nine high- and low-income countries. *The American Journal of Sociology, 88*(6), 1162–1194.

King, E. M., & Orazem, P. (1999). Evaluating education reforms: Four cases in developing countries. *The World Bank Economic Review, 13*(3), 409–413.

Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis, 24*(1), 37–62.

Lockheed, M., & Mete, C. (2007). Tunisia: Strong central policies for gender equity. In M. Lewis & M. E. Lockheed (Eds.), *Exclusion, gender, and education. Case studies from the developing world* (pp. 205–225). Washington, DC: Center for Global Development.

Luschei, T. F. (2012a). In search of good teachers: Patterns of teacher quality in two Mexican states. *Comparative Education Review*, *56*(1), 69–97. Retrieved from http://www.jstor.org/stable/10.1086/661508

Luschei, T. F. (2012b). The effectiveness and distribution of male primary teachers: Evidence from two Mexican states. *International Journal of Educational Development, 32*(1), 145–154. doi:10.1016/j.ijedudev.2010.12.001.

Luschei, T. F., & Carnoy, M. (2010). Educational production and the distribution of teachers in Uruguay. *International Journal of Educational Development, 30*(2), 169–181. doi:10.1016/j.ijedudev.2009.08.004.

Luschei, T. F., Chudgar, A., & Rew, J. W. (2013). Exploring differences in the distribution of teacher qualifications across Mexico and South Korea: Evidence from the Teaching and Learning International Survey. *Teachers College Record*, *115*, 1–38. Retrieved from http://www.tcrecord.org/DefaultFiles/SendFileToPublic.asp?ft=pdf&FilePath=c:\WebSites\www_tcrecord_org_documents\38_16964.pdf&fid=38_16964&aid=2&RID=16964&pf=Content.asp?ContentID=16964

Mulkeen, A., & Chen, D. (2008). *Teachers for rural schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. Washington, DC: World Bank.

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4–36.

Sargent, T., & Hannum, E. (2005). Keeping teachers happy: Job satisfaction among primary school teachers in rural Northwest China. *Comparative Education Review, 49*(2), 173–204.

Sen, A. (2001). *Development as freedom*. Oxford, UK: Oxford University Press.

Sen, A. (2009). *The idea of justice*. Cambridge, MA: Belknap Press of Harvard University Press.

Steiner-Khamsi, G., & Lefoka, P. (2011). *Recruitment into teaching, teacher development, and teacher retention in Lesotho*. Nairobi, Kenya: UNICEF ESARO & UNICEF Lesotho.

UNESCO. (2006). *Teachers and educational quality: Monitoring global needs for 2015*. Montreal, Canada: UNESCO.

UNESCO. (2010). *Reaching the marginalized. Education for all Global Monitoring Report 2010*. Paris, France: UNESCO.

UNESCO. (2015b). *EFA Global Monitoring Report 2015. Gender and EFA 2000–2015: Achievements and challenges*. Paris, France: UNESCO. Retrieved from http://unesdoc.unesco.org/images/0023/002348/234809E.pdf?new

Vegas, E., & De Laat, J. J. (2003). *Do differences in teacher contracts affect student performance? Evidence from Togo*. Washington, DC: World Bank.

CHAPTER 3

Setting the Study Context: India, Mexico, and Tanzania

Abstract In this chapter, we provide background information related to India, Mexico, and Tanzania and we describe our research approach to examining teacher distribution in these countries. We first describe levels of economic development and social inequality, which determine the resources available to employ teachers and the degree to which disadvantaged populations have access to these resources. We then describe each country's geography, as the difficulties of living and teaching in remote rural areas with few amenities constrain education officials' efforts to recruit and deploy teachers to these areas. This is followed by a discussion of relevant aspects of these education systems and key issues related to teacher deployment and distribution. To further set the stage for the subsequent analysis, we describe the methodology of our study, including our comparative approach and our data collection and analysis strategies.

Keywords India • Mexico • Tanzania • Comparative education research • Cross-national case study research methods

In Chapter 2, we identified national context as a key determinant of the distribution of teachers. In this chapter we provide background information related to our three case study countries. We first describe levels of economic development and social inequality, which determine the resources available to employ teachers and the degree to which disadvantaged

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_3

populations have access to these resources. We then briefly describe each country's geography, as the difficulties of living and teaching in remote rural areas with few amenities to support daily life constrain education officials' efforts to recruit and deploy teachers to these areas. We then turn to a discussion of relevant aspects of these education systems and key issues related to teacher deployment and distribution. To further set the stage for our analysis of teacher distribution, we then describe the methodology of our study, including our comparative approach and our data collection and analysis strategies in each country.

Economic, Social, and Geographic Context

India is by far the largest of the three study countries, in terms of both population and geographic area (Table 3.1). With a population of over 1.2 billion and an area of nearly 3.3 million square kilometers, India has the 2nd largest population in the world and the 7th largest geographic size. India's area is a little more than one third that of the United States (Central Intelligence Agency [CIA], 2015a). Although Mexico has a population only about one tenth the size of India's and is more than a million square kilometers smaller, it is nonetheless the 12th largest country in the world in terms of population and the 14th largest in terms of geographic size. Mexico is slightly less than three times the size of the US state of Texas (CIA, 2015a). Tanzania is the smallest of the three countries, with a population of around 51 million (27th largest in the world) and a

Table 3.1 India, Mexico, and Tanzania: general background

	Population, 2015	*GDP per capita, PPP (US$), 2014*	*Gini index (year)*	*% GDP invested in education (year)*	*Geographic area (km²)*
India	1,251,695,584	5900	33.60 (2012)	3.80 (2012)	3,287,263
Mexico	121,736,809	17,900	48.30 (2008)	5.10 (2011)	1,964,375
Tanzania	51,045,882	2700	37.60 (2007)	6.20 (2010)	947,300

Note: Data retrieved from "The World Factbook," Central Intelligence Agency (2015a)

geographic area that is 31st in the world, equaling roughly twice the size of the US state of California (CIA, 2015a).

India, Mexico, and Tanzania are all home to a great diversity of peoples and cultures. In each country, the government and society must face the challenges of including and providing social services for important minority groups. Education officials in the three countries must remain vigilant to prevent educational marginalization through uneven teacher distribution and other inequities in the provision of educational resources. India's population comprises an extremely diverse group of religions, languages, castes, and scheduled tribes. Although caste-based discrimination has been legally eradicated, in practice members of certain traditionally disadvantaged groups, especially members of schedule tribes, exhibit systematically lower levels of developmental outcomes (Desai & Dubey, 2012). Mexico is home to more than seven million indigenous people, around 7 % of the population, who speak dozens of languages (Mexico Censo de Poblacion y Vivienda, 2010). Mexico's indigenous population suffers a high degree of poverty, segregation, and geographic isolation, which together hinder educational access and quality (Treviño, 2013). Tanzania features a diversity of religious, ethnic, and language groups, as well as an important nomadic/pastoralist population. Children from nomadic families face major challenges in attending and succeeding in school, in part because many must work to contribute to their households (Woods, 2009).

Mexico is both the wealthiest and most unequal of our three case study countries. In 2014, Mexico's per capita gross domestic product (GDP) was nearly $18,000, compared to $5900 in India and $2700 in Tanzania (Table 3.1). The World Bank classifies Mexico as an "upper-middle income economy," while India has a "lower-middle-income economy" and Tanzania has a "low-income economy" (World Bank, 2015). Yet Mexico's Gini Index, a measure of the distribution of income across households, places it among the top 25 most unequal countries in the world. In contrast to Mexico's Gini Index of 48.3 (a higher number indicates greater inequality), Ginis in India (33.6) and Tanzania (37.6) suggest much greater levels of income equality (CIA, 2015b).

Each of the three countries features an extensive and varied landscape. India's geography ranges from upland plains in the south, flat and rolling plains along the Ganges River, and the Himalayas Mountain Range in the north. Only one third of India's population lives in urban areas (CIA, 2015a). Mexico's landscape includes high rugged mountains, low coastal plans, high plateaus, and vast expanses of desert, but in contrast

to India, a large majority of the population (79.2 %) lives in urban areas (CIA, 2015a). Tanzania's geography consists of coastal plains, a central plateau, and highlands in the north and south. Similar to India, less than one third of Tanzania's population lives in urban areas (CIA, 2015a). The landscape of each country includes large remote and rural areas that are often underdeveloped in terms of infrastructure, transportation, access to potable water, electricity, and other amenities. The existence of such challenging terrain is likely to make teacher recruitment to such areas very difficult. We discuss these challenges—and their impact on the distribution of teachers—in detail in Chapter 5.

Educational Context and Key Teacher-Related Issues

Two of our case study countries, India and Mexico, have federal education systems, while Tanzania has a unitary system. In relation to our discussion of centralization in Chapter 2, distinctions between unitary and federal systems provide one way to classify countries as centralized or decentralized. Central governments in unitary systems generally have more control over local processes and policies. In other words, they are more centralized. In federal systems, educational decisions are more likely to be under the control of states or provinces, making them less centralized. In India, the national (federal) government decides the rules and regulations that apply to all schools in all states. But Indian states are very large and diverse; the populations of several states make them as large as many major countries. As a result of this diversity and size, combined with India's federal system, Indian states often interpret and apply national policies very differently from each other. Similarly, in Mexico's federal system—which underwent a major educational decentralization in the 1990s—states vary considerably in terms of their policies to hire and assign teachers to schools. Thus while the central government can set general guidelines related to teacher qualifications, the way that teachers arrive at schools can be quite different across the Mexican states (Luschei, 2012a). In Tanzania's unitary system, the central government assigns teachers to regions but actors at the district and ward levels provide important information about teacher vacancies. These actors also influence teacher assignment and transfer decisions within districts. In Chapter 4, we provide more detail about the role of educational actors at multiple levels of the system.

Educational Background in India, Mexico, and Tanzania[1]

According to Table 3.1, Tanzania spends a larger percentage of its gross domestic product on education (6.2 %) than Mexico (5.1 %) or India (3.8 %). Yet available data also suggest that Tanzania faces the greatest challenge of the three countries in terms of educational access. As indicated in Table 3.2, Tanzania has a lower primary net enrollment ratio than India and Mexico. Enrollment is even more problematic at the secondary level, as gross enrollment in Tanzania falls substantially below secondary net enrollment in Mexico and secondary gross enrollment in India. Tanzania also has higher primary-level pupil-teacher ratios, which can serve as a measure of both teacher shortage and educational quality. In striving toward the completion of Education for All goals by 2015, Mexico had the greatest success of the three countries. Mexico's Education for All Development Index (EDI) of 0.96 in 2012 indicated that the country had achieved EFA and placed the country 49th among 113 countries with available EDI data (UNESCO, 2015a, p. 232).[2] India's 2010 EDI of 0.79 placed it in 102nd place out of 120 countries, suggesting that the country was far from completion of EFA goals. EDI data are not consistently available for Tanzania. In the sections that follow, we discuss key educational issues in each country, with a focus on teacher-related issues and challenges.

Table 3.2 India, Mexico, and Tanzania: educational background

	Net Primary Enrollment Ratio (Year)	*Secondary Enrollment Ratio (N Net, G Gross) (Year)*	*Primary Pupil/ Teacher Ratio (Year)*	*Out-of-school Children in Primary School (Year)*	*EFA Development Index (Rank/ Countries, Year)*
India	93.09 (2012)	71.47 (G) (2012)	35.15 (2011)	1,723,585 (2012)	0.790 (102/120, 2010)
Mexico	96.34 (2013)	67.88 (N) (2012)	28.02 (2012)	290,493 (2013)	0.964 (49/113, 2012)
Tanzania	83.46 (2013)	32.97 (G) (2013)	43.44 (2013)	1,423,949 (2013)	n/a

Note: Retrieved from *Data centre* by UNESCO Institute for Statistics [UIS] (2014); *Youth and skills: Putting education to work. Education For All Global Monitoring Report 2012*, by UNESCO (2012), Paris, France: UNESCO; *EFA Global Monitoring Report 2015. Education for All 2000–2015: Achievements and challenges*, by UNESCO (2015a), Paris, France: UNESCO

India

The Indian education system has experienced rapid transformation over the last decade and more. At the beginning of the twenty-first century, India was home to the largest number of out-of-school children in the world. The Sarva Siksha Abhiyan, a national policy launched in 2002 and backed by large financial commitments, focused on this problem. By 2010, the number of unenrolled children in India had fallen dramatically. The national secondary school mission, the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), now seeks to increase secondary enrollment from 68.5 % to 75 % by 2017 (Government of India, 2012). Volunteer-driven assessments by the NGO Pratham are the primary source of understanding the status of learning in India. A 2013 Pratham report noted "no significant improvement" in children's already limited ability to read, along with a continuing struggle with basic arithmetic (ASER Center, 2013). As a result, the attention of government and civil society has shifted to ensuring that children learn and remain in school.

In 2010–2011, India employed close to 6.5 million teachers at the elementary level (grades 1 through 8). Four million of these teachers (66 %) worked in government schools (Mehta, 2012). Although the challenges, policies, and practices associated with a large teacher labor force have some overarching national dimensions, they also vary considerably across the Indian states. The Indian education system currently contends with challenges of teacher quantity, quality, and distribution. In spite of the size of the teacher workforce, the quantity of teachers remains inadequate. A recent national estimate identifies the need for 500,000 additional elementary teachers to fill vacant positions. The quality of current teacher training, and in many cases of current teachers, also leaves room for improvement (Chudgar, 2013). Uneven teacher distribution has also emerged as an important issue in India.[3]

Mexico

The Mexican education system has made important progress in primary school enrollment since the late 1990s, leading to a net primary enrollment rate of 96 % in 2013. However, Mexico's secondary net enrollment rate of 68 % indicates a substantial drop-off for adolescents (UIS, 2014). Mexico also faces major concerns related to educational quality and equity. Results from national examinations indicate both low overall performance

and particular challenges for indigenous and rural children (Martínez Rizo, 2002). In the 2012 Programme for International Student Assessment (PISA), Mexican students performed below the OECD average in reading, math, and science (Organization for Economic Cooperation and Development [OECD], 2014).

Like India and Tanzania, Mexico faces challenges of quantity, quality, and distribution of teachers. According to Puryear, Santibañez and Solano (2011), pre-service teacher education often places much more emphasis on theory than on subject-matter knowledge and practice. Once they begin teaching, novice teachers generally receive little orientation or mentoring. Although in-service training is widely available, there is little evidence indicating a positive impact of this training on student learning (Puryear et al., 2011). Problems of teacher quality are particularly acute in rural areas and among indigenous communities. A 2012 UNICEF Mexico report observes that a key to improving education for indigenous children is to address barriers to educational supply, including "the presence of precarious and low-quality infrastructure and teachers" (UNICEF, 2012, p. 41). Yet there are insufficient incentives for teachers to work in the remote rural areas where indigenous children often live (Puryear et al., 2011). As a result of these challenges, more qualified teachers are disproportionately concentrated in urban areas, wealthier municipalities, and in schools with higher-achieving children (Luschei, 2012a; Luschei, Chudgar, & Rew, 2013). Evidence also suggests that teachers with the most seniority choose to teach in urban areas, leaving positions in remote rural areas with inexperienced teachers. For example, 9.4 % of urban teachers in Mexico have two or fewer years of experience in primary education, compared to 17.4 % of rural teachers and 18.4 % of teachers of indigenous children (Instituto Nacional para la Evaluación de la Educación [INEE], 2013, p. 185).

In our cross-country quantitative analysis of teacher distribution, we found distinct contrasts in the types of Mexican teachers working with the lowest and highest deciles of students in terms of both academic performance and socioeconomic status. The lowest performing students had on average more male and younger teachers, with less experience and lower rates of teacher training. Their teachers indicated lower rates of satisfaction and higher rates of wishing to be reassigned to another school, but they also had lower rates of holding an additional job. We found a similar pattern comparing the highest and lowest SES students (in terms of home possessions and parental education). The teachers of students speaking

an indigenous or foreign language at home were more likely to be male, older, with lower levels of education and training, but higher rates of permanent status compared to teachers of students who spoke the test language at home. In comparing teachers in urban areas to those in rural areas, we found several important differences that placed children in rural areas at a disadvantage. Urban teachers had higher average levels of experience, education, and training, and expressed less desire to be reassigned to another school. Rural teachers were much more likely to be male (63 % vs. 37 % in urban areas) and were less likely to have another job outside their primary teaching position (Luschei, Chudgar, Fagioli, & Pippin, 2013).

Tanzania

In the late 1970s, Tanzanian President Julius Nyerere implemented his own brand of African socialism, *Ujamaa* (or extended family), which consisted of policies of self-reliance and rural development (Vavrus, 2003, 2005). Primary and secondary school enrollments soared as the government abolished school fees, nearly achieving universal primary education (Hardman, Ackers, Abrishamian, & O'Sullivan, 2011). Yet with continued economic crisis, school fees reappeared in the mid-1980s; enrollments fell by between 15 % and 25 % over the next decade as families made the difficult choice between meeting basic needs or educating their children (Vavrus, 2003, 2005). The Tanzanian education system today faces serious challenges connected to expanding educational capacity, improving retention in school, and ensuring quality of education for marginalized children. Although EDI data are not consistently available for Tanzania, enrollment rates indicate relatively high levels of enrollment at the primary level, but very low rates at the secondary level. According to SACMEQ II data, the performance of Tanzanian sixth grade students on math and reading assessments is relatively high among participating countries in sub-Saharan Africa (Zhang, 2006). However, results from a 2012 report issued by UWEZO raise concerns about reading levels of third grade children (UWEZO Tanzania, 2013).

Similar to our other case study countries, Tanzania's teacher labor market faces challenges related to quantity, quality, and equity. Limited availability of qualified pre-primary, special-needs, science, mathematics, and English teachers is a serious concern. Deployment of teachers to rural areas is also challenging due to lack of housing

and basic amenities like water, electricity, health services, and transportation. This is reflected in wide variations in PTRs across regions and across urban and rural areas (Mulkeen & Chen, 2008). Housing in particular can pose a major problem in recruiting and deploying teachers to work in rural areas. Similar to India, this problem has a distinct gender dimension in Tanzania, as women teachers find it especially hard to work in remote and rural locations without safe housing (Mulkeen & Chen, 2008).

A concern that is especially strong in Tanzania compared to our other case study countries is the overall low status of the teaching profession. Teaching is viewed as a profession of "last resort" that is unattractive to anyone with an alternative career option. According to Mkumbo (2012), recommending that a Tanzanian child become a teacher may be viewed as an insult rather than praise. The quality of teacher training in Tanzania has also received criticism. One study noted that "primary teaching was largely made up of teacher-led rote, recitation and exposition" and in-service training was "often uncoordinated, ad-hoc and of varying quality" (Hardman & Dachi, 2012, p. 7).

The low status of teaching—along with difficult working conditions in many cases—has appeared to have a strong negative effect on teachers' motivation (Mkumbo, 2012). According to our quantitative cross-country analysis of teacher distribution, Tanzania also faces challenges of uneven teacher distribution. To begin with, we found that more qualified teachers were more likely to work in wealthier, higher-performing, and larger schools. Teachers in these schools were also more likely to be female. In less affluent schools, percentages of male teachers were much greater than in schools in the top decile of student wealth. However, teachers in the bottom decile schools had more training than those in the top schools. We found that teachers working with more affluent, higher performing, and less disruptive children reported greater levels of satisfaction with their living and working environments. We also found important differences between teachers in urban and rural locations, especially in terms of gender. Sixty-one percent of reading teachers in rural areas were male, compared to 12 % of reading teachers in urban areas. Men constituted 88 % of math teachers in rural areas, compared to 48 % of math teachers in urban areas. Additionally, math and reading test scores of urban Tanzanian teachers were higher than those of teachers in rural schools (Chudgar et al., 2013).

Study Design and Methodology

Our study design employed what Bray and Thomas (1995) refer to as "comparative and multilevel analysis." According to Bray and Thomas, comparative studies in education often compare countries, regions, and broad macro-level phenomena. In contrast, many non-comparative educational studies examine the localized experiences of individuals. In the opinion of Bray and Thomas (1995), each of these approaches leads to an "incomplete and unbalanced perspective" (p. 472). In contrast to broad macro or narrow micro approaches, we compare the experiences and perceptions of actors across multiple levels and roles within the education sector. According to Bray and Thomas (1995), comparative studies that consider multiple levels "offer more comprehensive and possibly more accurate presentation of the phenomena they address" (p. 484).

In following a multilevel comparative design, we identified two to four diverse regions in each country to help us capture similarities and variation in teacher recruitment, hiring, retention, and transfer policies and practices. As we sought to collect information from multiple levels and roles, we also hoped to capture as much variability in contexts as possible, through maximum variation criteria sampling (Maxwell, 2005). For example, in each country we tried to select at least one region that struggled with multiple educational challenges and at least one that performed relatively well. Our search for variability was based not only on our interest in a multitude of experiences and approaches, but also on a search for common themes across diverse settings. Additionally, in each country we interviewed participants at the national, regional, and local levels. These participants represented various roles, including teachers, school leaders, local education officials, national education officials, academics, representatives of NGOs, and teachers union officials.

Given dissimilarities across our study countries and regions, we strove for consistency in our research design and data collection approach to ensure the collection of comparable, multilevel data. Referring closely to key themes identified by our conceptual framework, we developed common interview protocols that we applied consistently across countries. These protocols were further tailored to the roles and levels of interview participants. Interview protocols in each country consisted of four primary sections: background information about the participant; distribution of educational resources; issues related to teacher recruitment, retention, and retirement; and teacher allocation and distribution. We included

supplementary questions for teachers, school leaders, representatives of NGOs, and teachers union representatives. The supplementary questions related to the distinct perspectives and experiences of these participants with respect to the distribution of teachers across schools (see Appendix). The application of interview protocols was conducted consistently across countries, levels, and participants. Most of the interviews were conducted by one or both of the study's co-authors. In cases where others conducted interviews, these researchers received extensive prior training on the background, focus, and methods of the cross-national study.

Sample Selection and Interviews

In selecting participants for our interviews, we primarily used the approach of snow-ball sampling (Patton, 2014). In each country we consulted the local UNICEF office and colleagues in the field, or colleagues located in the United States with in-country experience. We triangulated sources from these networks to arrive at an initial list of interview participants in each country or region. Once in the field, these initial interviews often provided the next relevant source. To ensure a multilevel comparative approach, we identified participants at multiple levels of the education system, including national and regional decision makers, district officials, school leaders, individual teachers, and representatives of civil society.

In India, our sample selection approach generated 31 interviews from national, state, district, block, and school officials (Table 3.3). The sample also contained teachers, NGO representatives, and union representatives. We selected the states of Rajasthan in the west, Madhya Pradesh in the center, and Karnataka in the south as study locations, as they offered distinct and diverse insights into the processes in which we are interested. As we note above, the size of Indian states is comparable to that of many countries. For example, Rajasthan is similar in population size to Thailand, Madhya Pradesh to Turkey, and Karnataka to Italy (The Economist, n.d.). In Karnataka, a southern district was selected. This is a relatively prosperous district with rich agricultural produce and related industry. It is well connected by road and railways. This has led to the establishment of many polytechnics and engineering colleges, along with various industrial research institutes in the vicinity. The district has various employment opportunities and subsequently there is a high demand for education. The district selected in Rajasthan is in the northeastern part of the state, and

Table 3.3 Interview samples in India, Mexico, and Tanzania

Participant designation	*Interviews*	*Participants*	*Interview location*			
India			*KA*	*MP*	*RJ*	
National Level	2	2				
State Level	10	15	5	4	1	
District Level	9	18	2	2	5	
Block Level	3	4	1	1	1	
School Level	3	14	1	1	1	
NGOs	1	1	Not revealed to maintain confidentiality of respondent			
Teacher Unions	3	7	1	1	1	
Total	31	61				
Mexico			*CH*	*DF*	*YU*	*ZA*
National Level	2	3		2		
State Level	9	15	4	1	3	1
District Level	1	12	1			
School level (including Principal and Teachers)	11	25	4	4	2	1
University/teacher preparation	4	5	2		1	1
NGOs	4	8	1	1	1	1
Teachers Union[a]	1	1	Not revealed to maintain confidentiality of respondent			
Total	32	69				
Tanzania			*AR*	*DS*	*LI*	
National Level	2	6		2		
District Level	2	3	1		1	
Ward Level	4	4	2		2	
School Level (including Head Teacher and Teachers)[b]	5	6	1		4	
University/teacher preparation	1	1			1	
NGOs	2	2	1	1		
Teachers Union[a]	1	1	Not revealed to maintain confidentiality of respondent			
Other	1	1		1		
Total	18	24				

[a]To maintain the confidentiality of the union representatives, the location of the interviews are not included here

[b]One interview with a Ward Education Officer in Arusha Region also included a head teacher and a teacher. The interview and the WEO are counted as "ward level," but the head teacher and teacher participants are counted as "school level"

AR Arusha Region, Tanzania, *CH* Chiapas, Mexico, *DF* Federal District, Mexico, *DS* Dar es Salaam, Tanzania, *KA* Karnataka, India, *LI* Lindi Region, Tanzania, *MP* Madhya Pradesh, India, *RJ* Rajasthan, India, *YU* Yucatán, Mexico, *ZA* Zacatecas, Mexico

has a significant Muslim population. Large educational inequities were visible as one saw well-established English medium private schools alongside small, cramped spaces that function as Madrasas (Islamic schools). In 2006, the Government of India designated this district as one of the 250 Most Backward Districts (out of a total of 640). The district selected in Madhya Pradesh lies in its central region. Two UNESCO world heritage sites are present in this district, making it a major tourism hub. Nonetheless, the district continues to be economically backward as according to the District Level Household and Facility Survey (2007–2008), about 70 % of the households in this district have a low standard of living (International Institute for Population Sciences [IIPS], 2010). This district also has a significant tribal population.

In Mexico we conducted a total of 32 interviews with national, state, district, and school officials as well as with teachers, representatives of non-governmental organizations, teacher educators, and one representative of the Mexican teachers union. We collected data from Mexico's Federal District and three states, Chiapas, Yucatán, and Zacatecas. These states provide a great deal of diversity in terms of educational and socioeconomic conditions, population, and geography. The identification of participants was guided by the desire to capture variability in contexts and practices and to explore the situation of key marginalized populations, particularly indigenous children and children in rural areas. The sample provides an adequate representation of state and school levels, but little representation of district officials. Interviews were not distributed evenly across the four study sites, with Chiapas accounting for about 40 % of the interviews. Our decision to focus so much attention on Chiapas stems largely from our interest in exploring the situation of teachers of poor children, indigenous children, and children living in rural areas.

In Tanzania, our sample selection strategy resulted in 18 interviews with a total of 24 participants at the national, district, ward, and school levels. The sample also contained teachers, representatives of non-governmental organizations, teacher educators, and one representative of the Tanzanian teachers union. After consulting various background sources, we selected the regions of Arusha in the north and Lindi in the south. These regions provide a great deal of diversity in terms of educational and socioeconomic conditions, population, and geography. We also conducted interviews in Dar es Salaam, the capital, to provide key policy context for the study. We conducted several more interviews in Lindi Region than in Arusha or Dar es Salaam. This decision to focus relatively more attention on Lindi Region—which has a much lower level of development and educational success than Arusha or Dar es Salaam—stems largely from our interest in

exploring the situation of teachers of poor children living in rural areas. Our interviews in Dar es Salaam were meant to capture the national policy context; we did not visit any schools or interview any teachers there. Consequently, in describing the conditions for teachers of marginalized children, we concentrate on our analysis of data from Arusha and Lindi.

Interviews were conducted with participants by first presenting them with a consent form, obtaining their written or oral consent and then, with their permission, tape-recording the interview. Most interviews lasted between 45 minutes and 1 hour, as anticipated. The participants were offered the option to conduct the interview in English, or in the national or local language with the help of a translator, as necessary. For each location, we followed appropriate procedures for the protection of human subjects. We transcribed (and in some cases translated) all interviews, thereby generating several hundred pages of interview data.

Analysis of Interview Data

Our audio-recorded interviews were professionally transcribed for analysis. In coding our interview data, the co-authors—working both independently and together—consulted each other frequently to identify themes that converged and diverged across the study countries. In addition, we discussed themes that emerged from our presence in the field, our conversations with participants, and our observations. We utilized NVivo qualitative data analysis software to analyze a portion of the large quantity of data that we collected. This approach gave us an additional way to code for both *a priori* codes and emergent codes that appeared during our fieldwork. At all stages of data coding and analysis, we made concerted efforts to identify themes that both overlapped across the three countries and that were distinct for each.

The prior codes that we anticipated involved issues of resource allocation; patterns of teacher distribution; and policies and practices related to the recruitment, hiring, deployment, and transfers of teachers. The emphasis on each of these topics varied depending on the context and the role of the interview respondent. In addition, we were attentive to any patterns pertaining to teacher demographics in explaining the teacher labor markets we studied, as this theme had emerged strongly from our earlier quantitative work. New themes that emerged from the interview data included the localness of teacher labor markets, the critical role of

teachers' preferences, the difficult conditions faced by new teachers in the field, and the role of political patronage in teacher allocation decisions.

Summary

Our study uses a comparative and multi-level analysis across three large and diverse countries, each with its own unique educational history and background. Along with this variation, we introduced some consistency through our within-country sample selection. Within each country we sought to identify high-, medium-, and low-performing regions and we sought to speak with a range of individuals at similar levels in the education system. To ensure consistency in data collection, we administered a common interview protocol guided by our conceptual framework. The rich data that resulted from close to 90 interviews form the foundation of this work. We analyzed these data to identify themes that were consistent across our study countries. We triangulated these results with other data sources and analysis where feasible. We used both themes that we had generated *a priori* and new themes that emerged from the data. In the remainder of this book we discuss important themes and issues that emerged from the demand side (Chapter 4) and the supply side (Chapter 5). In Chapter 6, we conclude and offer recommendations for practice, policy, and future research.

Notes

1. The text for this section is adapted from a background report the authors wrote for UNESCO's 2015 *Global Monitoring Report* (Luschei & Chudgar, 2015).
2. The EDI is a composite index that combines data on four of the six EFA goals: universal primary education (goal 2), adult literacy (goal 4), gender parity and equality (goal 5), and quality of education (goal 6). The EDI ranges from 0 to 1, with 1 indicating full achievement of EFA across the four goals (UNESCO, 2015a, p. 229). The EDI is used to group countries into three categories: high (EDI > 0.95); medium (EDI of 0.80–0.94); and low (less than 0.80). High EDI countries have achieved or are close to achieving EFA; medium EDI countries are at an intermediate position, and low-EDI countries are far from achieving EFA goals (UNESCO, 2015a, pp. 231–233).

3. Due to lack of available data, we were unable to include India in our earlier cross-country analysis of teacher distribution. However, our case study research in India, discussed at length in Chapters 4 and 5, identified teacher distribution as a significant challenge in our three study states.

References

ASER Center (2013). *Annual status of education report (rural)*. New Delhi, India: ASER Center.

Bray, M., & Thomas, R. M. (1995). Levels of comparison in educational studies: Different insights from different literatures and the value of multilevel analyses. *Harvard Educational Review, 65*(3), 472–490.

Central Intelligence Agency [CIA]. (2015a). *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/index.html

Central Intelligence Agency [CIA]. (2015b). *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/rankorder/2172rank.html

Chudgar, A. (2013). Teacher labor force and teacher education in India: An analysis of a recent policy change and its potential implications. In M. Akiba (Ed.), *Teacher reforms around the world: Implementations and outcomes* (Vol. 19 & pp. 55–76). Bingley, UK: Emerald Group Publishing Limited.

Chudgar, A., Luschei, T. F., Creed, B., Chandra, M., Pippin, J., & Fagioli, L. P. (2013). *Regional report Sub-Saharan Africa: Study of teachers for children marginalized by social origin, economic status, or location. Submitted to the United Nations Children's Fund, New York*. New York: UNICEF.

Desai, S., & Dubey, A. (2012). Caste in 21st century India: Competing narratives. *Economic and Political Weekly, 46*(11), 40–49.

Government of India. (2012). *Secondary education: Rashtriya Madhyamik Shiksha Abhiyan*. Retrieved June 2, 2012, from http://mhrd.gov.in/rashtriya_madhyamik_shiksha_abhiyan

Hardman, F., Ackers, J., Abrishamian, N., & O'Sullivan, M. (2011). Developing a systemic approach to teacher education in Sub-Saharan Africa: Emerging lessons from Kenya, Tanzania, and Uganda. *Compare: A Journal of Comparative and International Education, 41*(5), 669–683.

Hardman, F., & Dachi, H. (2012). *Final report: Evaluation of school-based INSET pilot programme*. York, UK: Institute for Effective Education, University of York.

Instituto Nacional para la Evaluación de la Educación [INEE]. (2013). *Panorama educativo de México: Indicadores del sistema educativo nacional. 2012: Educación Básica y Media Superior*. Mexico City, Mexico: Insituto Nacional para la Evaluación de la Educación.

International Institute for Population Sciences [IIPS] (2010). *District Level Household and Facility Survey (DLHS-3), 2007–08: India*. Mumbai, India: IIPS.

Luschei, T. F. (2012b). The effectiveness and distribution of male primary teachers: Evidence from two Mexican states. *International Journal of Educational Development, 32*(1), 145–154. doi:10.1016/j.ijedudev.2010.12.001.

Luschei, T. F., & Chudgar, A. (2015). *Background report for Education for All Global Monitoring Report 2015: Evolution of policies on teacher deployment to disadvantaged areas. Submitted to UNESCO*. New York: UNESCO.

Luschei, T. F., Chudgar, A., Fagioli, L. P., & Pippin, J. (2013a). *Regional report - Latin America: Study of teachers for children marginalized by social origin, economic status, or location. Submitted to the United Nations Children's Fund, New York*. New York: UNICEF.

Luschei, T. F., Chudgar, A., & Rew, J. W. (2013). Exploring differences in the distribution of teacher qualifications across Mexico and South Korea: Evidence from the Teaching and Learning International Survey. *Teachers College Record*, *115*, 1–38. Retrieved from http://www.tcrecord.org/DefaultFiles/SendFileToPublic.asp?ft=pdf&FilePath=c:\WebSites\www_tcrecord_org_documents\38_16964.pdf&fid=38_16964&aid=2&RID=16964&pf=Content.asp?ContentID=16964

Martínez Rizo, F. (2002). Nueva visita al país de la desigualdad. La distribución de la escolaridad en México, 1970–2000. *Revista Mexicana de Investigación Educativa, 7*(16), 415–443.

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.

Mehta, A. C. (2012). *Elementary education in India: Progress towards UEE, flash statistics DISE 2010–2011*. New Delhi: National University of Educational Planning and Administration.

Mexico Censo de Poblacion y Vivienda. (2010). Resultados definitivos.

Mkumbo, K. A. (2012). Teachers' commitment to, and experiences of, the teaching profession in Tanzania: Findings of focus group research. *International Education Studies, 5*(3), 222–227.

Mulkeen, A., & Chen, D. (2008). *Teachers for rural schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. Washington, DC: World Bank.

Organization for Economic Cooperation and Development [OECD]. (2014). *PISA 2012 results in focus: What 15-year-olds know and what they can do with what they know*. Paris, France. Retrieved from http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf

Patton, M. Q. (2014). *Qualitative research and evaluation methods* (Fourth). Thousand Oaks, CA: Sage.

Puryear, J. M., Santibañez, L., & Solano, A. (2011). *Education in Mexico, a new vision for Mexico: Achieving prosperity for all*. Washington, DC: The Centennial Group.

The Economist. (n.d.). *An Indian summary: Which countries match the GDP and population of India's states and territories?*

Treviño, E. (2013). Learning inequality among indigenous students in Mexico. In B. Jensen & A. Sawyer (Eds.), *Regarding education: Mexican-American schooling, immigration, and bi-national improvement* (pp. 95–123). New York: Teachers College Press.

UNESCO. (2012). *Youth and skills: Putting education to work. Education for all Global Monitoring Report 2012.* Paris, France: UNESCO.

UNESCO. (2015a). *EFA Global Monitoring Report 2015. Education For All 2000–2015: Achievements and challenges.* Paris, France: UNESCO.

UNESCO Institute for Statistics [UIS]. (2014). *Data centre.* Retrieved from http://www.uis.unesco.org/DataCentre/Pages/BrowseEducation.aspx

UNICEF (2012). *Panorama de la adolescencia indígena en México desde una perspectiva de derechos.* Mexico, DF: UNICEF.

UWEZO Tanzania. (2013). *Are our children learning? Annual learning assessment report 2012.* Dar es Salaam, Tanzania: UWEZO.

Vavrus, F. (2003). *Desire and decline: Schooling amid crisis in Tanzania* (Vol. 13). Bern, Switzerland: Peter Lang Pub Incorporated.

Vavrus, F. (2005). Adjusting inequality: Education and structural adjustment policies inTanzania. *Harvard Educational Review, 75*(2), 174–201.

Woods, E. (2009). Progress towards EFA in Tanzania. *Prospects, 38*, 425–430.

World Bank. (2015). *Country and lending groups.* Retrieved from http://data.worldbank.org/about/country-and-lending-groups

Zhang, Y. (2006). Urban-rural literacy gaps in Sub-Saharan Africa: The roles of socioeconomic status and school quality. *Comparative Education Review, 50*(4), 581–602.

CHAPTER 4

Demand-side Explanations for Inequitable Teacher Distribution

Abstract In this chapter we discuss key junctures in the teacher pipeline where inequities in teacher distribution appear. These include: (1) the recruitment of talented young people into teacher training, initial teacher preparation, and recruitment into teaching; (2) hiring qualified teachers and distributing them equitably across regions and schools; and (3) continuously supporting and retaining teachers through attractive working conditions, induction and support for new teachers, and continuous, high-quality professional development. In the last section, we include a discussion of teacher transfers, which can either remedy or worsen inequities that occur during initial teacher hiring and assignment to schools. We also describe efforts to attract or retain teachers to work in difficult locations through monetary or non-monetary incentives. At each step, we discuss how demand-side actions reinforce an inequitable (or equitable) distribution of teachers.

Keywords India • Mexico • Tanzania • Teacher pipeline • Initial teacher recruitment • Teacher hiring and placement • Teacher in-service support • Teacher retention and transfer

In Chapter 2 we discussed the policy processes that influence the composition and distribution of the teacher workforce. We presented Akiba and LeTendre's (2009) conceptual framework for ensuring a "coherent policy

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_4

for improving teacher quality" (p. 12). This framework consists of three principal steps: (1) recruitment and training, which includes recruitment of talented young people into teacher training, initial teacher education, and recruitment into teaching; (2) hiring qualified teachers and distributing qualified teachers equitably; and (3) continuously supporting and retaining teachers through attractive working conditions, induction and support for new teachers, and continuous, high-quality professional development. According to Akiba and LeTendre (2009), each of these steps provides opportunities to strengthen quality and equity in the teacher labor force.

Rather than the coherent policy approach outlined by Akiba and LeTendre (2009), our case study research found that the realities of policy implementation resulted in processes that were not consistently coherent or always well-functioning. We also found that inequity in teacher distribution can appear or be reinforced at each of the three steps identified by Akiba and LeTendre (2009). We found that education systems and their agents at the macro and micro levels can perpetuate inequities both knowingly and inadvertently. Inequitable policies and practices can also interact with lack of oversight and accountability, and even corruption, to further exacerbate inequities in teacher distribution. Of course, corruption is not just a demand-side issue, as teachers themselves may be involved in questionable practices. In Chapter 6, we discuss how demand and supply-side practices can jointly lead to corrupt or improper practices.

Despite the great potential for inequity in the hiring and distributing of teachers, demand-side actors in many education systems recognize the educational plight of marginalized children and proactively address teacher distribution challenges with policies and practices like quotas for teachers from underrepresented groups, recruiting teachers to work in rural areas, or providing incentives for teachers to work in difficult locations. Yet these well-intended efforts can also inadvertently reinforce educational marginalization.

As we examined the actions of governments, district representatives, and school leaders and compared our observations across India, Mexico, and Tanzania, it became increasingly clear that the steps of recruiting and training, hiring and distributing, and supporting and retaining teachers are beset with a push and pull of explicitly or inadvertently inequitable practices and policies and efforts to address inequities, which themselves may lead to unintended negative consequences. In this chapter, we discuss key junctures in the education system where inequities appear, beginning with

the initial recruitment and training of teachers and extending through the processes of teacher support and retention. In the last step, we include a discussion of teacher transfers, which can either remedy or worsen inequities that occur during initial teacher hiring and assignment to schools. We also describe efforts to attract or retain teachers to work in difficult locations through monetary or non-monetary incentives. At each step, we discuss how demand-side actions work to reinforce an inequitable (or equitable) distribution of teachers.

Attracting and Preparing Young People to Become Teachers

The first steps in building a high-quality teacher workforce are to attract talented young people to the profession and to train them well. According to the OECD's 2005 *Teachers Matter* report, ensuring that "motivated people with high-level knowledge and skills choose to become teachers" is a "fundamental requirement for providing quality teaching in schools" (p. 40). After these young people have chosen to enter the teaching profession, they must receive uniformly high-quality training that is relevant to the teaching contexts where they will work. South Korea has often been cited as an example of an education system that combines these key steps to ensure quality and equity in the teacher labor force. Due to high status of the teaching profession and relatively high salaries, many Korean young people aspire to become teachers. Education officials select new teachers from a population of motivated and talented young people and the education system provides prospective teachers with high-quality training. Together, these steps ensure a uniformly skilled Korean teacher workforce (Kang & Hong, 2008). There is also some evidence that more qualified teachers work with less advantaged students in Korea (Akiba, LeTendre, & Scribner, 2007; Luschei et al., 2013).

Unfortunately, in many developing countries the landscape for attracting and preparing teachers is quite distinct from the Korean example. Many of these countries face serious teacher shortages and must often lower quality standards to meet the demand for teachers. While this solution may address immediate needs, it can have a negative effect on the attractiveness and status of teaching as a profession (OECD, 2005). Additionally, studies in developing countries have found teacher preparation and education to be of low quality and centered on theory and lecturing, with little supervised and practical training (Hardman, Ackers,

Abrishamian, & O'Sullivan, 2011; Tarvin & Faraj, 1990). In cases where low attractiveness of the teaching profession interacts with poor initial preparation, teacher quality suffers considerably—especially for marginalized children, who are often taught by the least prepared teachers.

Attracting Talented Young People to be Teachers

In following the Akiba and LeTendre (2009) framework for coherent teacher policy, we begin our discussion with the importance of attracting talented young people into the teaching profession. Although this issue did not emerge systematically from our Indian or Mexican data, in Tanzania the challenge of recruiting talented young people to become teachers was discussed in nearly all of our interviews as well as in formal and informal discussions with colleagues. Our interviews, combined with related literature, provide strong and consistent evidence that Tanzanian teachers enjoy very little social status and recognition for the work that they do. According to previous research, recommending that a child become a teacher may be taken as an insult rather than praise (Mkumbo, 2012). Respondents in our interviews remembered earlier days when this was not the case. A teacher educator in Dar es Salaam contrasted the current situation with the high status accorded to teachers during the leadership of former president Julius Nyerere (1960–1985), who was referred to as "Mwalimu," or Teacher. The respondent observed that as a result of an effort to provide all Tanzanian children with access to primary education, entry requirements were lowered to recruit more teachers into the system. This effort diminished both the status and working conditions of teachers. The teacher educator observed that at present, virtually every aspect of teaching in Tanzania is at a low level—status, salaries, entry qualifications, and working conditions. A representative of the national teachers union similarly recalled the 1960s, when teachers were respected and teaching was a respectable occupation like a medical doctor or clergy. However, this is no longer the case. According to the union representative, "no one wants to be a teacher."

Low status combined with difficult working conditions and perceived low salaries make teaching an undesirable occupation from the perspective of both young people and their parents. A head teacher in rural Arusha Region also told us, "The parents and the society see teachers as not a good job." When asked whether young teachers in his area aspired to be teachers, a ward education officer in Arusha observed:

> No. They don't want to become a teacher. They say many children will never like to be teachers, especially because what they see is 'I was taught by the teacher and the teacher is still there, but now I am a doctor; I am a professor. I have a better life, but the teachers are still on the same thing.' In health, maybe the nurses and the doctors, they get more salary and benefits like allowances, seminars, but teachers, they don't have any seminars or any allowance … Many people would consider not to be teachers, but something else.

National education officials we interviewed discussed the impact of the low status of teaching on the quality of those who do enter the profession. These officials reported that the teaching profession does not attract "high achievers." Young people who are eligible for a higher status or better-paying job will take it. Those who do choose teaching often enter the profession because it is the only source of employment available to them. In other words teaching is a profession of "last resort." An educational researcher observed:

> If you can't become anything, you become a teacher. If you can't get admitted to other professions here, you become a teacher. Usually, those who become teachers are Division 3, those who have failed, and so on. Once you become a teacher, the aim is to get out of the profession as soon as possible.

The low status of teachers can also negatively affect the motivation of current teachers and reduce their commitment and effort in the classroom. This may be especially true for teachers of marginalized children, who often must cope with very difficult working conditions.

In Mexico, we found a generally different sentiment related to teachers and the teaching profession. Several respondents praised the talents and intellect of Mexican teachers, arguing that the quality of Mexican education is low despite the abilities of teachers. A representative of a non-governmental organization who had worked in Mexican education for years observed, "The more I work with teachers, the less I understand why we have such problems in education." This respondent explained that Mexican teachers are committed to their work and consistently seek opportunities to improve. A researcher in Chiapas echoed the belief that Mexican teachers want more training and preparation, observing that the new generation of teachers is better trained and prepared than previous generations. However, we did find concern in Mexico related to the profile of those who teach the most marginalized children. Evidence

suggests that these teachers are less experienced or qualified than the average teachers. A national education official in Mexico observed:

> Historically, marginalized children, rural children, children who work, and children who are disabled are early on out of school and while they are in school they have been served by non-professional teachers. Some of them are fantastic people of enormous value but they have not yet been professionals.

While the overall status of teaching profession varied across our study countries, we did identify uniform concerns related to the quality of teachers entering the system. These concerns were manifested primarily through calls to ensure the quality of incoming teachers through the use of examinations or certifications, as we discuss further below. The status of teaching notwithstanding, it appeared that in all of our study countries the young adults who entered teacher training, and eventually the profession, had received inadequate or uneven prior training, which sets the stage for challenges of uneven teacher distribution.

Initial Preparation of Teachers

The initial preparation of teachers is often where the government and teachers meet for the first time. This training provides rich opportunities to prepare knowledgeable and skilled teachers who are ready to face the educational contexts and challenges that await them. Initial teacher preparation has a strong influence on the distribution of teachers because as more teachers receive high-quality preparation, the likelihood of marginalized children having access to qualified teachers increases. Teacher preparation also provides opportunities to offer teachers in training strategies and techniques to address the learning challenges of marginalized children. Yet in contrast to this ideal scenario, we identified serious concerns related to the quality of initial teacher preparation in all three of our case study countries.

In India, we learned that although government policies endorse high levels of teacher education and training, the quality of teacher education is a serious concern. India has a central authority that certifies teacher education institutes, but this authority has been questioned and weakened (Chudgar, 2013). This trend is associated with an unchecked proliferation of private teacher education institutes, many of which charge a fee in return for a teacher-training certificate that may have little value. In

many cases, these institutes forgo an admission requirement in exchange for a "capitation fee." One participant in our study explained that students pay "around 20,000–22,000 rupees," but can add "5,000–7,000 rupees more and don't need to come to study, just come for exams." According to this respondent, students can obtain a degree while earning "any types of marks they wish." Such institutions have proliferated in urban and rural areas alike.

One Indian participant blamed the poor state of teacher education on both the demand and supply sides: "The current status of teacher training is dismal, and so is the status of the learner, students who are learning today think they can easily avoid classes and will still make it as a teacher." The poor quality of teacher education in India may be summed up by a university professor, who made the following observation about India's bachelor's in education, or B.Ed. degree:

> There are 3 important days to get a B.Ed. degree: first day to take admission, second day to give examination and third day to take degree. Nothing happens in between. So those who have B.Ed. degree, that does not mean that this person is trained in pedagogy.

Most of the participants in our case study had similarly negative views of teacher education in India. One participant minced no words in observing, "Teachers' training is and was so horrible."

In Mexico, previous research on teacher preparation has found that initial training of teachers is often inadequate or irrelevant and often emphasizes theory over practice (Puryear, Santibañez, & Solano, 2011). The training of teachers to work with Mexico's most marginalized children presents a particularly difficult challenge. Many novice teachers receive their first teaching positions in remote, rural multigrade schools with children of different ages, grades, and abilities together in the same classroom. Despite the many difficulties associated with teaching in such environments, teachers we spoke with reported that they had received little initial preparation in multigrade teaching methodologies, leaving them to improvise and create their own strategies. As an education consultant observed, "the normal schools and the universities generally educate you to teach just one grade." Such training is "never directed toward multigrade education." In the Mexican state of Chiapas, which has a large majority of multigrade schools, a multigrade teacher explained that she had received no initial training to work in a multigrade classroom:

> No, no, none. Of course they give us small workshops that help us to improve our teaching of multigrade classes but I rely more on personal creativity. There are some materials that help us, but if we talk about training, it's more about one's creativity, what seems better, if this works. Tomorrow you don't repeat it if it doesn't work. And you go building experience, next year I know how I will start …

Lack of preparation to teach marginalized children appears to be a particular challenge among young instructors in Mexico's *Consejo Nacional de Fomento de la Educación* (CONAFE), or National Council for the Development of Education program. In 1971, the Mexican government established CONAFE as a branch of the national Secretariat of Education to provide educational services to remote rural communities without schools. The instructors in CONAFE schools are younger than traditional teachers, often teenagers who have recently completed high school. The initial training for these instructors ranges from six to seven weeks and consists of basic information related to instruction and classroom management.

Many CONAFE schools contain multiple grades per classroom. A common model is three grades per classroom in preschool, six at the primary level, and three at the secondary level. This makes teaching quite complex and, as an indigenous education official observed, "even more so if the school is in an indigenous condition." At the primary level, this complexity can grow if there are not enough students to establish a primary school. A CONAFE trainer in Yucatán observed that in such cases the primary class could be merged with a preschool class, meaning that the instructor works simultaneously with preschool and primary-aged children. A former CONAFE instructor who had taught at the primary level in Yucatán recalled the difficulty of teaching a combined primary and preschool class after a preschool teacher was let go. The five preschool children were combined with 16 primary students in grades one through six, leaving her responsible for nine grades simultaneously. At the secondary level, an additional complexity in CONAFE classrooms is the use of many texts in English. When asked why students needed to study English, which places additional demands on instructors of indigenous children, a CONAFE official responded:

> We study English just like any other secondary school. CONAFE manages the same programs as the Mexican education system because we have official recognition from the government, so we need to be in agreement with the education system, as well as all of the reforms that have occurred.

With seven weeks of preparation and working in remote multigrade classrooms, often with children speaking indigenous languages, CONAFE instructors must teach the same curriculum as Mexican teachers with bachelor's degrees working in urban centers with one grade per classroom. A CONAFE official acknowledged, "In seven weeks we can't teach them everything from all the grades." To address this inadequate preparation time, the official observed that CONAFE's initial training also prepares instructors to be "autodidacts."

In Tanzania, challenges to teacher preparation begin even before students start their initial training. As we discussed above, the best and the brightest young people generally pursue careers outside of education. Even children who do not perform well in secondary schools, but whose parents can afford to pay private fees, will complete A-levels (upper secondary school) in private institutions and avoid teacher training. For those who do opt for teacher training, the bar for passing entrance examinations to teacher preparation programs is quite low. As one teacher educator noted, "the remaining one (the one who could not make it to the regular A-level), *[chuckle]* is the one who are just for teacher's quality." In other words, young people who do not succeed in secondary school are those who become teachers.

Tanzanian respondents were also clearly concerned about the quality of training in teacher preparation programs. One ward officer we interviewed called on "the government to make sure that when they recruit teachers, districts should go to the colleges for training, and make sure that they are well trained to go and teach in their schools." Training designed to prepare teachers to work with marginalized children appeared to be an important but unmet need. An official of Tamisemi—the national office that assigns teachers to regions—observed:

> All I'm saying … given preparation of our teachers, some are not specialized to handle disadvantaged groups. All are trained the same. Now, some get posted in an environment where kids are ready to do education, their parents are ready to support, and the other one is posted in an environment where kids don't like schooling. Their parents are not even supportive. That is kind of difficult—maybe we might wish also to prepare our teachers to such kind of environment. How would they fare when they find themselves posted in such environments?

At the end of their preparation programs, students from both public and private teacher training institutes take a national examination. At this stage,

every teacher trainee who scores at least 26 out of 100 points is assured a job. A government official involved with teacher placement noted the Tanzanian President's view on the shortage of teachers: "Any teacher trainee (is) ensured of a job as he finishes or he completes his training. Once they complete and they pass the examinations, they get recruited. There is no, you need to wait. No."

Teacher Hiring and Placement

Our analysis thus far finds that the first steps in Akiba and LeTendre's (2009) policy framework, attracting and preparing young people to become teachers, raise concerns in terms of both quality and equity. In our research we focused considerable attention to understand the subsequent steps of hiring and assigning teachers to schools. To identify and select young people to become teachers, each of our three case study countries has established some type of minimum qualification for entry into the teaching profession, although reports vary in terms of how well this approach ensures a high-quality teacher labor force. After describing these approaches to hiring teachers, we turn to the process of assigning, or distributing, teachers across schools. One clear theme emerged from each of the three case studies: the difficulty of filling teaching positions in remote and rural schools that often present teachers with difficult teaching and living conditions. The quality of teachers in such positions is crucial, as these schools are disproportionately populated with marginalized children. Yet given teacher shortages in such areas, governments must often use alternative approaches to fill open positions, including the lowering of required qualifications. We also found some attempts in such areas to recruit and hire teachers from underrepresented groups through reservations or quotas. Our findings reveal that hiring practices are closely related to the presence or absence of inequities in teacher distribution. In many cases it appears that while current policies rarely intend to create an unequal distribution of teachers or hardship for marginalized children, the ultimate outcome may be different due to lack of transparency, monitoring, or quality control.

Requiring a Minimum Qualification or Competence

Creating a minimum qualification or competence requirement for the teaching profession can be viewed as one of the most straightforward

approaches to ensure equity in teacher distribution; if all teachers reach or surpass this bar, differences in teacher qualifications across schools and students are less likely to occur. Yet our research reveals that in practice, equity is very difficult to achieve. In India, the national government's Right to Education Bill has recently mandated specific levels of teacher education and qualifications for teachers at different levels. Although this practice has increased the likelihood of an equitable distribution of newly hired teachers, in practice teacher qualification levels between new teachers and those who are already in the system will be uneven. It is also not evident that all new teachers will have a similar "quality" of education and training, given concerns over poor quality of teacher education we discussed above.

After the passage of the RTE bill, India introduced a multiple choice eligibility test required to enter the teaching profession, to ensure that incoming teachers reach a minimum level of competency. This test is offered by various state governments as well as a central authority. At the time of our research, this examination had recorded low passing rates across the country, which could indicate either an excellent screening mechanism or the failure to assess relevant skills. Our interviews revealed two divergent sentiments regarding the entrance exam. One is that the test will help to improve the overall quality of new entrants in the system. This may be due to two factors: (1) the barrier created by an entry exam that is not as easy to manipulate as obtaining a teacher education certificate with unverifiable quality, and (2) a greater sense of status and prestige for the teaching profession due to the requirement of a government service exam, similar to requirements for other government positions that are considered desirable. Strong candidates, who may have appeared in the past for other public service exams, could consider teaching as a similar option and appear for such a test with equal sincerity. But we also heard critiques of this approach. A university professor saw testing as a way to put a Band-Aid on a very difficult challenge: "Rather than improving what is going on [in terms of the quality of teacher education] we like to put one more monitor on top of it …" We also heard critiques that exam questions are rather limited and do not evaluate the wide range of skills necessary to be an effective teacher. More importantly, exam questions may fail to provide any sense of a person's aptitude for or commitment to teaching.

In 2008, Mexico instituted a national examination for all incoming teachers as part of the Alliance for Educational Quality agreement between the government and teachers union (Secretaria de Educación

Pública [SEP], 2011). According to the new system, all prospective teachers must take the same exam and be hired and assigned based on their test scores. According to interview respondents, candidates' scores on the exams serve both to qualify them for open positions, and in some cases, to give priority in assignments to high-scoring candidates. This system could have both positive and negative consequences for marginalized children's access to qualified teachers, similar to the Indian situation. On the positive side, interview participants noted that the new system has made teacher hiring and assignment more transparent. One state-level education official observed that prior to the national examination some teachers were able to receive assignments without participating in the formal hiring process. According to this official, "small steps are being made toward a culture of transparency." Some respondents also observed that the new system reduces the likelihood that teachers will be hired without required degrees, because teacher applicants must have completed their initial training and degrees to participate in the exam. This change may be particularly important for teachers of indigenous children, who, according to several of our interview participants, are often hired without required degrees.

We also heard of some potentially negative consequences of Mexico's new teacher hiring reform. Several participants reported that teacher applicants with high scores on the national examination have greater choice over their teaching assignments. If this is the case, then higher-scoring teachers are likely to choose schools with more favorable working conditions and schools that are closer to urban centers, leaving marginalized children with lower-scoring teachers. Additionally, as in India, there is still likely to be considerable heterogeneity between new teachers and veteran teachers, who entered the profession under a variety of different systems and requirements.

As in India and Mexico, teachers in Tanzania must pass a national exam to be hired to work in public schools. Teachers are also required to graduate from teachers' colleges, which serve as the primary recruitment pipeline into the teacher labor force. As we discussed above, the threshold for passing the national exam is quite low. While a low threshold might help to address teacher shortages by bringing more people into the profession, several respondents noted that this could further reduce the quality of the teacher workforce and the attractiveness of the profession. We did not find evidence that teachers with the highest scores in the entrance examinations are assigned to more desirable locations, although one respondent suggested that very high-scoring teachers may be assigned

to teach in "demonstration schools" near teacher training colleges. This is different from our findings in Mexico and India, where, in at least one state, teachers who scored better were given their first choice of teaching position during the initial placement. We discuss this issue in more detail in the section below. In this regard, the Tanzanian policy is relatively more equitable.

The Process of Teacher Hiring and Placement

In all three of our case study countries, we identified a process whereby new recruits are required—either explicitly or implicitly—to teach in remote locations to launch their careers, but are then able to transfer to more desirable locations once they have accumulated seniority. In India, a state official who had previously served in various capacities at the district level observed, "the new children have new teachers, good for them, good luck to both." Despite this overarching observation, we found variability in teacher hiring and placement practices across our three Indian study states of Karnataka, Madhya Pradesh, and Rajasthan.

In Karnataka, the system of teacher recruitment, assignment, and transfers is centralized. Although selection occurs at the district level, the hiring and assignment process occurs centrally. The district office verifies documentation submitted by candidates. When positions become open, vacancies are made public and qualified candidates apply online to appear for an exam in their chosen districts. A candidate may select a district of his or her choice regardless of where he or she resides. The exam is offered on a given date across the state. Although vacancy lists are "public," we learned that they might not be easily accessible. As a result, prospective teachers applying to multiple districts must travel to all of the relevant district offices to learn the number of applications received by each location and to decide where they want their applications to be considered. The results of the examination, along with the future teacher's education records, are used to generate a ranked list of teachers. Schools with open positions are categorized into three zones—A, B, and C—based on their proximity to city centers. Placement in zone A is preferred by most candidates due to greater urban conveniences, but it is not easy to obtain. In fact, new recruits are explicitly asked to choose an open position located in zone C, a practice that can contribute to inequitable teacher distribution. Within a specific zone, teachers with the highest rank are more likely to be matched with their top locations. Although this approach to allocating teachers is

transparent, the process also promotes inequity. Because teachers must select the location (district) where they want to work before appearing for the test, low-performing candidates could appear or compete only in the marginalized or less desirable locations where they expect less competition and more chances of receiving a vacant position.

In Madhya Pradesh, overall circumstances are more challenging than in Karnataka. Teacher shortages and recruitment of para-professional teachers appear to be widely prevalent, although participants were unwilling to systematically bring up or discuss para-professional or contract teachers. Compared to Karnataka, we heard greater concerns related to severe teacher shortage and corruption and nepotism in the hiring process. In fact, a shortage of qualified teachers appears to be the key challenge for officials in Madhya Pradesh. A senior state-level official noted that 24,000 applicants applied for 48,000 open positions. Since these shortages are more severe in rural and tribal areas, they have an important equity dimension. As one participant suggested, "on their own no one wants to go" teach in these areas. Qualified teachers in urban areas have little interest in applying for or accepting positions in remote schools and the pool of qualified candidates in rural areas is limited. This recruitment challenge in part explains Madhya Pradesh's historic reliance on hiring unqualified or underqualified contract teachers.

In Madhya Pradesh, as well as our other study states, candidates' performance on the TET exam and individual qualifications are used to generate a ranked list of top candidates for each district. Given severe teacher shortage, we were somewhat surprised to learn about established norms and rules regarding teacher qualifications for various levels of schooling that may exacerbate these challenges. One participant noted that many teachers in the state are overqualified (i.e., instead of a Diploma they have a Bachelor's degree) and therefore unsuitable for a given position. After the ranked list of candidates is generated to decide which candidates will be placed in which schools, officials "counsel" prospective teachers based on a 12-point scale that prioritizes scheduled tribe (ST), scheduled caste (SC), other backward class (OBC) candidates, physically handicapped candidates, and female teachers. This priority ordering may be viewed as an effort to introduce greater equity in the teacher labor force.

Like most Indian states, Rajasthan is geographically and socially diverse. The western and southern regions are considered especially challenging in terms of social and economic performance. Like Madhya Pradesh, this state has also relied extensively on teachers hired on contract basis and

on other alternative forms of teacher hiring, but again this was a theme that our participants did not systematically engage in. After teacher candidates demonstrate proof that they hold necessary qualifications, they are required to appear for a test. Similar to Karnataka, a teacher in Rajasthan can only apply for this test in one district and one level at a time, because all of the districts hold their exams on the same day. The exams are managed centrally but executed separately by each district. Vacant teaching positions for each district are announced statewide and even nationwide. Quite unlike Madhya Pradesh, it appears that in Rajasthan the number of candidates who apply exceeds the positions available. We learned that even in relatively less well-off and remote districts, 20,000 candidates may apply for just 200 posts. We also learned that 300,000 candidates appeared for just 40,000 positions in the state exam. As in other states, the candidate's merit is used to prepare a ranked list of all test-takers. Like Karnataka, a teacher's ability to apply for a test only in one district and one level has the potential of steering less qualified candidates to districts that are less competitive (and by extension, less desirable). Similar to Karnataka, once in the job, teachers are able to seek transfers to the schools of their choice, leading to wide gaps in teacher quality between schools. In fact, a few affluent districts in the state (Sikar, Jhunjhunu, and Bharatpur) are considered "net suppliers" of qualified teachers due to their high overall levels of education (especially girls' education) and a generally enlightened attitude. But ultimately, teachers from these districts are keen to return home; their desire and ability to do so can lead to unequal access to well-educated teachers for marginalized children.

While the Indian states we studied are fairly diverse in their circumstances and approaches, some similarities are apparent. Most notably, we found common efforts to establish and follow minimum requirements in the hiring and initial placement of teachers. Regardless of these efforts, it is also apparent that teacher shortage, as well as teacher allocation policies that value merit, can result in an uneven distribution of the most qualified teachers. Another emerging observation that we return to later is the apparent "localness" of teacher labor markets. In a large country such as India we heard of teacher shortage in Madhya Pradesh and surplus in Rajasthan, but we did not hear of one state exporting its teachers to another. We do not attempt to rule out the possibility of such practices, but this situation offers a glimpse of some of the unique challenges of a large, federal system, combined with a labor market that may be somewhat geographically constrained.

In Mexico, prospective teachers generally apply for jobs to work in the state where they receive their teacher preparation. State-level officials, including teachers union representatives in some cases, identify open positions and place teachers in these positions. Because available positions are generally found in schools that have lost teachers due to transfers to other schools, open positions are much more likely to be located in schools with difficult circumstances, like multigrade schools in remote rural areas. Given the nature and objectives of the CONAFE program, nearly all instructor positions are in such schools. The result of the system of initial hiring and assignment of teachers to schools is that children in schools with the most difficult conditions are often taught by inexperienced teachers. As a teacher in Yucatán observed, "the most unprepared teachers are sent to the highest need areas, but it should be exactly the opposite." A teacher educator in Chiapas noted the irony of this situation, observing that in most occupations, seasoned professionals take on the most complex jobs. But when it comes to education, "we give the most difficult positions to the least experienced."

Mexico's system of initial teacher assignment also constrains school directors seeking to bring talented teachers to their schools. Several school directors we interviewed noted that they have very little control over who is assigned to teach in their schools or when. A primary school director in the Federal District observed, "my function as a school director is to accept teachers. I can perhaps provide information about their performance when we feel that the situation is critical, but in terms of receiving teachers, we receive them." The influence of school directors on personnel decisions appears to be limited to encouraging struggling teachers to seek training and support and assigning teachers to grades, subjects, and classrooms. In the second case, the Federal District primary school director described the importance of selecting good teachers to work in the early grades: "first, second, third grade for me are basic because they provide the foundation that children will use for the rest of their education … the teachers in first and second grade have to be chosen with a great deal of care." Similarly, the director of a multigrade primary school on the periphery of a large city in Chiapas explained that he assigned the best teachers to the first and sixth grades, because first graders learn essential skills and sixth graders are preparing for the transition to lower secondary school or the work force.

Responding to a question regarding whether marginalized children have the same level of access to qualified teachers as other children, a

respondent with many years of experience in educational research and policy in Mexico responded, "there is no way and the evidence is everywhere." Referring to qualitative research that explored the perspectives of marginalized children, this participant observed:

> The narratives that children offer, what they discuss and what they think about their teachers and their relationships with them, are very revealing. Not only are [the teachers] not trained, but they don't want to be there … indigenous children and rural children, children with disabilities and with difficulties speaking in Spanish because their native tongue is another one, the jokes, the prejudice, the intolerance of teachers, is portrayed there. So no they are not served by good teachers.

This respondent suggested that a key dimension of teachers' work is the relationships that they build with students. In the classrooms of marginalized children, such relationships can be very difficult, suggesting not only poor preparation of teachers to work with marginalized children, but also a social or cultural mismatch between marginalized children and their teachers. These factors may lead teachers to adopt authoritarian and even harmful attitudes toward their students. Another participant in our study raised the possibility that teachers who work with marginalized children have lower levels of teaching skill, which leads them to adopt authoritarian attitudes toward their students to compensate for their inability to teach or manage their classrooms.

In Tanzania, the allocation of teachers to schools occurs through a series of steps. As discussed above, prospective teachers must pass a national examination to be considered for teaching positions. Through their ward and district offices, schools convey teacher shortages to the central government. In applying for teaching positions, prospective teachers indicate up to three preferred districts. A central authority known as Tamisemi allocates available teachers to regions based on both regional needs and prospective teachers' preferences. As a Tamisemi official stated, "Some [regions] don't have any demand. For example, urban local governments don't get teachers, especially for primary schools, because they already have enough." Once teacher assignments are made, they are placed on a website, along with dates by which teachers must report. The Tamisemi official explained, "After two weeks, if you don't report and you don't have any good explanation, you stand a chance of not getting the post."

Once teacher assignments have been made, teachers have little choice but to take their assigned positions. As one respondent noted, teachers are told, "Go here. No, there is no choice." A ward education officer in rural northern Tanzania observed, "there's no compromise, no argument, no self-discussion, you're fired if you don't agree. You belong to the district." One teacher we met in rural northern Tanzania recalled that she did not receive any of her top three locations. Instead, she was assigned to a district close to one of her three preferred choices.

Although Tanzania's national teacher placement strategy may appear overbearing, a few respondents pointed out that this approach was promoted to ensure greater unity and nation building after Tanzania's independence. An educational researcher observed:

> When Tanzania got independence, that was the way through which the nation of Tanzania was built, because you don't belong to one part of the country. You belong to the nation … for example, a teacher from Moshi would be sent in different parts of the country. That was a deliberate policy.

The Tamisemi official observed that this strategy has proven successful in placing teachers in difficult areas:

> Yeah, many of them normally go. Having posted them on the website, they go to their working stations. The working station, that is, the district headquarters, should also identify which schools face a big shortage of teachers and they post many in those schools … Our experience, they normally do that. When a teacher reaches—arrives at the decision, he has already—his name has been posted to a certain school. She or he would have to go report to that school.

The centralized initial assignment to districts is followed by a fairly decentralized and occasionally idiosyncratic process of teacher allocation within districts. Once a teacher arrives at a specific district, the district education officer (DEO) wields a tremendous amount of power in making the final school assignment. In theory, DEOs must consider teacher shortages and assign teachers to schools with the highest PTRs. Yet even when this procedure is followed, schools with teacher shortages may still be at a disadvantage. One district official noted the importance of teacher housing to ensure adequate numbers of teachers in remote areas:

> There are some other parameters that may hinder us to allocating more teachers, where there is a high demand, such as teachers' houses … If there

> is no teachers' houses, we allocate a few because the teacher has his or her rights or entitlements … Where there is no teachers' houses, we do not allocate the teachers there because we know that he or she will suffer. That criteria is not emanating from the policy, but that is the real situation.

This situation creates a challenge for equitable teacher distribution. High-need schools are likely to be those with poor housing situations, which directly affect teachers' willingness to take assignments in these schools. Efforts to protect teachers' rights and entitlements therefore place children in these areas, who have no voice or power in the system, at a disadvantage.

An additional challenge for children in remote areas occurs when teachers refuse to take their assigned teaching positions. We learned from a respondent, who works with teachers at the national level, that newly hired teachers often do not report to where they are placed; instead, teachers who are not satisfied with their assignments often continue to look for other jobs or higher education opportunities. A district-level education officer noted:

> There is that tendency of teachers who, once they are allocated to schools, they don't report. They don't go to those schools. They stay in the streets there, working in different industry. After two or three years, maybe their situation want to go, wanting to go there. Then he or she retires to the teaching industry. Now they cause a lot of problems, you see? The government take them in because there is a deficit of teachers, but these teachers are sometimes not very good.

In contrast to the substantial power vested in the DEO, school headmasters appear to have little power to hire particular types of teachers. They also lack the authority to fire low-performing teachers. Instead, they write to their superiors at the ward level who, in turn, communicate with the district level. We did hear of a practice of some informal teacher recruitment, especially of high performing teachers. A particularly high-performing teacher may be scouted and a headmaster may put in a request with the superiors at the ward and the district levels.

Alternative Approaches to Teacher Hiring

To address teacher shortages, as well as the difficulties of placing teachers in challenging environments, education officials in each of our case study countries have attempted a number of strategies, ranging from hiring

low-cost contract teachers in India to recruiting adolescents to work in remote areas of Mexico. In some cases, these education systems have also attempted to address the shortage of teachers from under-represented groups to work with children with similar backgrounds.

Position-based Hiring and the Use of Contract Teachers to Fill Vacant Positions

OECD's 2005 *Teachers Matter* report identifies two principal models of teacher employment: "career-based" and "position-based" hiring. In career-based systems, entrance into the profession tends to be difficult. Teachers enter the profession at a young age and generally spend their entire careers in teaching. According to the OECD, countries with career-based systems tend to have surpluses of qualified teachers to choose from. In contrast, education systems with position-based approaches often have difficulty retaining experienced teachers because salaries reach a plateau relatively early. These systems also face challenges of high teacher turnover, especially in difficult-to-staff areas. According to the OECD, because position-based systems rely less on regulation than career-based systems in assigning staff to schools, "they often have greater disparities among schools in terms of teacher qualifications and experience" (OECD, 2005, p.12).

A prominent example of position-based teacher hiring that has been used across the developing world is the use of contract teachers to fill vacant positions. Training, salaries, and job security tend to be lower for contract teachers than other teachers, and there tend to be fewer requirements and less regulation in their hiring. In India, the prevalence of contract-based teacher hiring is relatively high. According to recent data, close to 11 % of the teacher labor force is hired on a contract basis, although there is wide variation across states (Chudgar, 2013). In conducting our case study research in India, we found few government officials who were willing to discuss the hiring of contract teachers as a continuing or standard practice, even in Rajasthan, where there has traditionally been a strong reliance on contract teachers.

Although the use of contract teachers is not common in Mexico, the CONAFE program shares many features with other position-based hiring approaches. As we discuss above, CONAFE provides educational services to remote rural communities that would otherwise not have access to formal schools. To qualify for CONAFE services, a community must have at least 5 and no more than 29 students. These students are taught by

"*instructores comunitarios*" or community instructors, who are between 15 and 29 years old and often have only a secondary-level education. After receiving initial training of six to seven weeks, CONAFE instructors move to rural communities where they live with families or in schools during the week. These instructors must commit to serving a minimum of one year of service, after which they can qualify for scholarships to continue their studies. Although the instructors do not receive salaries (they receive a small stipend for travel between their homes and their school communities), they receive room and board from the communities where they teach. In 2013, more than 40,000 CONAFE instructors worked with more than 320,000 children in basic education in Mexico, and another 32,000 "education promoters" served almost 460,000 children under the age of four (Secretaria de Educación Pública [SEP], 2013).

Our interview respondents, including many current and former CONAFE instructors, expressed a great deal of ambivalence about the program. On one hand, several participants noted that CONAFE has reached many children who had never before received educational opportunities. A state-level CONAFE official observed, "CONAFE is where no one else is." A state education official in Chiapas explained, "to be fair, it has reached children from small communities, who without this offer of CONAFE, would be marginalized from the school system." This official also observed that there are "isolated cases of very good experiences in terms of achieving significant work for the children with the support of families and these instructors." Moreover, many of the CONAFE instructors we interviewed described the strong positive relationships that they had formed with their students and their families. Other positive aspects of CONAFE appear to be support infrastructure for instructors, as well as directed (but short) initial training. We also heard evidence of negative aspects of CONAFE, including insufficient preparation of instructors, a high level of instructor attrition, and the difficult conditions that instructors must contend with.

Several current and former respondents reported that working with CONAFE had been a life-changing experience for them, as they had the opportunity to experience a new living situation, develop strong relationships with the community, and have a positive impact on children and families with great educational needs. One former instructor in Chiapas observed, "in my experience, the community not only allows us to be the instructor, but also to be part of the family, of the community, to live very close to their daily activities and worries, and to share their joy." A former

CONAFE instructor from Yucatán noted her initial worries, which were overcome by support from the community:

> At the beginning you're scared because you're used to being with your family and the first few months you think a lot about it at night, about what your family is doing, what would I be doing if I were home? But then you see the children and they are with you and they don't just see you as a teacher but they see you as one of them and you feel like you are part of their family. Because the families adopt you and they see you not just as a teacher but also as a daughter, companion, friend, and they invite you to eat and you talk with them and you don't feel so alone and you have a second family.

Another former CONAFE instructor observed that relationships between instructors and communities are not always positive. Due to negative experiences with CONAFE, "there are times when the community does not open up much because they are tired of how their children are mistreated." A teacher educator in Yucatán also noted that while CONAFE places much emphasis on the positive experiences of instructors, there is less attention paid to communities' perceptions and experiences with the program.

Although the use of contract teachers is common in many countries of sub-Saharan Africa (Chudgar, 2015), we found little evidence of contract teachers working in Tanzanian public schools. According to a teacher educator in Dar es Salaam, the Tanzanian government experimented with a program in 2005 and 2006 in which teachers who had finished their secondary education but had not completed their post-secondary teacher education could receive a "crash course" on teaching and begin working in public schools while the government provided them with training to obtain a post-secondary degree. In the sense that these teachers had not completed formal requirements to teach, they represented a type of contract teacher. However, negative public reaction to the program resulted in its termination after only two or three years.

Reservation or Quotas for Teachers from Underrepresented Groups

Our cross-national quantitative analysis across more than 20 education systems identified important challenges for equity in the demographic profile of teachers working with marginalized children. We found, for example, that these teachers are more likely to be male than the average teacher

(Chudgar & Luschei, 2013). As we discuss above, this pattern could have detrimental effects on the school participation and success of female students. Additionally, although marginalized children often come from cultural or ethnic minority groups, lack of educational and employment opportunities for these groups means that the teachers of these children often come from a country's majority ethnic or racial groups (Irizarry & Donaldson, 2012; Lapayese, Aldana, & Lara, 2014; UNESCO, 2014a). However, evidence suggests that language minority children taught in their mother tongue during the early years of school have a considerable advantage over children who attend classes in a language they do not know (Trudell, 2007). Additionally, teachers who share a similar geographic, cultural, or ethnic background may be more effective working with marginalized and minority children as they first encounter the formal education system (Dee, 2005, 2007; Lindahl, 2007; Rawal & Kingdon, 2010).

To address the learning needs of marginalized and minority children, and to make the teaching profession more accessible, some education systems have developed policies to reserve vacant positions for teachers from underrepresented groups. This approach has the potential to ensure more equitable teacher distribution and more access to the teaching profession for all. In India, for example, some positions are reserved for female teachers (see Chudgar & Sankar, 2008 for a related discussion). In some cases, an entire set of positions in a district may be reserved for teachers from tribal origins. Earlier, we also noted state recruitment systems that give preference to teachers from certain caste groups and to female teachers. In fact, in all three of our Indian case study states, we learned that it is a standard practice to ensure some caste-based reservations for teaching positions. In Rajasthan, for example, we found that there are districts where all teaching positions are reserved for tribal candidates. There are different qualification requirements (generally lower) for candidates from these groups, as a form of affirmative action. While a score of 60 % is required to pass the TET for a general candidate, the required score drops to 55 % and 36 % respectively for candidates from reserved and tribal categories. While reserving these assignments represents an important effort to ensure that teachers are available in more difficult-to-staff regions as well as an effort to reduce the social distance between teachers and students, lower requirements for these teachers compounds the challenges of uneven teacher distribution.

In the Indian state of Madhya Pradesh, we identified efforts to increase the role of tribal leaders and tribal teachers in schools where more than 50 % of students are from tribal groups. According to one respondent who had worked in Tribal Development in the state, there are 89 tribal blocks:

> And in these tribal blocks, all the schools that are there from primary to higher secondary are managed by the tribal department. Their syllabus, books, etc. are same as other schools, but teachers posting and functioning of the schools is managed by the tribal department. Opening up of new schools is also done by tribal department.

This respondent also noted that teachers in tribal schools are hired by tribal leaders. Officials in Madhya Pradesh have also used incentives, representing up to 10 % of base pay, to draw teachers to work in tribal areas. These incentives apply "not only for teachers, but everyone working in scheduled areas." (Although we learned that more recently, monetary incentives may have been replaced with additional holidays.)

In Mexico, a type of reservation occurs through requirements for teachers working in indigenous schools to speak an indigenous language. Indigenous children in Mexico receive educational services from the General Direction of Indigenous Education (DGEI), a directorate of the Undersecretary of Basic Education. A DGEI official we interviewed observed that in selecting teachers for their initial placements, teachers' knowledge of an indigenous language is a major consideration, in order to provide bilingual education and culturally relevant instruction to indigenous children. After passing written and oral evaluations of their language skills, applicants are placed in schools with the objective of matching the teacher's language with that of the community.

Many of our case study respondents observed that, due to the difficulty of finding teachers who speak indigenous languages, these teachers do not always have the same level of education or preparation as teachers in the general education system, similar to what we found in the Indian case. Several respondents noted that some indigenous teachers are hired and assigned to posts without a bachelor's degree, which is required to teach in public schools. An indigenous education official in Chiapas observed that in such cases, it is more important that teachers speak the language of the children, due to the importance of the language to the community: "yes, they could send teachers who know how to teach, but if they don't speak the language this will damage the community and the education

of the children." According to this official, it is "worth the risk" to hire bilingual teachers, even if they do not have the same level of pedagogical preparation.

Other respondents reported that despite qualifying to teach indigenous children, some teachers do not know the indigenous language well. The DGEI official observed that this may occur about 5 % of the time, generally with teachers who have indigenous parents but do not speak, read, or write the language proficiently. An indigenous teacher we interviewed in Chiapas reported that although her parents' first language was Chol, she did not learn the language well. Instead, she mastered the language as a teacher of Chol-speaking children, reading and writing the language with her students.

A teacher educator in Yucatán argued that because teachers do not always speak indigenous languages well, the language requirement of the indigenous education system has not been fulfilled, resulting in "bilingual discrimination" toward indigenous children. This respondent argued that simply speaking the language does not equate to pedagogical skill; even in cases where teachers have a good command of the indigenous language, this knowledge may not translate to good teaching.

Another linguistic teaching challenge occurs when teachers speak an indigenous language that is different from the language spoken by their students. We found this problem to be particularly acute in Chiapas, where there are many different language groups. Mixing of languages can occur even within a single school or classroom. In one multigrade indigenous school we visited in Chiapas, the principal (who also taught fifth and sixth grades) reported that students spoke at least five different indigenous languages: Chol, Maya, Tseltal, Tzotzil, and Zoque. Three of the school's four teachers spoke Tzotzil, while one spoke Zoque. According to the principal, the teachers did their best to "rescue and preserve" the mother tongues of their students. A first grade teacher in the same school discussed the importance of valuing indigenous languages and observed the importance of speaking to his students in their first language, as they "open up and they give me answers and activities, and I see the importance of valuing their language, and this continues being reinforced."

In Tanzania, we did not find evidence of reservations, quotas, or language requirements. According to our interviews with national education officials, language does not pose a problem in reaching children. However, we did hear from other respondents that issues like cultural beliefs and access can present challenges. An NGO representative observed that

education can be seen as foreign and irrelevant for pastoralist communities; according to this respondent, these communities are often focused on survival, so children are needed for their labor. Although boarding schools are available for pastoralist communities like the Maasai in northern Tanzania, they are not always utilized fully by the target populations. For example, the NGO representative indicated that boarding schools targeted for children from pastoralist communities often enroll children who are not from these communities. Prior research in the Kilimanjaro Region of Tanzania has also identified a conflict between the desire of the indigenous Chagga population to receive a formal education and thrive economically, and economic and educational decline that has denied opportunities to many (Vavrus, 2003).

In-Service Training, Support, and Supervision for Practicing Teachers

According to Akiba and LeTendre's (2009) conceptual framework, the final step to ensure a coherent policy to improve teacher quality is continuously supporting and retaining teachers through attractive working conditions, induction and support for new teachers, and continuous, high-quality professional development. Such support is particularly important for teachers working in marginalized environments because once these teachers find themselves in remote and rural schools or other contexts with marginalized students, they often encounter unique and challenging teaching conditions. Teachers in marginalized areas need in-service training and support targeted toward confronting these challenges, as well as to overcome gaps created by abbreviated or nonexistent pre-service training. Yet in our case study research, we found that teachers of marginalized children often have less access to in-service training than other teachers. Additionally, they rarely receive any formal induction or other types of support or supervision. As a result, these teachers often transfer to more desirable locations once they are able. Despite the presence of some monetary and non-monetary incentives to attract and retain teachers to work in marginalized environments, these incentives often do not have the desired effect. In this section we discuss inadequate professional development opportunities and support, the process of seniority-based teacher transfers, and the existence or non-existence of incentives for teachers working with marginalized children.

In India, we found that in-service training leaves much to be desired. To begin with, frequent teacher turnover in difficult locations makes it difficult to achieve sustainable benefits from in-service training. This training is often poorly conceptualized, lacking in ongoing development, and not always connected to teachers' needs. The process of delivering teacher training may also create challenges. From our case study respondents, we learned of a disconnect between the national, state, and local training teams. Ultimately, this can result in cynicism and a lack of interest on the part of teachers and administrators. Reflecting on in-service training, a senior government official observed:

> I come I find a great idea from somewhere … I dump it on teacher and say this is what you have to do. When I go away, the next person comes and says no, I have my great thoughts and all is very genuine, everyone should do ABL [activity-based learning], and the teachers don't know what's to be done. There has never been a discussion of problems in the classrooms, what can we do with children, what are the basic strategies to use.

In addition to the disconnect between in-service training and teachers' needs, respondents noted a lack of policy attention to how teachers receive and implement the training, as well as a lack of feedback for teachers. Ultimately the process of training seems disjointed and ad hoc. For example, an official in the state capital calls someone in the national capital to prepare a module to train a state resource official in just three days' time. This official then trains the district trainers, who train trainers below them to further train local "master trainers" (MTs). A university professor noted:

> Then master trainers, the poor fellow, will go and train the teachers for 10 days. If teacher says this can't be done in class then MT will say it comes from above … And if something fails then you cannot hold anyone responsible because everyone after doing their bit goes away and next day you might have a different group. So there is no learning.

In addition to infrequent or disjointed teacher training, teachers report that they receive little support from school inspectors. A respondent noted of a local school inspector, the "(officer) will come, will see the toilet, they will see the midday meals and the physical infrastructure, not the academic aspect."

Similar to our work in India, many participants in our Mexican case study noted a consistent lack of coherent or relevant opportunities for teachers to receive in-service training. According to several respondents, this situation contrasts with a very high demand for professional development on the part of Mexican teachers. Yet all too often the demand for training goes unmet, especially among teachers working with the most marginalized populations. Several participants in our research observed that teachers working in the most marginalized areas have many fewer opportunities for in-service training than teachers in urban locations.

Given their remote locations, instructors in the CONAFE system have few opportunities for formal in-service training. To support these instructors both personally and pedagogically, CONAFE maintains an infrastructure of trainers, assistants, and state-level coordinators. The work of trainers and assistants ranges from assisting instructors with pedagogical challenges to mediating conflicts between instructors and community members. One trainer described working with community members to ensure that they provided food to the instructor, who otherwise would go without. According to CONAFE personnel we interviewed, support personnel give priority to supporting teachers facing the greatest pedagogical and personal challenges. Trainers at the primary level are generally assigned fewer communities to work with, which allows them more time in each community. This arrangement is due to the difficult pedagogical conditions and needs of the primary instructors, especially the challenge of working with up to six primary grades in one classroom. While some CONAFE instructors pointed to this support as critical for their success in the classroom, others felt that this support was too infrequent and inadequate for their needs.

A representative of an NGO in Yucatán, who had worked for years with CONAFE, observed that although their initial preparation was limited, over time the instructors developed many instructional tools that made them effective teachers over the long run if they stayed in the profession. However, many interview participants reported that CONAFE instructors often do not serve beyond the initial yearlong commitment they make. Additionally, we heard critiques related to the training of CONAFE instructors to work with indigenous children. Several former CONAFE instructors reported that they had not received sufficient training to teach bilingually. As one of these instructors observed, “they tell you in theory that you need to teach bilingually, but they don’t tell you how to do it.” Although this problem occurs in many settings with indigenous children, one former CONAFE instructor observed, “it’s worse in CONAFE.” This

is in part because instructors may not speak the indigenous language, or they are simply not prepared to work in such settings. As this participant observed, "even if there is training and if there are materials, the best method cannot work in the wrong hands."

In contrast to mixed reports regarding in-service training and support for CONAFE instructors, we heard uniformly critical reports of Mexico's school supervisors and technical advisors, who are charged with providing support and training of classroom teachers. A former secretary of education in one of our study states observed that supervisors often play a more political than pedagogical role. In fact, the former official observed that supervisors often do not even visit the schools that they are charged with supervising. Two primary teachers from Zacatecas reported that supervisors check to make sure they are present and doing their work, but they do not provide teaching advice or support. In fact, these teachers were not able to clearly articulate the role or purpose of school supervisors. An NGO representative in Yucatán observed, "One of the great problems in education is the lack of support. Our teachers do not receive support. The supervisor comes and asks them for documents and student attendance lists, they ask for more administrative things." Yet despite fairly consistent critiques of school supervisors, a national education official expressed the strong potential of reorienting the work of school supervisors and technical advisors to be more pedagogical and to work with teachers on assessing and addressing instructional problems.

Similar to India and Mexico, participants in our Tanzania case study reported that in-service opportunities for teachers are infrequent, especially in remote rural areas. This may result in part from the fact that in-service training is often left to the local level. To receive in-service training, teachers ask their ward education officers. To receive additional upgrading, they write to their DEOs to request permission to travel further away. In our interviews we learned that teachers may use such requests to exit their current teaching placements. The DEO then makes decisions about upgrades and training based on the available budget. While this system should ideally allow all teachers to seek and receive regular in-service training, we found a large unmet demand for such training, especially in remote rural areas. One respondent informed us that teachers in such areas can go many years without receiving any in-service training: "Someone will have taught for 10, 11 years without a single in-service training taking place for them … A teacher in a rural area might not have any training for ten years, but someone working here (in Dar es Salaam) might."

Lack of in-service training for teachers may be due to various reasons. A national education official observed that teacher in-service training is often reserved for teachers of certain subjects, particularly math and science. Although this training may help to support and retain these teachers, it can also discourage teachers of other subjects:

> We have been encouraging teachers especially to take sciences, mathematics, and the languages. We obtained a number of refresher courses, and this is also an incentive to make them remain in the profession. Those are the mechanisms that we use. However … if it is a mathematics teacher, he gets time to go for in-service training, but the rest, geography teachers, history teachers, they rarely get such training. We want to make sure every teacher remains in the profession, so these are the areas we should improve.

Although Ward Education Offices and Teacher Resource Centers (TRCs) are charged with offering teaching aids and upgrading skills, we learned from various interviews that many TRCs across the country are not functional; additionally, while every district is supposed to have a TRC, that is often not the case. The success of the TRCs appears to vary based on the teacher training colleges that support them.

We also learned that an absence of support and supervision in rural areas can result in problems of teacher effort and absence. A district education officer observed:

> When they have been prepared, there is no problem. They are prepared in a very good way. When they are employed, now it comes a problem that there is no one to follow them. How are they doing? Do they fulfill their responsibilities? After they're posted to school, it is a problem. They do whatever they want. The teacher can teach, yes, or not finishing syllabus, but no one is following him or following her. They do whatever they want.

We also learned of initiatives in Tanzania to hold teachers accountable for their presence and effort in schools. A ward education officer in Arusha Region told us that teacher presence is monitored through the use of an attendance book; teachers who miss a certain number of days must pay a penalty. We also learned of an NGO that is working with local communities to monitor teacher attendance and effort, as well as a recent government initiative, called "Big Results Now," that in part attempts to increase educational quality through stronger accountability mechanisms for teachers.

Retention and Teacher Transfer

Teacher transfer policies are strongly related to teacher distribution. In our country case studies, we learned that in many instances teachers view their first job as a way to enter the system, but once in the system, teachers actively seek to transfer to preferred locations with better amenities, or those that are closer to their homes and families. However, teacher transfers can also be used to ensure more equitable teacher distribution. In our case study research we found instances of both types of teacher transfer practices.

In the Indian state of Rajasthan we learned about the creation of nine district "Dark Zones."[1] Once a teacher is posted to one of these zones, he or she is not allowed to transfer for a decade or more, for fear that these positions would not be filled. In Karnataka, teachers are allowed to request transfers in only a small fraction of all positions in a given location each year, to prevent excessive teacher turnover. A detailed point system in this state, in which teachers accrue points for length and location of service, further ensures that the transfer process is streamlined. The state government does make some concessions for teachers with special life circumstances, including transfers due to marriage, widowhood, divorce, and serious health conditions.

With the exception of special cases like Dark Zones, we noted a greater preponderance of teacher-initiated transfers in India. Unlike government-initiated transfers, this process has the potential to breed inequality. Teachers with seniority have a greater ability to seek transfers, a practice that may create unequal teacher distribution, as senior teachers move away from challenging teaching environments. Once in the system, teachers who receive difficult initial assignments often work toward transfers to more desirable locations. These desirable locations may be closer to urban areas as we learned in Karnataka or simply closer to teachers' homes, as we learned in Madhya Pradesh. In Karnataka, the policy to assign new teachers to hard-to-staff schools means that districts perceived as "difficult" receive more requests to transfer out. A block education official explained:

> In a district like Chamraj, Nagar, or maybe it is also true for northern Karnataka Districts, 10% to 20% will apply for transfer. In Chamraj Nagar almost one out of every five teachers wants to leave the district, whereas in Mandya one out of 20 would want to leave the district."

We did find some exceptions to the seniority-based transfer system described above, including widowhood and health challenges. We also learned that teachers who marry may be granted transfers to be with their spouses. Reflecting India's unique cultural values, we also heard that teachers who are unmarried and posted to difficult regions may find it difficult to leave, unless they marry and use their marital status as a reason to transfer.

While our data did not reveal systematic instances of government-initiated transfers, a recent doctoral dissertation from India (Béteille, 2009) provides a different insight. Based on her research in the same three Indian states, Béteille (2009) argues that teacher transfers may be used systematically by politicians as a mechanism to extend favors to politically useful teachers and to reprimand teachers who they deem unhelpful. This work explores an important two-way patronage-based relationship between teachers and politicians that, according to the author, may explain both teachers' ability to obtain quicker than usual transfers based on who they know, and politicians' ability to maintain a degree of control over the process by allowing such corrupt practices to flourish (Béteille, 2009).

Similar to India, Mexico follows a practice of seniority-based transfer, known as the "*cadena de cambio*," or "chain of change." After receiving their first assignments in remote and rural locations, teachers accumulate experience and points to transfer to more desirable locations, which require many points. As a result, children in less desirable locations are not only taught by novice teachers, but they also experience a constant churn of teachers through their schools. The consequences of teacher turnover are severe, as noted by an education researcher in Mexico City:

> Teacher turnover is a very strong problem and especially in marginalized communities because teachers want to be in an urban school, a pretty school. We have found that in the most marginalized schools they send the new teachers who are not very qualified and then they want to leave, so I have visited schools where a class has six teachers in a year or they had six teachers and now they don't have anyone. Because the problem in rural communities is that if the teacher doesn't come, there's no class.

According to this researcher, parents complain that turnover hurts their children, because "those teachers know they are leaving, so they never make an effort to know the community, to know the children or their parents and then they leave, so the children don't trust their teachers." This turnover also complicates teacher training efforts because if a teacher

receives training and then leaves, or if teachers create professional learning communities, it is very difficult to sustain pedagogical improvement because half the teachers change each year. As a result, the researcher concluded, "it is very difficult to implement policies that are supposed to help these communities and teachers."

Mexico's *cadena de cambio* can also result in a mismatch of languages between indigenous teachers and students, as teachers assigned to a school based on their ability to speak the language of the students often transfer to schools where children speak a different indigenous language. A state official overseeing the indigenous education system noted that although language is considered when giving teachers their initial assignments, language does not play an important role in teacher transfer decisions. As a result, a teacher may be initially placed with students who speak the same indigenous language, but later request a transfer to a school where the students speak a different language.

In Tanzania, we heard repeatedly that it is difficult for teachers to make voluntary transfers to other schools or areas. As a national level respondent noted, if teacher transfers were easier, "everyone would transfer." A representative of the national government observed that a teacher must serve a minimum of three years in a particular school, along with having a special case such as marriage, illness, or voluntary exchange with another teacher, to be considered for a transfer. Our interviews with teachers also revealed that teacher marriage is one of the few reasons that teachers are allowed to change schools, districts, or regions. According to one teacher we interviewed in rural southern Tanzania, he had been transferred to his current school to accompany his wife, who had been appointed as a head teacher in a nearby school. Another respondent noted, "many teachers marry themselves, so if your husband is a teacher and I am a teacher, then together we can be moved into another place." To some extent then, the teacher transfer system appears to address the family separation that teacher assignments to remote locations may cause.

Despite the commonly expressed observation that Tanzanian teachers have difficulty securing transfers, we note evidence of a high percentage of teachers who are transferred: according to Sumra (2004) (Table 24), more than 61 % of Tanzanian teachers have been transferred two to five times and nearly 21 % of teachers have been transferred more than five times. The discrepancy between these figures and the reports of teachers who have difficulty changing schools may be related to the difference between voluntary transfers requested by teachers and transfers required

of them by education officials. According to a study of rural teachers in Lesotho, Malawi, Mozambique, Tanzania, and Uganda, forced transfers represent one way for governments in these countries to equalize teacher resources across schools (Mulkeen & Chen, 2008). There is also evidence that Tanzanian teachers can be required to transfer to other schools if the need arises (Sumra, 2004). In theory, forced transfers and obstacles to voluntary transfer are designed to place and retain teachers in difficult locations. In some cases, this may have the intended effect, as we learned of examples of teachers "giving up" and remaining in their assigned positions. In other cases, forced or blocked transfers—if not coupled with incentives or resources such as housing—may cause teachers to leave the profession or to lose motivation to teach well.

We also learned that district-initiated transfers may be used to either reward or punish teachers. For example, a high-performing teacher may be transferred to serve as a head teacher. A head teacher described that he had been promoted due to his strong teaching performance. This also protected him from being transferred: "Myself, I can't move very far interior. They can't do so. They know this man—I'm very good in mathematics, science, yeah." In other words, his skills as a teacher ensure that he will not be sent to more challenging environments to teach. By the same token, a teacher who is not performing well can be transferred as a punishment. A respondent observed, "We want to shift him or her for the purpose of maybe correcting him or her."

Another way for teachers to avoid forced transfers is through some sort of tie binding them to a certain location, such as marriage (similar to the use of marriage to support teacher-initiated transfers that we discuss above). Without such ties, even senior teachers may be susceptible to forced transfers. As a respondent in the capital noted, "Especially if your husband is not a civil servant worker, they can transfer you at any time. But if your husband is working here (in Dar es Salaam), then they need to give you a reason why you should stay (in a remote teaching post)." Another respondent observed that one way to avoid forced transfers, or to receive consideration for a voluntary transfer, is through marriage.

Monetary and Non-Monetary Incentives

In addition to policies like forced or blocked transfers (as in India's Dark Zones), governments can attempt to recruit and retain teachers working in marginalized areas through monetary or non-monetary incentives to

work in difficult conditions (Hunt, 2015). If effective, such incentives can also help to attract teachers to schools with large populations of marginalized children. Adjustments in salary are the most common and perhaps the most influential incentives in attracting and retaining qualified teachers. Like most workers, teachers care about monetary compensation. The relative salaries they receive (or the opportunity cost of choosing to teach versus other professions) influence their decision-making. Evidence suggests that by offering teachers incentives to work in more marginalized areas and with more disadvantaged populations, governments may be able to make the distribution of teachers more equitable (Hunt, 2015; Kang & Hong, 2008; Luschei, 2012a; Luschei, Chudgar, & Rew, 2013; Rogers & Vegas, 2010). In place of—or in some cases, in addition to—monetary incentives, countries may also offer non-monetary incentives for teachers to accept placement in difficult areas or schools. Ideally, these efforts enable resource-poor countries to offer attractive tradeoffs to encourage high-quality teacher candidates to accept potentially difficult assignments.

In India, we were unable to identify any practice of providing financial incentives to teachers to work in difficult-to-staff areas, other than the salary incentives used in some tribal areas discussed above. Even these may now be disappearing. Although several respondents noted the importance of non-monetary incentives, from basic living arrangements to the importance of safety for female teachers, our case study research did not reveal any specific practices related to non-monetary incentives. In separate scholarship, however, other researchers have noted that government teachers in India are especially well-paid compared to non-government teachers, leading to high per capita costs of government education (Pritchett & Aiyar, 2014).

Many Latin American countries have used monetary incentives, as well non-monetary strategies like granting early tenure, to induce teachers to work in difficult-to-staff locations (UNESCO, 2006). Mexico's national teacher incentive program, *Carrera Magisterial* (Teaching Career), offers participating teachers who work in marginalized areas the opportunity to advance more rapidly through the system than teachers in wealthier areas (Santibañez et al., 2007). However, several participants in our Mexican case study suggested that the program may actually reduce equity in the access of marginalized children to qualified teachers because the program rewards participation in training activities, which are generally more available in urban areas. Consequently, the program may provide an incentive for teachers to move away from remote areas.

Interestingly, most of the teacher participants in our case study reported that they did not participate in *Carrera Magisterial*. Two school principals in the Federal District reported that the program required too much paperwork. Several teachers and directors told us that the incentives were not large enough to make participation worth the effort. A teacher in an indigenous school in Chiapas reported that he could not participate because he was a *pasante*, meaning that he had not completed his university degree. Teachers in Chiapas, Yucatán, and Zacatecas reported that they were unable to score high enough on the *Carrera Magisterial* exam to advance in the system. A teacher in Zacatecas complained that the exam questions were irrelevant to her work as a teacher; she reported that the exam had many questions related to educational laws and policies, which she had not studied. A union representative reported that the program was not popular in his state because many teachers could not pass the exam; moreover, many of them saw the program as too political. Since all of these participants worked in what could be considered marginalized environments, it may be the case that teachers participating in *Carrera Magisterial* tend to work with relatively more advantaged students. This is not entirely surprising, given that the program rewards high student test scores, as well as teacher attributes like education, experience, and test score performance. Marginalized children are much less likely to have high test scores than other children; their teachers also may be less likely to receive high scores in *Carrera Magisterial*. As a result, *Carrera Magisterial* may serve as both a reflection and a cause of an inequitable distribution of teachers across less and more marginalized children.

In addition to *Carrera Magisterial*, Mexico's Secretariat of Education has used various incentive programs over the years to compensate teachers for difficult assignments. Respondents in our case study interviews varied considerably in their assessments of these incentives. A teachers union representative observed that incentives have not been vigorously monitored or evaluated, and they change every six years with a new administration. A state education official in Chiapas recalled a federal incentive program that had not succeeded due to a lack of monitoring and support: "The program has ended but it had a high level of failure, because there was no monitoring, there was no evaluation, there was no following up with the teachers so that they could be effective." This official observed, "It's important to have incentives in place, but also academic and administrative monitoring." More important than the incentives themselves, he

observed, is academic support for teachers, such as opportunities for training and collaboration with colleagues.

While participants we interviewed in Chiapas and Yucatán generally felt that federal incentive programs did not offer sufficient compensation to work in remote locations, a few participants in Zacatecas noted that incentives had prompted them and others to change schools or to remain in rural locations. A teacher educator in Zacatecas explained that many more young teachers in the state worked in the city as a result of more experienced teachers staying in rural areas to take advantage of incentives provided to work there. But this teacher educator also argued that many veteran teachers like to work in poor rural communities because parents demand less of them, suggesting a contradiction to the intention of the incentives. Two young teachers in Zacatecas recalled applying for incentives and recruiting other teachers to apply. According to these teachers, they received an extra 1200 pesos, or about $100 a month. In return, they worked an additional two hours each day with children who struggled academically. Because these teachers' school was located close to the city, they had to make the case to state education officials that their teaching situation merited the application of the incentive. This suggests that there is some latitude in determining who qualifies for incentives.

Despite many observations about poor design or supervision of incentive programs, along with negative unintended consequences, many participants in our interviews noted the potential of properly designed incentives to address the difficult conditions faced by teachers of marginalized children. A national education official in Mexico observed:

> I have always been very skeptical about individual monetary incentives but it is inevitable. They should be small, no more than 10% of salary, but what they really need is a salary increase and that is not realistic. You need an individual incentive but also a school-based incentive. And the symbolic incentives that are also very powerful. But I don't know how credible they are at this point because this country has tried everything. Like making advertisements, showcasing teachers, showcasing schools. I don't know at this point. But yes you do need incentives.

Our case study research in Tanzania revealed few formal incentives to attract or retain teachers working in difficult locations, with the exception of the provision of housing for teachers, which appeared to be inadequate. A representative of the national government indicated that incentives to

teach in such areas tend to be more informal and "localized, in the sense that local authorities must identify incentives within their localities to attract teachers' acceptance to those areas, such as building houses for the teachers, buying cooking utensils, or providing them with farming plots." Several interview respondents reported that it is easier to recruit teachers to work in areas with fertile land, as communities may give teachers plots of land to farm to supplement their incomes.

Although one of the most important incentives to work in remote rural areas in Tanzania is the provision of a house, by most accounts the supply of housing for teachers is low and often of poor quality (Sumra, 2004). A respondent in our case study noted that there is no housing for 75 % of teachers; 95 % of teachers find housing for themselves; few schools have houses; and there is little evidence of government-built housing. New teachers may receive a housing allowance for 14 days after moving to a position without housing; after that, they are on their own to find a place to live while waiting for their first paycheck.

Perhaps the most insightful comments about incentives were made by the national official at Tamisemi, who noted the importance of addressing teachers' living conditions:

> One is improving the working environment of the teachers. All we are trying to do for schools that are in remote areas—and in the past, they didn't have access roads, we have been trying to improve the rural roads so that any school is reachable by a car or a motorbike and the like. Improving the environment. This cuts across the sectors. There is rural roads. There is rural electrification … we have agreed … to make sure whenever they're dealing with supplying the electricity to rural areas, if they find a school, they must make sure the school gets electricity. That also becomes an incentive.

This official also emphasized the importance of local communities taking initiative to improve conditions for teachers:

> We make sure the school environment have got supply of water, safe water for drinking … Another thing is building teachers houses. We have been encouraging communities to put up houses in order that when a teacher is posted to a remote area, he finds the school, a house to accommodate him or her. Sometimes, we say it makes a lot of sense if these incentive mechanisms are homegrown rather than imported. We had an experience of a region … once they get new teachers, they make sure the house is available for them. They make sure that house is somehow furnished. You get a

> bed, at least two beds, two mattresses, bed sheets, cooking utensils. While you are posted there, these things will get supplied by your employer at the district. You arrive at the school, all these things you are given and some money, like 250,000 Tanzanian shillings is given …. This used to be a good incentive for many people, many teachers, especially for the past three or four years, to go and work in those areas. That is homegrown. They started the environment. They thought what made it difficult for a teacher to start. They thought that could work, and it worked.

The official concluded, "I think the best incentive is when we engage the teachers at the time. If I'm given this, I'll be glad to work in this area."

Summary

The decisions and efforts of governments clearly influence who teaches, where they teach, and how they teach. In some cases, government actions have emerged as ad hoc reactions to difficult situations, whereas in others they stem from long-term strategies to promote quality and equity in the teacher labor force. In this chapter, we identified key points during the teacher hiring and distribution process where inequities appear, from the initial recruitment and training of teachers through the processes of teacher support, retention, and transfer. We also discussed the use of incentives to attract or retain teachers to work in difficult locations.

We found that in each case study country, the teacher development and support system can break down, leading to inequities in resource distribution. Most commonly, this occurs through the deployment of less qualified, younger, and inexperienced teachers to work in difficult locations where marginalized children are often concentrated. These systems often fail to support teachers in these difficult environments through professional development or supervision. Yet the mechanisms by which these inequities arise are complex. It is too simplistic to conclude that the system is designed to perpetuate inequities in teacher distribution. It is also impossible to identify one single reason for the failure of education systems to function as they should.

In addition to the persistent inequities we identified, we also found some genuine attempts to address these inequities. These include the allocation or reservation for teachers of underrepresented caste, gender, or language. Yet these efforts often confront realities like low educational attainment among these groups, which requires the lowering of

qualification requirements to ensure their access to the teaching profession. This is just one example of the complex system of sincere efforts and their unintended negative consequences. We identified other examples in the case of seniority-based teacher transfers and incentives for teachers to work in difficult locations.

To truly address the challenges of inequity we discuss in this chapter, education systems must consider the voices of teachers when designing and implementing policies to ensure marginalized children's access to effective teaching. Teachers are human beings who care about compensation, living conditions, and working situations like anyone else. While teachers can present obstacles to equitable education reform, they can also suggest and implement solutions. In the next chapter we give voice to these teachers and discuss how their preferences and decisions interact with the actions of education officials to influence who teaches marginalized children.

Note

1. Originally the creation of these zones appears to be associated with lack of water resources which in turn is associated with several other developmental concerns for those locations within the state (Jethoo, Poonia, & Amit, 2012).

References

Akiba, M., & LeTendre, G. K. (2009). *Improving teacher quality: The US teaching force in global context*. New York: Teachers College Press.

Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Reseacher, 36*(7), 369–387.

Béteille, T. (2009). *Absenteeism, transfers, and patronage: The political economy of teacher labor markets in India* (Doctoral dissertation). Retrieved from http://search.proquest.com/docview/305000505?accountid=10141

Chudgar, A. (2013). Teacher labor force and teacher education in India: An analysis of a recent policy change and its potential implications. In M. Akiba (Ed.), *Teacher reforms around the world: Implementations and outcomes* (Vol. 19 & pp. 55–76). Bingley, UK: Emerald Group Publishing Limited.

Chudgar, A. (2015). Association between contract teachers and student learning in five Francophone African countries. *Comparative Education Review, 59*(2), 261–288.

Chudgar, A., & Luschei, T. F. (2013). *Final report: Study of teachers for children marginalized by social origin, economic status, or location*. New York: UNICEF.

Chudgar, A., & Sankar, V. (2008). The relationship between teacher gender and student achievement: Evidence from five Indian states. *Compare: A Journal of Comparative and International Education, 38*(5), 627–642.

Dee, T. S. (2005). A teacher like me: Does race, ethnicity or gender matter? *American Economic Review, 95*(2), 158–165.

Dee, T. S. (2007). Teachers and the gender gaps in student achievement. *Journal of Human Resources, XLII*(3), 528–554.

Hardman, F., Ackers, J., Abrishamian, N., & O'Sullivan, M. (2011). Developing a systemic approach to teacher education in Sub-Saharan Africa: Emerging lessons from Kenya, Tanzania, and Uganda. *Compare: A Journal of Comparative and International Education, 41*(5), 669–683.

Hunt, F. (2015). Review of national education policies: Teacher quality and learning outcomes. *Prospects, 45*(3), 379–390.

Irizarry, J., & Donaldson, M. L. (2012). Teach for America: The Latinization of U.S. schools and the critical shortage of Latina/o teachers. *American Educational Research Journal, 49*(1), 155–194. doi:10.3102/0002831211434764.

Jethoo, A. S., Poonia, M. P., & Amit, D. (2012). Water crisis during drought in district Nagaur (Rajasthan). *International Journal of Engineering Research and Development*, *3*(7), 50–55. Retrieved from http://www.ijerd.com/paper/vol3-issue7/J03075055.pdf

Kang, N. H., & Hong, M. (2008). Achieving excellence in teacher workforce and equity in learning opportunities in South Korea. *Educational Reseacher, 37*(4), 200–207.

Lapayese, Y. V., Aldana, U. S., & Lara, E. (2014). A racio-economic analysis of Teach for America: Counterstories of TFA teachers of color. *Perspectives on Urban Education*, *11*(1), 11–25. Retrieved from http://www.urbanedjournal.org/archive/volume-11-issue-1-winter-2014/racio-economic-analysis-teach-america-counterstories-tfa-teach

Lindahl, E. (2007). *Gender and ethnic interactions among teachers and students: Evidence from Sweden* (No. 25). Uppsala, Sweden.

Luschei, T. F. (2012b). The effectiveness and distribution of male primary teachers: Evidence from two Mexican states. *International Journal of Educational Development, 32*(1), 145–154. doi:10.1016/j.ijedudev.2010.12.001.

Luschei, T. F., Chudgar, A., & Rew, J. W. (2013). Exploring differences in the distribution of teacher qualifications across Mexico and South Korea: Evidence from the Teaching and Learning International Survey. *Teachers College Record*, *115*, 1–38. Retrieved from http://www.tcrecord.org/DefaultFiles/SendFileToPublic.asp?ft=pdf&FilePath=c:\WebSites\www_tcrecord_org_documents\38_16964.pdf&fid=38_16964&aid=2&RID=16964&pf=Content.asp?ContentID=16964

Mkumbo, K. A. (2012). Teachers' commitment to, and experiences of, the teaching profession in Tanzania: Findings of focus group research. *International Education Studies, 5*(3), 222–227.

Mulkeen, A., & Chen, D. (2008). *Teachers for rural schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. Washington, DC: World Bank.

Organization for Economic Cooperation and Development [OECD]. (2005). *Teachers matter: Attracting, developing, and retaining effective teachers.* Paris, France: OECD.

Pritchett, L., & Aiyar, Y. (2014). *Value subtraction in public sector production: Accounting versus economic cost of primary schooling in India*. CGD Working Paper 391. Washington, DC: Center for Global Development. Retrieved from http://www.cgdev.org/publication/value-subtraction-public-sector-production-accounting-versus-economic-cost-primary

Puryear, J. M., Santibañez, L., & Solano, A. (2011). *Education in Mexico, a new vision for Mexico: Achieving prosperity for all.* Washington, DC: The Centennial Group.

Rawal, S., & Kingdon, G. (2010). *Akin to my teacher: Does caste, religious or gender distance between student and teacher matter? Some evidence from India* (No. 10–18). *DoQSS Working Papers.* Retrieved from http://ideas.repec.org/p/qss/dqsswp/1018.html

Rogers, F. H., & Vegas, E. (2010). Teachers in developing countries. In B. McGaw, P. Peterson, & E. Baker (Eds.), *The international encyclopedia of education* (3rd ed., pp. 504–511). Oxford: Elsevier.

Santibañez, L., Martinez, J. F., Datar, A., McEwan, P. J., Setodji, C. M., & Basurto-Davila, R. (2007). *Breaking ground: Analysis of the assessment system and impact of Mexico's teacher incentive program "Carrera Magisterial."* Santa Monica, CA: Rand Corporation. Retrieved from http://www.rand.org/pubs/technical_reports/tr458

Secretaria de Educación Pública [SEP]. (2011). Alianza por la calidad de la educación. Retrieved from http://www.sep.gob.mx

Secretaria de Educación Pública [SEP]. (2013). Consejo Nacional de Fomento Educativo.

Sumra, S. (2004). *The living and working conditions of teachers in Tanzania*. Dar es Salaam, Tanzania: HakiElimu and the Tanzania Teachers Union.

Tarvin, W., & Faraj, A. (1990). The quest for qualified teachers in developing countries of south and Southeast Asia. *International Review of Education, 36*(1), 89–101.

Trudell, B. (2007). Local community perspectives and language of education in Sub-Saharan African communities. *International Journal of Educational Development, 27*(5), 552–563.

UNESCO. (2006). *Teachers and educational quality: Monitoring global needs for 2015.* Montreal, Canada: UNESCO.

UNESCO. (2014a). *EFA Global Monitoring Report 2013/4. Teaching and learning: Achieving quality for all.* Paris, France: UNESCO.

Vavrus, F. (2003). *Desire and decline: Schooling amid crisis in Tanzania* (Vol. 13). Bern, Switzerland: Peter Lang Pub Incorporated.

CHAPTER 5

Supply-side Explanations for Inequitable Teacher Distribution

Abstract In this chapter we complete the teacher labor markets picture by discussing the working and teaching conditions of teachers of marginalized children and the preferences and attributes of these teachers. We first discuss the difficult circumstances faced by teachers of marginalized children, including lack of basic amenities, large workloads, challenging teaching conditions, limited opportunities for professional development, and inadequate or irregular compensation. We then explain how these conditions conflict with the natural preferences of teachers to work in pleasant environments and to be close to home. Finally, we discuss how teacher age, experience, and gender influence teachers' preferences and decisions regarding where they teach.

Keywords India • Mexico • Tanzania • Teachers' living and working conditions • Teachers' preferences • Teachers' gender • Teachers' age and experience

In Chapter 4 we described policies and practices that influence who teaches and where they teach. The process by which governments, districts, and schools prepare, hire, and distribute teachers is complex and beset with unintended consequences that often leave marginalized children with underprepared teachers. Yet the processes and challenges we described in Chapter 4 tell only half the story, because

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_5

they do not capture the voices of teachers themselves, or the supply side. To fully understand who teaches marginalized children and why, we must first consider the conditions in which marginalized children live and learn. Schools of marginalized children are often located in remote areas lacking daily amenities like housing, water, and electricity. Teachers of these children must face the same difficulties, in addition to often being far from their homes and families. They must also confront unique pedagogical challenges like working in multigrade or bilingual classrooms. Just like other human beings, teachers prefer to have daily comforts and to be close to friends and family. Like any other workers, they require proper training and support to confront complex working conditions.

Schools and communities that cannot offer adequate living conditions or proper training and guidance have the least luck in recruiting and retaining qualified teachers. There is also an important demographic aspect of who teaches marginalized children. First, teachers' age and gender play an important role in determining who teaches where. More senior teachers who have been in the system long enough are generally able to navigate their way to positions they consider more desirable. Consequently, marginalized children often must try to learn from a constant churn of novice teachers. Second, social and cultural norms, concerns about safety, and the lack of basic conveniences in marginalized areas often dissuade female teachers from teaching in remote locations. The shortage of female teachers is then perpetuated, as remote communities are less likely to produce an educated female teacher labor force for the future.

In this chapter we complete the teacher labor markets picture by discussing the working and teaching conditions of teachers of marginalized children and the preferences and attributes of these teachers. We first discuss the difficult living and learning conditions faced by teachers of marginalized children, including lack of basic amenities, large workloads, challenging teaching conditions, limited opportunities for professional development, and inadequate or irregular compensation. We then discuss how these conditions conflict with the natural preferences of teachers to work in pleasant environments and to be close to home. Finally, we discuss how teacher age, experience, and gender influence teachers' preferences and decisions regarding where they teach.

Living and Teaching Conditions of Teachers of Marginalized Children

As we described in Chapter 2, educational marginalization occurs through informal social, economic, and political processes that "restrict life chances for some groups and individuals" (UNESCO, 2010, p. 135). Children who suffer as a result of these processes include, but are not limited to, those living in rural areas, the poor, ethnic or racial minorities, girls, children with disabilities, and children living in conflict situations. By definition, marginalized children face profound daily challenges in living and learning; by extension, those who teach these children must also contend with difficult teaching and living conditions. These challenges complicate efforts to recruit and retain teachers to work with marginalized children.

In our quantitative analysis of teacher distribution in Asia, Latin America, and sub-Saharan Africa, we found that teachers of marginalized children are consistently less likely than other teachers to report that they are satisfied with their current positions. They are also more likely to desire transfers to other schools (Chudgar & Luschei, 2013). In our research in India, Mexico, and Tanzania, we heard repeatedly that teachers posted in remote, hard-to-staff environments express dissatisfaction with their work and actively seek opportunities to transfer to more desirable positions. We also heard instances of teachers receiving inadequate or irregular compensation for their work. In the sections that follow, we describe the difficult living and working conditions faced by teachers of marginalized children, as well as challenges related to compensating these teachers.

Difficult Living Conditions

Teachers' living and working conditions are important for their sense of well-being and ability to function effectively and free of distractions. As one Indian respondent with a distinguished career in the field of education stated, "the teacher is not just a mind, the teacher is also a body and the body needs all the same parameters that would apply to any body for a body to stay functioning." Yet our respondents indicated several challenging, day-to-day working conditions facing teachers of the most marginalized children. First and foremost, the provision of living quarters could encourage some teachers to accept remote assignments, but this practice

seems quite infrequent in India. One respondent, for example, could recall no more than two states in which such provisions are available.

In Mexico, we heard numerous accounts of teachers who went "wherever they sent me" for their first jobs. Oftentimes, these teachers must choose between jobs in remote rural areas or no jobs at all. When these new teachers arrive at their teaching positions, they often encounter very difficult living and teaching conditions. Teachers we spoke with recounted their fears of wildlife, disease, or violence. One state education official in Chiapas recalled the story of a young teacher who traveled to her first teaching position in a remote area of the rainforest. The young teacher was accompanied by her mother, a former teacher, who agreed to help and support her through her first year of teaching. The conditions were so difficult that her mother left the following day.

Many Mexican teachers explained that they could only cope with the difficult conditions of their initial assignments for so long. A researcher in Chiapas observed:

> We need to think that they are human beings. You know they have families, and maybe they can compromise for what, two, three years or four years or five years in a very isolated rural area but they're going to have to be with their families and they will want a very different environment for their children.

We learned that Mexican teachers understand that by paying their dues in remote schools, they can accumulate seniority over time and eventually move to schools and communities with more pleasant conditions.

In Tanzania, the lack of housing for teachers working in remote rural areas is a major concern. Government data have recorded up to an 80 % shortfall in the availability of teacher housing (Mulkeen & Chen, 2008). In other cases, the quality of housing offered to teachers may be very poor. When the government cannot provide housing for teachers assigned to remote areas, schools in these areas may be left with fewer teachers and higher pupil-teacher ratios. Our interviews in Tanzania indicated a great deal of variability in PTRs across urban and rural areas and between more- and less-resourced areas. While the desired PTR in primary education in Tanzania is 45:1, in various regions of the country the PTR may be as high as 70:1 or more (Mulkeen & Chen, 2008). For example, a ward education officer in a rural area of southern Tanzania reported that pupil-teacher ratios reached 80:1 in his ward. We also heard that when

teachers leave their schools for upgrading in urban areas, they continue to be counted toward a school's PTR, even if they are gone for long periods of time. Large PTRs appear to consistently place children and teachers in poor rural areas at a disadvantage.

Large Workloads, Challenging Teaching Conditions, and Limited Support

In Chapter 4, we argued that teachers of marginalized children often receive insufficient initial preparation and inadequate in-service training and support. Despite this situation, teachers of marginalized children actually require stronger training and support, given the difficult teaching conditions they face in their classrooms. In addition to high PTRs, teachers in marginalized areas must often contend with heavy workloads or double shifts (Giacchino-Baker, 1994; Steiner-Khamsi & Kunje, 2011). Teachers in marginalized areas complain about the need to manage additional duties related to food distribution, home visits, or evening study hall (Banerji, 1997; Croft, 2010; Sargent & Hannum, 2005). On top of these responsibilities, double shifts can multiply teachers' per-student duties. Teachers in small multigrade schools also must often take on managerial and administrative roles (Civil Society Action Coalition on Education for All [CSACEFA], 2013). Respondents in India noted the preponderance of single-teacher schools in which a teacher works simultaneously with children from grades one through five. Two respondents illustrated situations in which only a few teachers work with five classes.

> This is the major problem. Two teachers and five classes. How would the teacher teach fruitfully? Five classes would have almost 100 children. Now two teachers can only make students sit forcefully. There would be no teaching. What would happen to the child in such situation? Even if the child would play, they would not be allowed because we can't even control two children how can we control so many? If some relatives come to our house and 5–6 children gather then it is so difficult to control them. How can 50 children be controlled?

In addition to large class sizes, teachers in remote rural schools have a host of other responsibilities; they must attend various meetings, maintain records, manage mid-day meals, go to the bank to withdraw money, arrange for firewood if there is no gas supply, clean the school, and

attend weekend trainings. Teachers are even used by the government to collect census data, and they are sometimes tasked with leading school construction efforts. These activities leave little time for teaching and learning; together, the many responsibilities facing teachers of marginalized children create working conditions that are far from conducive for teachers to effectively execute their responsibilities.

In Mexico, we also heard cases of teachers in remote rural areas taking on multiple responsibilities, especially in multigrade schools. For example, the lone teacher of a rural multigrade school in Chiapas recounted serving as both teacher and school principal, which required filling out many forms and attending to the needs and demands of the local community. As a consultant for an educational NGO in Mexico explained, "This teacher who is in a multigrade school is a teacher but she also has to clean the school, receive training, she has to go turn in paper work, maintain the school, and that all takes time away from teaching."

Another challenge facing teachers in remote areas of Mexico is limited opportunities for in-service training, as we described in Chapter 4. Yet several participants expressed a substantial demand on the part of Mexican teachers for more training. As one national official observed, "Mexican teachers have never refused training. Results from the Teaching and Learning International Survey (TALIS) provide evidence of this. Mexican teachers are intellectuals and they could be a big part of the solution to our educational problems." This demand often goes unmet, especially in remote areas where in-service training opportunities are rare. In particular, we found that teachers in multigrade schools desired much stronger training to effectively work with their students. A multigrade teacher in rural Chiapas explained that due to the isolated location of her school, she had few opportunities to collaborate with other teachers to devise teaching strategies. Although she observed that technical advisors occasionally provided her with support, "that coordination between multigrade teachers is not done." Another multigrade teacher in the same region observed that the Secretariat of Education provide some courses, "but the time is not sufficient. At times they just give us one day." Asked if he had the opportunity to collaborate with colleagues, he observed that was more likely in a larger community: "I've seen teachers do this, all the multigrade teachers meet and they plan for the year. But here no, here we just get one example and with that example one often has doubts." When asked how he learned to teach a class with students from three different grades, he replied, "I'm just battling."

Although we did not hear of cases of multigrade teaching in Tanzania, difficult living and working conditions in remote areas, coupled with teacher shortages, often mean that teachers must contend with large class sizes, as we described above. In prior literature, teachers have related the difficulties they faced in teaching very large classes, occasionally reaching over 100 children per classroom (Sumra, 2004). A Grade 3 teacher in Lindi Region reported that she taught 78 students. We also learned of multiple classes taught by each teacher. In the same school in Lindi Region, we learned that teachers taught on average of 24, 25, or 30 classes per week. As in India and Mexico, we learned of additional burdens on these teachers. A head teacher from Lindi Region noted, "You as a head teacher, instead of teaching you must look for other things which cause you not to perform well to the school. Some, for example, don't have water at the school…we must go to look for water."

Inadequate or Irregular Compensation

The difficulties facing teachers of marginalized children range from risking their lives in conflict situations to a lack of school toilet facilities. Teachers who take on these challenges should be rewarded through targeted and appropriate compensation, but all too often we found exactly the opposite. Disbursement of teacher wages is often erratic or delayed for teachers in developing countries (Banerji, 1997; Brookings Institute & CfBT Education Trust, 2011; Govinda & Bandyopadhyay, 2008). For teachers in remote areas, receiving a paycheck on time may be a struggle. Participants in our Indian case study did not report any commonly used incentives or hardship allowances. Although assignments in large cities often come with an additional rent allowance, such allowances are not as commonly available in rural areas. As a result, this may actually be an equity-dampening perverse incentive to work in urban areas.

In Mexico, many participants in our case study decried difficult conditions and low pay for teachers. Several teachers participating in a focus group in the state of Yucatán argued that a teacher in Mexico cannot enjoy a dignified life due to low pay. A representative of the Mexican teachers union complained that due to low salaries, teachers must often work multiple jobs:

> The teacher here is a teacher from eight to two, he sells tacos from four to six in the afternoon, he is a taxi driver from eight in the evening until one in the morning, then he repeats the same thing the next day.

As the union official noted, the Mexican teacher "has to look for some way to cover the expenses of his children, house, family, he has to feed them."

We heard mixed responses related to teacher salaries in Tanzania. According to some national officials we interviewed, teacher salaries are relatively high, especially given high levels of job security. A former university professor observed, "firing a teacher if he has done something wrong would take 10 or 15 years…the only way a teacher can be fired is if he has done something grossly inappropriate." Otherwise, "it's almost impossible to get rid of a teacher, even if you don't go to your class. The headmaster would report you, but nothing much would happen."

We also learned that because teacher salaries are deposited directly into their bank accounts, not all teachers have easy access to their pay. According to one respondent, "(Teachers)…travel for one, two days, from their hardship areas, mountainous areas, maybe 8 hours, 12 hours to come to the center of the district to get salary." A teacher working in a rural area explained that his journey to the city to receive his paycheck not only took two days of travel, but the cost of transportation was equivalent to half of his salary. Another respondent noted that to collect their salaries, such teachers "spent the whole day coming and the other day going back. They will stay in a guest house or maybe in a hotel and the bus fare and everything, it's almost like half of their salary." In an interview with a representative of the Tanzanian teachers union, we learned that the union continues "fighting tooth and nail" for compensation. This union official complained that teachers have no allowances beyond their salaries and can afford few discretionary expenses. This situation often leads teachers to take a second job or to engage in other activities like farming to make ends meet.

Teachers' Preferences for Living and Working Conditions

Teachers' preferences for where they live and work have an important impact on who teaches marginalized children. Two key related teacher preferences, which further help to explain patterns of uneven teacher distribution, emerged from our research. First, teachers prefer to work close to their homes, families, and friends. Since marginalized areas are less likely to produce educated members of the community—including teachers—teachers' preferences to be close to home place communities in these areas at an educational disadvantage. Second, teachers, like any

other humans, prefer to work and live in developed areas with access to daily necessities like housing, water, and electricity. Schools and communities without these amenities have the least luck in recruiting and retaining qualified teachers. We also learned that two key demographic attributes of teachers—age and gender—interact with their preferences to further influence the profile of teachers working with marginalized children.

The Draw of Home

Research in the United States has found that teachers have a strong preference for working in schools that are close to where they grew up, even when they attend university far from home (Reininger, 2012). For example, Boyd, Lankford, Loeb, and Wyckoff (2005) found that 85 % of new teachers who entered public school teaching in New York State between 1999 and 2002 took their first jobs in schools located within 40 miles of their hometowns. This research suggests that teacher labor markets are geographically smaller than previously imagined. In other words, the pool of prospective teachers available to work in a given school appears to be constrained to a much smaller geographic radius than the state or nation. The research from New York State also indicates the existence of virtuous and vicious cycles in students' access to high-quality teachers: areas with good teachers produce good students, some of whom become local teachers, perpetuating a strong educational climate. In contrast, areas with poor teachers suffer the reverse situation, whereby lower-achieving students comprise the pool of available teachers. In the New York State study, the authors found that urban districts tend to be net importers of teachers from suburban areas, which may have deleterious effects on the quality of inner-city teachers, particularly if suburban areas export their lowest quality teachers (Lankford, Loeb, & Wyckoff, 2002). In the context of our study, communities with low educational attainment—like remote rural areas in developing countries—are more likely to import teachers from outside of the community. But given teachers' preferences to work close to home, attracting and retaining educated teachers to such areas presents a complex challenge.

In India we repeatedly heard of teachers desiring to move closer to their homes, or near members of their own caste groups. This preference emerged clearly and uniformly across all of our interviews. As one teacher noted, "birds also want to come into the nest. Everybody likes their houses." In our Indian fieldwork, the teachers and headmasters

about whom we could gather basic information all lived within one or two kilometers of their schools. We also learned of an Indian teacher who had steadily moved closer to home over time, from a job that was 50 kilometers away, to 18 kilometers, to 6 kilometers, and finally, 1 kilometer away from home. In Karnataka, we found that when teachers could not be placed in desirable urban locations, they preferred to continue living in urban areas while commuting to the remote locations where they were assigned. Such commuting creates its own challenges when roads and transportation in remote locations are less than adequate.

According to our interviews, a desire to be close to home is the most common reason teachers sought transfers to new locations. In fact, Indian government officials making teacher allocation decisions often pay explicit attention to teachers' home addresses when deciding their teaching locations, to avoid the "hassle" of dealing with transfer requests in the future. In the Indian state of Madhya Pradesh, we learned of an emphasis on hiring locally to avoid the process of teachers seeking transfers. One respondent noted:

> If you send someone from Bhopal to Murena, then 90% of his energy would be spent in trying to come back to Bhopal. But if someone from Murena itself or nearby Pahargarh is going there, and he is not very well off to shift to Bhopal then he would not try.

Another interview participant in Madhya Pradesh recalled that dating back 20 years, officials held the belief that local teachers can be more effective:

> If the person teaches in his or her own village then he would be more devoted and then teach properly. Today also there is this belief that if teachers are placed in their own villages they will not have problems of residence, social circumstances, etc., so they will teach better.

In contrast to the logic of local hiring, some of our participants in India indicated that the draw of home can lead to unwanted problems and "interferences," such as family or farming demands that may draw teachers' attention away from their schools. As one respondent observed, "at least if the teacher comes from outside, they will be having some kind of educational involvement…we can extract good work from them." Another participant suggested, "People from far off areas do better because locals are usually involved in their agriculture, family, local politics, etc. But those from outside are not concerned about all this and spend time devotedly for schools only."

In Mexico, instructors participating in the CONAFE program can be as young as 16 upon leaving their homes to work in remote rural areas. The draw of home may be greatest for these adolescents. Current and former CONAFE instructors expressed to us their initial fears and loneliness upon arriving at the communities where they were expected to live and teach the following year. Although some are able to adjust to the new conditions, others leave before they complete their yearlong teaching commitments. A state-level official of the CONAFE program estimated that 20 % of instructors in his state do not stay for an entire year. The official observed that attrition is greatest at the beginning of the academic year, when instructors first experience their living and working conditions, and after the winter break, after instructors go home to their families and then refuse to return to their teaching assignments.

In Tanzania, the centralized system of teacher allocation means that teachers can be sent to schools far away from their homes and families for their first assignments. Several of our interview respondents observed how these initial assignments in remote locations often conflict with the desire of Tanzanian teachers to work close to their homes and families. Asked about the draw of home, a district education officer responded, "Yeah, it's true. Most of the teachers, once they finish their courses, most of them struggle to be close to their families or home." This preference can present several problems in the allocation of teachers, especially if it results in surpluses of teachers in some areas and shortages in others. Despite the appeal of recruiting teachers locally, as practiced in Madhya Pradesh, a DEO in Arusha Region pointed out that officials cannot give preference in assigning local teachers to positions: "If you consider them, it means that you will marginalize the other."

The Lure of the City

In addition to the desire of teachers to be close to home and family, we also found that teachers prefer to work in urban areas, which offer much more in terms of amenities, resources, and training opportunities. The rural-urban teaching gap, whereby teachers in urban areas have greater qualifications and experience than teachers in rural areas, pervades the literature on teachers in developing countries (Alcazar et al., 2006; Birdsall, Levine, & Ibrahim, 2005; Govinda & Bandyopadhyay, 2008; Hanushek, Lavy, & Hitomi, 2008; Iredale, Voigt-Graf, & Khoo, 2009; Luschei, 2012a; McEwan, 1999; Robinson & Yi, 2008; Steiner-Khamsi & Simelane, 2010;

UNESCO, 2010; Zhang, 2006). Rural teaching posts, or teaching posts working with nomadic communities with mobile lifestyles, present several challenges for teachers. First and foremost, such schools are far removed from resources and conveniences of daily life. Furthermore, isolation at a rural post makes it difficult for a single teacher to find a spouse and for married teachers to find work for their spouses (McEwan, 1999).

Due to the difficulties described above, recruiting qualified teachers to work in rural schools is no small task. Despite the appeals of recruiting locally that we described above, in rural areas this approach can introduce problems of low teacher qualifications. A teacher training professional in the Indian state of Madhya Pradesh observed:

> The backward areas are historically deprived and when we locally recruit teachers, we might not find good quality candidates in such areas because the potential pool of qualified and meritorious candidates is itself very small. We may find them in big cities but not in rural areas.

Consequently, students in such areas lack access to teachers with sufficient knowledge of the subjects they teach. A state-level official in India noted:

> There are many areas where there are no subject specific teachers like that of math. The rest of the teachers are there and they are trying to teach also but their own capability is not so good that they substitute them. They can't teach math the way any math teacher can do.

In Mexico, we found that difficulty recruiting teachers to work in rural areas disproportionately affects indigenous children, who often live in remote rural areas. A consultant working in the area of indigenous education noted these difficulties and their potential impact on indigenous children:

> Those are the schools where no one wants to be. Even an indigenous teacher who lives in Palenque [Chiapas], they may send him to Tila, which is five hours away, so even though he may speak the same language of his students, he will try to get transferred to a school closer to where he lives.

In some cases, we found that teachers' goals to be in or near a city can even trump their desire to be near family or home. This situation poses many challenges for indigenous education officials seeking to place teachers speaking an indigenous language with students speaking the same

language. A state-level official of Mexico's indigenous education directorate observed that although teachers are initially placed in their schools according to language, the *cadena de cambio* transfer system results in language mismatches: "it doesn't matter if the teacher speaks Chol, Tzotzil, whatever, what matters is that he has a lot of seniority, so he can move to the city." As this official observed, nearly everyone wants to be in the city: "they don't want to be in the jungle. That is the major difficulty of placing teachers who speak an indigenous language."

In Tanzania, we also heard many teachers express their preferences to be in urban areas. A ward education officer in rural Lindi Region described a remote region in his ward as "torture" in comparison to being in town. An NGO representative observed:

> A teacher also wishes to get in a good working environment to be able to get his or her salary on time, access to transport, access to water, even good pay. These things are not easily obtainable in rural areas particularly.

As a result of difficult conditions in rural areas, teacher shortages appear to be far more acute in remote and rural parts of Tanzania, whereas urban and relatively affluent locations generally do not suffer teacher shortages. A representative of the national government in Dar es Salaam observed that there are some regions that "teachers escape," leaving them "permanent with acute shortages." This official illustrated the difficulties of recruiting teachers to work in such areas:

> We post teachers to schools. Government's intention is for all schools to have equitable number of teachers, and currently, although we have teachers graduating from colleges and we post them to schools, still we have shortages of teachers, especially for science and mathematics, teachers for children with special needs and pre-primary teachers. We have more serious problems with secondary schools, where teachers are very, very few. Secondly, distribution is our problem because regions, or rural areas, are difficult. Again, when they post teachers, some leave the job. They quit the job because they find it difficult to live in some places. Others would like to live in some urban areas where social services are available. Again, we have this problem of teacher distribution because of either geographical locations or social services.

According to a representative of the Tanzanian Teachers Union, teachers' preferences for urban areas could be altered by improving living

conditions in rural areas. This respondent noted that given current difficult conditions in rural areas, teachers prefer to go to urban areas even more than going home. But if rural areas are improved, teachers will say to themselves, "why stay here in Dar if I can get electricity and water somewhere else?"

Teacher Preferences and Demographic Attributes

Our quantitative analysis of teachers of marginalized children in three world regions found patterns in the demographic profile of these teachers that are surprisingly consistent across countries and regions. First, teachers of marginalized children are on average, younger and less experienced than teachers of other children. Second, teachers of marginalized children are more likely to be male than other teachers (Chudgar & Luschei, 2013). These patterns are clearly related to the working conditions and teacher preferences we discussed above. First, young and inexperienced teachers in developing countries often find that the only jobs available are located in remote rural areas, as experienced teachers use their seniority to transfer to more desirable urban locations. Second, difficult living conditions interact with cultural norms to concentrate male teachers in the most remote locations, while female teachers are much more likely to work in urban areas. Below we draw on evidence from our case studies to examine these processes and their impact on the education of marginalized children.

Teacher Age and Experience

Given the difficult challenges of teaching marginalized children, it is not surprising that if they are able, teachers will avoid such circumstances. Teachers of marginalized children tend to be younger and less experienced than other teachers because as new members of the profession with little seniority, they cannot choose where they teach. Instead, they often face the choice between a job in a marginalized area and no job at all. As they accumulate experience and seniority, teachers often seek transfers to more desirable locations. As we described above, these actions are often supported on the demand side by seniority-based teacher transfer systems.

In India, states often employ a point system for teacher assignments and transfers, which provide a direct measure of the desirability of a teaching location. As we noted earlier, in Karnataka, locations are divided into *A*, *B*, and *C* categories. *A* locations are the most desirable urban locations, *B* locations are semi-urban, and *C* locations are the least desirable rural

locations. By default, the most junior teachers receive assignments in *C* locations. Every year of service in a *C* location earns teachers 2 points, which they can accumulate over time to request transfers to *B* locations.

Indian participants in our research observed that, in contrast to concentrations of inexperienced teachers in less desirable locations, schools in more affluent areas with better facilities tend to have more experienced teachers. Few teachers want to live or work in disadvantaged villages because these areas are largely disconnected from transportation links to safer urban areas with access to shopping and other desirable amenities. A senior state official in Karnataka observed:

> Yes, because these schools are far and given an opportunity nobody wants to go and work somewhere far. So as soon as they come we put it on them to [work in a rural area]. So everyone serves the rural and then comes to the city which is a good thing, they have an experience there and then they come here.

The official laughed and concluded, "but you know all the oldies are inside."

In Mexico, teachers' desire to work in urban areas manifests itself through the *cadena de cambio*, or chain of change, whereby teachers working in rural and remote areas accumulate seniority and points over time and then use these points to transfer to more desirable urban locations. As two teachers in Zacatecas explained, the more desirable locations, such as urban areas or areas where there are teacher colleges, require more points. In this system, the number of points required to transfer to a school serves as a proxy for the desirability of working and living in the surrounding area. As in India, this transfer system results in disproportionate concentrations of young and inexperienced teachers working in marginalized locations.

We found similar trends in Tanzania despite a seemingly more difficult teacher-initiated transfer process. When asked whether teachers in remote rural areas tend to be younger than other teachers, a district education officer responded, "Yeah, yeah. It's true. They are young. Most of them are young, it's true." Although teacher-initiated transfers appear to be difficult in Tanzania, teachers with more seniority may have more success in being granted such transfers.

Teacher Gender and Social Norms

One of the most compelling findings of our cross-national quantitative analysis of teacher distribution was the consistent, disproportionate

concentration of male teachers working in marginalized environments (Chudgar & Luschei, 2013). Our case studies, combined with previous literature, reveal that social and cultural norms, concerns about safety, and the lack of basic conveniences often dissuade female teachers from teaching in remote locations. In many cases, male teachers may be more willing or able to work in marginalized environments. Alternatively, female teachers may find it difficult to move to such assignments due to unsafe or difficult conditions or social and cultural requirements, or simply because there are not enough educated women available to serve as teachers in these areas (Giacchino-Baker, 1994; Luschei, 2012b; McEwan, 1999; Steiner-Khamsi & Kunje, 2011; Vegas, 2007). The shortage of female teachers is then perpetuated, as remote communities are less likely to produce an educated female teacher labor force for the future. These communities are also at a disadvantage in recruiting female teachers from outside the community to work in their schools.

Participants in our Indian case study noted that women prefer to work in urban areas because these zones tend to be safer and well connected to transportation infrastructure. When women do work in remote schools, we learned that often, they can only arrive using public transportation. If the bus reaches the village at 9:30 a.m., the teacher will arrive at that time, not at 8:30 a.m. or whenever the school day actually begins. Discussing the lack of female teachers in remote areas, one respondent suggested, "A woman teacher does not always have safe and comfortable teaching situations whether she is unmarried or married." Further, "the more urban the area is the more women teachers it will have because women will prefer to work in an area that is easy to work in and easy to commute and is safe." One respondent observed that women who are assigned to schools in the most remote areas are "probably too preoccupied in getting out of them" to actually teach. In contrast, there appear to be fewer constraints for men teaching in remote locations. As one interview respondent noted, "the men who do become teachers are more likely to be in the rural disadvantaged area because the women are less likely to go to these areas." We also identified at least one advantage for men teaching in remote areas; an interview participant pointed out that many men teaching in disadvantaged areas "become very politically powerful in those areas." Weaker constraints and potential advantages for men, coupled with disadvantages for women, often result in disproportionate concentrations of male teachers in rural areas. In fact, in some hard-to-staff regions, all of the teachers are men.

The importance of marriage for young adults and the practice of patrilocal exogamy (a wife moving to the husband's location after marriage) ensure that female teachers in India represent a far more transient population than male teachers, as they will likely move away from their villages after marriage. In many cases, marriage can also serve as a barrier to becoming or remaining a teacher because the husband or in-laws may not allow wives to work, or to work in distant locations. In fact, in India, becoming a widow or marrying someone living far away constitutes a legitimate reason for teachers to gain immediate priority when seeking transfers, thereby indicating a deep societal preference against women living alone.

In Mexico, a combination of factors often results in an unwritten practice of sending male teachers to the most remote rural schools (Luschei, 2012b). In our case study research we found evidence of challenges faced by women seeking positions in rural areas and reluctance of women to work in such positions. A female primary teacher in rural Chiapas recalled earlier obstacles to obtaining work as a primary teacher, when positions for women were limited primarily to teaching in preschool classes. Similarly, two female teachers in Zacatecas described a teachers' college that, until recently, did not admit women. These teachers also observed that there continued to be discrimination against women in the assignment of administrative positions like school directors, supervisors, and technical advisors. At the same time, the teachers in Zacatecas described changing conditions that have resulted in greater gender parity in teaching positions. Although rural schools in the past were disproportionately staffed by male teachers, this situation has changed to reflect a more even distribution. According to the teachers in Zacatecas, the change has resulted in part from a difficult economy: whereas female teachers in the past may have resisted assignments in rural schools, now these teachers "will go wherever there is work."

In Tanzania, we found a severe shortage of female teachers working in remote rural schools. Although teachers in general want to be in urban areas, this preference manifests itself much more strongly among women. A former university professor reported that in the capital of Dar es Salaam, 95 % of teachers are women, but as "you go out, the percentages get less, and less, and less, and less. In some places, there are no female teachers at all." According to this respondent, the lack of female teachers in rural areas results from a shortage of educated girls in rural areas, combined with sexual harassment and a lack of housing in these areas. Other respondents concurred, attributing the lack of female teachers in rural areas to

difficult living conditions, especially a lack of housing. As a district education officer in northern Tanzania observed, "men are not picky about where they live," and can live in more difficult conditions.

A representative of the Tanzanian Teachers Union observed that the placement of female teachers represents an "intricate scenario," whereby women are not considered fit for remote rural areas and they do not go to remote postings when sent. Asked why women teachers are always assigned to work in towns, a teacher in rural Lindi Region offered, "maybe because they are just coming into this profession, and they are starting life, maybe they are afraid to be very far from the town areas." In fact, this teacher indicated that the policy of his district was to post women to schools in town because "they are not comfortable to go to rural schools."

The interaction of teacher gender and teacher preferences creates a challenge for teacher deployment. Women are often unwilling to work in remote and rural areas for a host of personal, cultural, and social reasons. Often driven by the same values, as well as an awareness that a female teacher may not be able to dedicate herself fully to teaching in a difficult location, education officials avoid placing women in these circumstances. In spite of a desire to create a more balanced gender distribution of teachers, the reality in remote locations is far less equitable. As a Tanzanian representative of the national government indicated, "where we find that a school has no female teacher is where we try to make sure that we allocate at least one or two female teachers for there, but in a rural area, it's far from that." As a result, a DEO concluded, "There are far too many male teachers" in rural schools.

Summary

It is clear that teachers of marginalized children must contend with more difficult living and working conditions than those faced by most other teachers. In our research in India, Mexico, and Tanzania, we repeatedly heard how teachers posted in remote, hard-to-staff environments cope with lack of resources, isolation, and even fear. The close correspondence between remote locations and difficulty in staffing schools was noted by a senior national education official in India, who observed, "You can superimpose remoteness and teacher shortage as almost a one-on-one co-relation. " In our quantitative cross-national analysis we found that teachers in remote locations commonly express dissatisfaction with their work and actively seek opportunities to transfer out of such positions.

These findings demonstrate the importance of considering the working conditions of teachers of marginalized children.

The most revealing insight from Chapter 5 is that teachers are human beings and they care deeply about their living and working conditions. Teachers commonly express their desires to be near their families and communities and to have access to daily amenities. Just like members of any other occupation, teachers make choices about where they work based on both monetary and non-monetary factors. All else equal, teachers are more likely to work in schools and communities with more pleasant work environments and greater resources. Teachers also respond to their living and working conditions by attempting to transfer to other schools or leaving the profession altogether.

We found that key teachers' demographic attributes interact with their preferences to create a consistent pattern across our three case study countries. Specifically, the teachers of marginalized children are on average younger and less experienced than teachers of other children. They are also more likely to be male than the average teacher. In the case of teacher age, young teachers have the fewest options, so they take the only positions available—teaching marginalized children in remote rural schools or other locations with difficult living or working conditions. Often, this process is facilitated by policies that assign the newest teachers to the toughest locations and allow them to move to easier locations as they gain seniority. The interaction of teacher preferences and gender is more complex, but in each of our case study countries we note that marginalized children are more likely to be taught by male teachers. The disproportionate concentration of young male teachers in the classrooms of marginalized children, accompanied by turnover of teachers as they accumulate seniority and move to more desirable locations, places these children, especially girls, at a disadvantage. In the final chapter, we further explore the implications of this arrangement, as well as possible solutions to ensure greater equity in who teaches marginalized children.

References

Alcazar, L., Rogers, F. H., Chaudhury, N., Hammer, J., Kremer, M., & Muralidharan, K. (2006). Why are teachers absent? Probing service delivery in Peruvian primary schools. *International Journal of Educational Research, 45*(3), 117–136.

Banerji, R. (1997). Why don't children complete primary school? A case study of a low-income neighbourhood in Delhi. *Economic and Political Weekly, 32*(32), 2053–2063.

Birdsall, N., Levine, R., & Ibrahim, A. (2005). Towards universal primary education: Investments, incentives, and institutions. *European Journal of Education, 40*(3), 337–349.

Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). Explaining the short careers of high-achieving teachers in schools with low-performing students. *American Economic Review, 95*(2), 166–171.

Brookings Institute, & CfBT Education Trust. (2011). *Policy report: Oiling the cogs to support teachers' salaries*. Berkshire, UK: Brookings Institute; CfBT Education Trust.

Chudgar, A., & Luschei, T. F. (2013). *Final report: Study of teachers for children marginalized by social origin, economic status, or location*. New York: UNICEF.

Civil Society Action Coalition on Education for All [CSACEFA]. (2013). *Every child needs a teacher: Global Action Week on Education*. Ilorin: Civil Society Action Coalition on Education for All.

Croft, A. (2010). *Including disabled children in learning: Challenges in developing countries. CREATE Pathways to Access. Research Monograph No. 36*. Oxford: CREATE Pathways to Access. Retrieved from http://eric.ed.gov/?id=ED510913

Giacchino-Baker, R. (1994). A tale of two bridges: Educational reform in the Lao people's Democratic Republic. *International Journal of Educational Reform*, *3*(4), 376–383. Retrieved from http://eric.ed.gov/?id=EJ527521

Govinda, R., & Bandyopadhyay, M. (2008). *Access to elementary education in India [Country analytical review]*. Brighton, UK: Consortium for Research on Educational Access, Transitions, and Equity [CREATE].

Hanushek, E. A., Lavy, V., & Hitomi, K. (2008). Do students care about school quality? Determinants of dropout behavior in developing countries. *Journal of Human Capital, 2*(1), 69–105.

Iredale, R., Voigt-Graf, C., & Khoo, S. (2009). Teacher migration to and from Australia and New Zealand, and the place of Cook Islands, Fiji, and Vanuatu teachers. *Research in Comparative and International Education, 4*(2), 125–140.

Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis, 24*(1), 37–62.

Luschei, T. F. (2012a). In search of good teachers: Patterns of teacher quality in two Mexican states. *Comparative Education Review*, *56*(1), 69–97. Retrieved from http://www.jstor.org/stable/10.1086/661508

Luschei, T. F. (2012b). The effectiveness and distribution of male primary teachers: Evidence from two Mexican states. *International Journal of Educational Development, 32*(1), 145–154. doi:10.1016/j.ijedudev.2010.12.001.

McEwan, P. J. (1999). Recruitment of rural teachers in developing countries: An economic analysis. *Teaching and Teacher Education, 15*, 849–859.

Mulkeen, A., & Chen, D. (2008). *Teachers for rural schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. Washington, DC: World Bank.

Reininger, M. (2012). Hometown disadvantage? It depends on where you're from: Teachers' location preferences and implications for staffing schools. *Educational Evaluation and Policy Analysis, 34*(2), 127–145.

Robinson, B., & Yi, W. (2008). The role and status of non-governmental ("daike") teachers in China's rural education. *International Journal of Educational Development, 28*(1), 35–54.

Sargent, T., & Hannum, E. (2005). Keeping teachers happy: Job satisfaction among primary school teachers in rural Northwest China. *Comparative Education Review, 49*(2), 173–204.

Steiner-Khamsi, G., & Kunje, D. (2011). *The third approach to enhancing teacher supply in Malawi: Volume 1. The UNICEF ESARO study on recruitment, utilization, and retention of teachers*. Nairobi, Kenya: UNICEF ESARO & UNICEF Malawi.

Steiner-Khamsi, G., & Simelane, I. (2010). *Teachers: Recruitment, development and retention in Swaziland. The UNICEF ESARO study on teachers*. Nairobi, Kenya: UNICEF ESARO & UNICEF Swaziland.

Sumra, S. (2004). *The living and working conditions of teachers in Tanzania*. Dar es Salaam, Tanzania: HakiElimu and the Tanzania Teachers Union.

UNESCO. (2010). *Reaching the marginalized. Education for all Global Monitoring Report 2010*. Paris, France: UNESCO.

Vegas, E. (2007). Teacher labor markets in developing countries. *The Future of Children, 17*(1), 219–232.

Zhang, Y. (2006). Urban-rural literacy gaps in Sub-Saharan Africa: The roles of socioeconomic status and school quality. *Comparative Education Review, 50*(4), 581–602.

CHAPTER 6

Good Teachers for All: Toward a More Just Distribution of Teachers

Abstract We begin this chapter by discussing key areas where the misalignment of demand and supply results in an inequitable distribution of teachers. These areas include the use or lack of salary and incentives, seniority-based transfers, and improper or corrupt practices. We then offer examples from our research of promising efforts to align the demand and supply sides to ensure greater access by marginalized children to qualified teachers. We discuss the importance of ensuring equity in teacher assignments and transfers, recognizing and acting on teacher preferences, carefully designing incentives, giving voice to marginalized children and their communities, investing in local infrastructure and human capital, and involving civil society to act as an intermediary between the demand and supply sides. Using these examples as a foundation for future action, we offer a set of recommendations to work toward more equitable access of marginalized children to qualified teachers. Finally, we discuss the study's limitations and offer areas for future research.

Keywords Teacher distribution • Teacher quality • Educational equity • Teacher labor markets • Teacher policy design

In our research we found that official and unofficial policies and practices interact with the working and living conditions faced by teachers of marginalized children and teachers' own preferences to place marginalized

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3_6

children at a profound disadvantage in their access to qualified teachers. Although we found that actors from both the demand and supply sides uniformly express support for a more equitable situation, when the demand and supply sides meet, their interests and objectives often clash. Although we identified some policies and practices as explicitly inequitable, many inequities occur as unintended consequences of seemingly equity-neutral practices. In these cases, marginalized children lose.

We begin this chapter by discussing key areas where the misalignment of demand and supply results in an inequitable distribution of teachers. These areas include the use or lack of salary and incentives, seniority-based transfers, and improper or corrupt practices. We then offer examples from our research of promising efforts to align the demand and supply sides to ensure greater access of marginalized children to qualified teachers. Specifically, we discuss the importance of recognizing and acting on teacher preferences, giving voice to marginalized children and their communities, local recruitment of teachers, and the involvement of civil society to act as an intermediary between the demand and supply sides. Using these examples as a foundation for future action, we offer a set of recommendations to work toward more equitable access of marginalized children to qualified teachers. Finally, we describe the study's limitations and we offer areas for future research.

The Interaction of Supply and Demand and Educational Impact on Marginalized Children

Up to this point we have discussed the demand for and supply of teachers as separate groups of actors, each with their own objectives and preferences. Ultimately, the actions of governments to fill teaching positions in the classrooms of marginalized children meet the preferences of teachers to be close to home and to work in pleasant environments. We have already described several results of the interaction of demand and supply, but here we explore more systematically the tensions between demand-side intentions and supply-side preferences and how this encounter often results in the least prepared and experienced teachers working with marginalized children.

Perhaps the strongest potential for misalignment between governments and teachers exists in attempts to compensate teachers properly for their work. The difficult conditions that teachers of marginalized children face—such as under-resourced schools and communities and large

workloads—impede the recruitment of highly talented and qualified teachers to work with the least advantaged students. Given these difficult conditions, policy makers must carefully consider the provision of targeted incentives to teachers who work in marginalized environments. Yet we find that teachers of marginalized children not only receive few, if any, incentives to compensate them for difficult conditions, they also must often contend with insufficient or untimely compensation.

In the case of salaries and incentives to teach in difficult conditions, demand and supply are misaligned in at least two ways. First, existing incentives do not appear to adequately compensate teachers for the burden of working in difficult environments. When considering the trade-off between a given incentive—whether monetary or non-monetary—and working in an environment where they can be safe and successful, teachers with options are more likely to choose the latter unless the incentive is substantial. Second, incentives are generally not targeted at any particular type or quality of teacher, for example experienced teachers or teachers with skill sets required to work in marginalized environments. Consequently, these incentives act more to fill positions than to ensure that qualified teachers work with marginalized children.

In our research we found that when incentives to teach in difficult areas are in place, they are rarely large enough to offset the sacrifices teachers must make to live and work in these locations. We found this to be the case in Tanzania, where an acute lack of housing presents a major obstacle to recruiting teachers—especially women—to work in remote areas. In Mexico, we found mixed evidence of the ability of monetary incentives to induce teachers to move to underdeveloped areas. In other instances, we found that incentives work perversely to encourage teachers to work in less marginalized environments. For example, the structure of Mexico's *Carrera Magisterial* national teacher incentive program may create a perverse incentive, as participation requires teachers to undertake training activities that are less frequent or unavailable in remote rural areas. *Carrera Magisterial* does provide some inducement for teachers working in less developed areas by allowing these teachers to advance more rapidly through the system. However, the consistent lack of *Carrera Magisterial* participation among our interview respondents in Mexico suggests that the program may have limited reach in the most marginalized areas.

Once teachers are hired and assigned to schools, they must experience success to establish a sense of optimism and confidence that they will succeed in their chosen field of work. Yet in our research we found many

examples of novice teachers sent to work in difficult and complex environments for their first jobs. This approach to teacher allocation—which we found in each of our case study countries—can reduce new teachers' sense of efficacy and increase the likelihood that they will either exit the profession or seek teaching positions in more desirable locations. As teachers accumulate seniority, their options expand. In our research we often heard of teachers transferring after they had paid their dues in remote rural areas. We also learned of the consequences for marginalized children: a churn of inexperienced teachers striving to leave for greener pastures as soon as possible.

Despite the disadvantages of seniority-based teacher assignments and transfers for marginalized children, it is not difficult to understand why these arrangements occur. Demand-side actors need to fill positions and novice teachers need jobs. With few options to choose from, new teachers must often choose between a job in an undesirable location and no job at all. In fact, one might consider seniority-based transfers as an incentive to reward teachers for time spent working in difficult-to-staff schools. However, the process of initial assignment to marginalized areas, followed by seniority-based transfers from difficult locations, not only places marginalized children at a disadvantage, it also undermines a general sense of fairness in the education system. Such systems are unfair for novice teachers and marginalized children alike. As we argue below, recognizing and giving voice to both groups could result in a fairer arrangement for marginalized children and their teachers.

Beyond formal arrangements to reward teachers for seniority, we also found instances of corruption or improper practices, including patronage-based arrangements, nepotism, or bribery in assigning teaching positions or granting teacher transfers. Such practices provide a stark illustration of the unintended consequences resulting from a dysfunctional environment caused by the misalignment of demand and supply. Actors on each side have a different set of preferences and objectives, which can be both personal and professional. Lack of oversight and transparency, combined with the high stakes of teacher assignment and transfer decisions, may allow personal objectives to take precedence over policy objectives. Although there is no easy solution to this problem, it is important to recognize that these practices are not initiated solely by either government officials or teachers; instead, they emerge from the misalignment of the needs and desires of these actors with those of marginalized children.

Aligning the Demand and Supply Sides: Key Recommendations for Ensuring Good Teachers for All

In our case studies, we often found that the misalignment of government intentions and practices with teacher preferences and motivations often results in an unintended pattern of inequity. In these cases it is difficult to place exclusive blame on one side or another. In a few cases, however, interactions between demand and supply sides have inspired innovative and promising solutions. Below we discuss these potential paths to equity and we provide recommendations based on these experiences.

Ensuring Equity, Transparency, and Efficiency in Initial Hiring and Transfers

We argue that both initial teacher allocation and transfer policies must attempt to equalize the distribution of qualifications, or even target the most qualified teachers toward schools and classrooms of the neediest children. While our research identifies many instances of teacher-initiated transfers that result in experienced teachers leaving difficult environments, we can also envision transfer policies that help to equalize the distribution of qualifications, or even target the most qualified teachers toward the schools and classrooms of the neediest children.

The example of South Korea provides an important benchmark for other systems to consider. As a wealthy nation, Korea enjoys sufficient resources to invest in education, resulting in overall high levels of education and training for teachers. The nation's general commitment to educational equity also results in policies and practices, such as rotation of teachers and incentives to teach in less desirable locations, to place qualified teachers in the classrooms of disadvantaged students. The centralized nature of teacher hiring and assignment, combined with a relatively contained geography, allows education officials to assess schools' and students' needs for teachers and place teachers according to these needs. Although Korean teachers may prefer to teach in more desirable locations, the system of teacher rotation provides a sense of fairness and transparency in teacher hiring and transfers. Incentives to teach in difficult locations also compensate for teachers' preferences to be in more developed locations. Together, the interaction of national context, policies to ensure equity in teacher allocation, a high level of teacher

education, and recognition of teachers' preferences help to produce a virtuous cycle in which disadvantaged children in Korea may actually have *greater* access to qualified teachers than more advantaged children (Akiba, LeTendre, & Scribner, 2007; Kang & Hong, 2008; Luschei, Chudgar, & Rew, 2013).

In contrast to the Korean case, in our case study research we often found that a lack of transparency and proper monitoring can exacerbate efforts to distribute teachers equitably across schools. To address this problem it is important for governments to exploit national and regional data sources to understand the education system and conduct research and evaluation to inform policy decisions in a timely and effective manner. In Karnataka, India, we heard repeatedly the importance of a well-designed and transparent system for every aspect of teacher hiring, retention, and transfer. Karnataka's system, which is largely managed centrally at the state level, makes extensive use of technology to disseminate information and solicit teacher applications. Positions are divided into zones based on their locations, and teachers accrue points that facilitate transfers. Although the zones and point system can lead to inequities as more senior teachers transfer out of difficult zones, we emphasize here the benefits of systematizing processes of teacher assignment and transfer. The transfer process is well organized and teachers receive counseling and guidance in managing the process. Such processes can serve as exemplars for other systems.

In contrast to the example of Karnataka, we learned of cases in which teacher assignment decisions are governed by patronage-based considerations. In addition to the potential harm of such systems on children living in marginalized environments, these systems also weaken transparency and faith in public institutions. The challenge is to revise teacher assignment and transfer policies to make them more fair and transparent. Transparency can be addressed through the use of widely available media, like newspapers and Internet, to publish the results of teacher assignment and transfer decisions along with criteria for making decisions. In sum, the efficient and equitable functioning of teacher labor markets in developing countries may at least in part result from attention to appropriate technologies, processes, and relevant data, which could improve transparency, fairness, and efficiency in teacher deployment.

Recognizing Teacher Concerns to Make Efficient Allocation Decisions

As we have described above, teachers in our case studies expressed strong preferences to live in developed urban areas and to be close to home. One way to align the demand and supply sides is to recognize and, to the extent possible, act on these preferences through well designed and transparent teacher placement efforts. In our research in Mexico City, we encountered administrative efforts to place teachers in schools so that they could be happier and more productive. These efforts were supported by a strong level of administrative capacity in the management of teacher-related issues. An education official in the city underscored the importance of educational management in supporting teacher effectiveness:

> What we have learned is that quality doesn't just come from pedagogy, but also from good administration. So if you have a good teacher but he does not have good working conditions, it will be difficult for him to have the same level of performance.

According to this official, several recent changes have helped make teacher assignments more coherent and equitable in the city. A 2008 national agreement, which required all prospective teachers to take a national examination prior to being hired and assigned to schools, has provided education officials with more information to make hiring and assignment decisions. The Mexico City Education Secretariat has also tried to place teachers closer to where they live, so that they do not spend many hours commuting every day. The official noted:

> If a teacher spends 2.5 to 3 hours traveling to his school, he arrives tired without energy to work. We are accepting that this is not an easy job, we are trying to place teachers closer to their homes, or if they work in more than one school, we try to put these schools closer together. That's a perfect combination, we are in that process, but it is not an easy process.

Despite these efforts, Mexico City still contends with the challenge of placing good teachers in schools on the periphery of the city. Many teachers do not want to work in such schools because they are often at the furthest reaches of the city and can require commutes of two to three hours each way. According to the Mexico City education official, "that is where

really good teachers are needed but not all teachers live in the periphery of the city. So that is where we have conflict." In these cases, training and support of teachers working in marginalized areas become particularly important. To address this need, the Secretariat created a program called "*Entre Pares,"* or Between Peers, that matches high-performing with low-performing schools so that administrators can share and observe challenges and best practices. As the official observes, "it's not just a well-prepared teacher, it's a collective that can demonstrate the characteristics of the school to other schools."

Carefully Designing Monetary and Non-monetary Incentives

The diminished status of the teaching profession emerged from our research as a key challenge to ensuring quality and equity in the teacher workforce. This problem was most prominent in Tanzania, where many interview participants referred to teaching as a profession of last resort. If teaching attracts primarily those who cannot find jobs in other fields, then the teachers of marginalized children are unlikely to serve as inspiring role models for the next generation. What will it take to attract the best and brightest to teaching? One key incentive is the esteem that a society bestows on its teachers. Yet, often in developing countries we find low levels of esteem for teachers, and even lower esteem for those working with marginalized children.

As relatively more educated members of the labor force in many developing countries, teachers are unlikely to accept certain difficult living and teaching conditions, if they have other options. As a result, teachers with the least options or leverage—often the least experienced and trained—find themselves in such environments. To counter this trend, education systems must compensate teachers to work in difficult environments through monetary or non-monetary incentives. One of the non-monetary incentives that emerged as particularly important in our research was the availability of safe, basic housing. In Tanzania, we learned that communities that were able to provide basic living arrangements for their teachers appeared to be more successful at helping them settle and remain in the community than those where teachers lived in shared spaces with inadequate housing. We also heard evidence that communities offering arable land for teachers to farm had success in luring and retaining teachers.

It is also important to target incentives toward teachers who have demonstrated evidence of effective teaching, where possible. Unfortunately, our research and prior literature on teacher incentives provide more evidence regarding what does not work than what works. As Vegas and Umansky (2005) note, "although teachers generally respond to incentives, they do not always do so in ways we would expect or hope" (p. 59). A key lesson is that incentive schemes must be designed carefully, tested, and evaluated before being implemented widely.

Providing Adequate and Relevant Teacher Preparation and In-service Training and Support

Teachers of marginalized children work in unique and challenging situations that require substantial expertise to be successful, such as multigrade classrooms with few resources and students who do not speak the national language. These teachers must receive adequate initial training that is relevant to the conditions that they will face. Yet we found that in many cases, teachers learn how to meet these challenges on the job. The provision of in-service training is also a challenge because these teachers are often far removed from training opportunities in urban centers. Teachers of marginalized children must have consistent opportunities for continuing in-service training that supports them professionally and provides examples specific to their classroom conditions. We found one promising example in Chiapas, Mexico, where a teacher educator explained that several branches of Mexico's National Pedagogical University (UPN) had begun teacher training programs in intercultural education that cover both cultural and linguistic aspects of indigenous education. UPN also prepares teachers to work in rural and multigrade settings, which in states like Chiapas represent the majority of primary school environments. Similarly, a teacher educator in the Mexican state of Yucatán observed that the current generation of UPN professors are "pioneers" due to the work they have invested in training teachers working in indigenous schools.

Given the remoteness of many schools that teach marginalized children, it is also important to move training opportunities closer to teachers physically or through the use of technology. One example with strong empirical support is Colombia's *Escuela Nueva* program, which provides support and in-service training to rural teachers through "microcenters," or local centers that support networks of practicing teachers (Little, 2004). Where such centers are not possible, technology can play a role in

providing relevant in-service training and networking opportunities for teachers in marginalized environments.

The importance of effective and supportive school leadership and other types of support for teachers of marginalized children cannot be overstated. In Tanzania, we learned that effective school leaders can persuade local communities to invest in resources to support and retain teachers. According to a head teacher in a rural area, community support can "make the school to be different from the other school." As this head teacher observed, if the community "will support them it means the school must have more infrastructure than another school."

In addition to school leaders, we also learned of school inspectors, technical staff, and other types of support staff who could offer important guidance, especially for novice teachers. Yet in many cases, these support staff focus more on assessing technical requirements than providing instructional or other support to teachers working in difficult environments. School leaders and support staff may also benefit from targeted in-service training and help, which in turn can facilitate the in-service experiences of the teachers of marginalized children.

Giving Voice to Marginalized Communities and Children

By definition, marginalized children and their families have little voice or power to influence the quality of education that they receive. For example, in Mexico we heard of a CONAFE instructor who left a remote community and was not replaced. Another instructor in the community recalled that despite the requests of parents, a new teacher never came. According to the instructor, "the parents can ask for new teachers or ask to replace a teacher, but they are not always paid attention to." One of the key avenues to address this situation and improve the education of marginalized children is to consider and embolden actors in marginalized communities.

In Tanzania, we spoke with representatives of a non-governmental organization that has recognized the importance of community support for the success of schools and teachers, and has dedicated significant effort to work with communities in marginalized areas. A representative of this NGO observed that one of their key priorities is to empower communities to ensure the availability and quality of teachers through mechanisms like awareness and monitoring. Students themselves can also be enlisted in this effort. The representative observed, "If the pupils are well-trained to monitor, they will be able to say, 'He has just come without preparation.

What he has done is blah, blah, blah type, and not the real teaching.'" According to this respondent:

> There are two different ways of going around the problem. You might force a teacher to go to class, he is going there physically, but in terms of technical part of it is still very low, is as bad as not even attending.

The second way is to be more sensitive to the reactions of teachers. As the NGO representative pointed out, "if you do push too hard, then the teacher just runs away, right? You have to understand the balance… appreciate the situation."

In the Indian state of Karnataka we similarly heard about the power of ordinary people to affect significant change by placing pressure on politicians. Describing a situation when a senior official visited an area lacking adequate teachers, a state official observed:

> There people's representative came to him and asked him that he is the secretary can he provide for teachers- these posts are vacant, if you cannot provide teachers, better you come and teach- that way they started ragging him. So when there was the irritation to the secretary of the state, he thought very seriously to think about serious act of this type.

Investing in Local Infrastructure and Human Capital, with a Focus on Girls and Women

Our research demonstrates that teacher labor markets are geographically constrained. In other words, teachers prefer to remain within a specific and relatively small geographical radius, usually close to their homes or conveniences. We found very little evidence of teachers in urban areas wishing to move to remote locations, nor did we observe teachers transferring willingly across regions in response to teacher surpluses or shortages. This "localness" of teacher labor markets underscores the importance of developing local capacity to ensure long-term, viable solutions to the problem of uneven teacher distribution. Such investments include improving living conditions for those who live and teach in remote rural areas and building capacity of local populations, especially women and girls.

Teachers of marginalized children face challenges both inside the classroom and outside, in their working and living environments. There are some short-term fixes to these challenges, ranging from providing teachers with sufficient teaching and learning materials to ensuring adequate toilet

facilities in schools. Ultimately, however, the challenge of difficult conditions requires a serious and long-term commitment from governments. Without such a commitment, talented local youth in underdeveloped communities will move away to greener pastures and those from outside these communities will be reluctant to move in.

Governments attempting to equalize teacher resources must consider systematic and long-term infrastructural investments in remote rural locations and their schools. Required investments include better transportation and sanitation. Schools and communities also need water and electricity, which are necessary to ensure that students and teachers can enjoy basic, healthy living conditions and have school environments that are conducive to learning. In some cases, schools and communities can also benefit from increased security to ensure that teachers and students travel to and study in school without fear of violence.

Governments must also make investments in local labor markets. Although the localness of teacher labor markets poses challenges for the recruitment of teachers from outside the community, it also points to the necessity of identifying and developing local teaching talent. There are many potential benefits to a localized teacher labor force. Local teachers may be less prone to seek transfers, they may identify more closely with their students in terms of both language and culture, and they may feel a greater sense of commitment to local development. Yet hiring teachers locally in marginalized environments may be difficult due to difficult living and working conditions and relatively underdeveloped human capital in such areas. As a result, some communities are chronically deprived in their access to qualified teaching talent. This problem leads to a vicious cycle, whereby fewer qualified young people today mean fewer qualified teachers tomorrow, which then limits the development of the next generation of qualified adults. At the same time governments must make investments to provide better infrastructure and resources to marginalized areas, they must also strengthen the preparation of human capital in these communities to ensure a long-term, sustainable supply of qualified teachers.

The vicious cycle of inadequate educational attainment is most clearly experienced by girls. If given the chance, many girls in marginalized communities may become female teachers in their communities. Yet in our research we have repeatedly noted the overrepresentation of male teachers in marginalized contexts. This may reflect the unwillingness of women to relocate to schools with challenging circumstances, or it may reflect the societal norms that disallow women from working in such settings. To

borrow from Amartya Sen (1990), the lack of women teachers in marginalized contexts may reflect the problem of "missing female teachers." That is, marginalized children have less access to female teachers because females in underdeveloped areas are often less likely to have access to education. This may be especially true if they do not have female teachers they can look up to as role models and with whom their parents can feel at ease. In this way, an unfortunate cycle of gender inequity is perpetuated.

One solution to the lack of female teachers in marginalized environments is the identification and training of a local female teacher labor force. Experimental research in poor urban areas of India has found that local women with high school diplomas hired to teach basic literacy and math to high-need students elicit greater student achievement gains than regular teachers, regardless of environment or turnover (Banerjee, Cole, Duflo, & Linden, 2004). Research on private schools in Pakistan has also identified the importance of educational attainment of local females. Andrabi, Das, and Khwaja (2008) note that private schools are often able to operate at a low cost in remote villages in large part because they can employ an educated, unmarried female teacher labor force at low salary levels. Villages where private schools are able to function with underpaid but reasonably educated women are where governments had invested in female education decades ago. In making this recommendation, we recognize that relatively poor training and underpayment of female teachers are important issues that may justifiably be thought of as exploitative. We point to this research to promote the importance of female teachers, not to promote the specific aspects of their training or payment.

Although our research found little evidence of specific strategies to invest in girls' education, we did find an NGO in Tanzania that had experienced success in helping rural communities attract female teachers. This NGO had undertaken efforts including grassroots campaigns to attract female teachers to difficult areas and "girls clubs" to advocate for the allocation of female teachers to rural communities. A representative of this NGO gave the example of a girls club demonstration that attempted to convince a district commissioner to allocate two female teachers to a local community, where there had previously been none:

> Say for example a remote community creates this environment which is friendly for a female teacher. Then they can go and tell the district that we have done this, please give us the female teacher. We also have these girl clubs who go along and go to the district officials. They dramatize.

> They push. They advocate through forums like Women's Day. Of course, when they are there, they normally give a verdict, or the commitment.

The NGO representative reported that the girls club demonstration was successful: "The girls clubs did that drama or play, and they were able to impress on him, and within two months, I think, he was able to post two female teachers."

Involving Civil Society

The Tanzanian case described above provides an important illustration of the role of civil society, especially NGOs, to act as intermediaries across governments, teachers, and marginalized communities. In our research we found several examples of NGOs supporting, supplementing, monitoring, or evaluating efforts to improve educational conditions for marginalized children. In addition to the Tanzanian NGO described above, we found several instances of important work by NGOs in Mexico, including training of teachers of marginalized children, evaluating government programs, and conducting educational research and advocating for policy change. In the state of Yucatán, we observed an NGO that provides training and support for preschool instructors working in indigenous schools of the CONAFE system. After conducting a systematic evaluation of this issue, the organization identified an important lack of support and monitoring of instructors. The organization then began working with the CONAFE program and its supervisors to strengthen support for preschool teachers working with indigenous children. In addition to improving the skills of CONAFE instructors, the organization has also worked to mitigate risks like hurricanes and fires that threaten CONAFE communities.

In Mexico City, we spoke with representatives of an NGO that conducts research and evaluation of educational policies and practices. In its work related to teachers of marginalized children, the organization employs four principal strategies: evaluation and development of teacher-related public policy, social recognition for effective schools and teachers, attempts to influence demand for high-quality education and teaching, and legal action related to teachers and teaching. In its public policy work, the organization has used data generated by the Mexican government to conduct analyses related to equity in educational access and quality. As an example of social recognition, the organization has established a

national prize to recognize outstanding teachers. The organization has also established a bank of best practices to provide lessons learned and ideas for organizational improvement.

Limitations

Although we were able to collect rich data during our case study visits in India, Mexico, and Tanzania, this research nonetheless has several limitations. To begin with, we were limited by our ability to spend only about two weeks collecting data in each country. We were fortunate to receive excellent support on the ground from various colleagues, but we acknowledge that it is difficult to form deep connections and generate an adequate level of trust to discuss issues of serious concern to our respondents. The nature of our data collection approach, which varied across countries based on the availability of respondents, also led to some inconsistency in the number and type of respondents represented. In some locations we were able to speak with more teachers than in others. In some states or regions we were able to interview teachers' union representatives, in others we were not. As we describe in Chapter 3, we attempted to include representatives of multiple levels of the education system, but the levels are not equally balanced in each country or region.

The country case study research required us to work in multiple languages. The researchers had a facility in most of these languages, but not all. Where needed, we hired translators and transcribers who spoke the local language. Although we believe that we have captured the data effectively, we acknowledge that working across diverse languages and cultures may introduce variations in our analysis of different countries and contexts.

Finally, our country selection could have been quite different. There are many other equally interesting education systems that deserve close attention. Our selection of India, Mexico, and Tanzania was based on a number of factors: the desire for one country in each of three major world regions (Asia, Latin America, and sub-Saharan Africa), countries where teacher-related issues are particularly salient, large and politically significant countries, and countries where we had sufficient contacts to assist with the identification and recruitment of participants in a reasonable timeframe. Our country sample includes three large countries, two of which have federal systems of government (India and Mexico) and one with a unitary system (Tanzania). We did not examine any small countries, and we have limited evidence regarding teacher distribution and related

policies in centralized education systems. For a number of reasons, smaller centralized governments may have more success in ensuring an equitable distribution of teachers, all else equal (Luschei & Chudgar, 2015). We raise this possibility as an important area for future research.

Areas for Future Research

The patterns and explanations we find in our study of the teachers of marginalized children raise a number of concerns. For these children to succeed academically, they must have teachers who are appropriately qualified. The disproportionate concentration of male teachers working with marginalized children raises concerns for another reason: given emerging evidence of teacher-student gender interactions, a large proportion of male teachers working with lower-performing students may have particularly negative effects on the achievement of marginalized girls. In many communities, parents may also be less likely to send their daughters to school if they will be placed in the classrooms of male teachers. Additionally, evidence that teachers of marginalized children are consistently less enthusiastic about their working situations illustrates the challenge of recruiting and retaining qualified teachers to work with marginalized children.

Future research needs to more closely investigate the implications of the teacher distribution patterns that we have highlighted. The financial implications are perhaps clearest. Teachers of the marginalized are less experienced and less qualified. Yet teacher education and experience command the lion's share of teacher compensation budgets, which in turn account for a majority of educational expenditures in most countries. Disproportionate concentrations of more experienced and educated teachers working with more advantaged children represent an unfair and inequitable allocation of educational resources.

In addition to financial implications of an uneven distribution of teachers, we must further explore implications for students, teachers, and the education system more broadly. In terms of students in challenging environments, having any type of teacher, qualified or not, is positively associated with access to school. Yet implications for girls' access, especially at the secondary level, are underexplored. If as we find, teachers of the marginalized are disproportionately male, does this pattern systematically limit female school participation? If so, what are the primary reasons that females stop attending school? Are they related to concerns about safety and sexual violence or are they driven by the lack of female role models?

What are the long-term implications for communities where young girls systematically leave schooling at an early age, and how does this problem perpetuate the shortage of qualified female teachers in the future?

For student performance or learning levels, an important area needing urgent research attention is the provision and quality of teacher education in developing countries. In the United States, debates related to teacher education and which aspects are important or relevant for student performance have been impassioned and extensive (see for example Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009 and related studies). In developing countries, attention is often focused on the dismal state of teacher education systems, where the least prepared and unmotivated high-school graduates are trained with outdated curriculum to become teachers. At the same time, we are aware of large develop projects supported by the United States Agency for International Development (for example in India, Indonesia, and Pakistan) that have endeavored to reform and improve teacher education systems. There has also been a slow but steady emergence of the Teach for All model on the one hand (Cumsille & Fiszbein, 2015; Straubhaar & Friedrich, 2015), and the successful and popular BRAC model on the other (Asadullah & Chaudhury, 2013; Chaboux, 2005; Islam & Anwar, 2012).

Few of these new and ongoing reforms have been systematically studied to understand their implications for preparing teachers to work with marginalized children, and how well students perform as a result. We call for more systematic research on both the range and quality of teacher preparation currently available in developing countries, as well as implications for preparedness to teach in challenging circumstances, so that teacher preparation translates into greater student learning. To our knowledge, the Teacher Education and Development Study in Mathematics (TEDS-M), which is supported by the International Association for the Evaluation of Educational Achievement, represents the first comparative effort to closely examine teacher education programs in mathematics across multiple countries. Close investigation of the TEDS-M data and other relevant efforts will be a fruitful place to begin such investigations.

A related area that deserves much greater research and policy attention is the targeted training that is necessary for teachers of children who are marginalized along specific dimensions, like disability, language, and presence in multigrade classrooms. Even when research finds that the current quality of teacher training leads to little or no impact on student performance—a question that needs much further investigation—it is difficult

to foresee how teachers working with children with specific learning challenges will or will not benefit from relevant teacher training. Research on the preparation of teachers to work with marginalized children must pay separate and careful attention to the availability, quality, and relevance of training to teach marginalized children with diverse learning needs.

Our research also points to the importance of appropriate in-service training opportunities for teachers working with marginalized children. Above we have identified and discussed a few strategies that may facilitate or strengthen in-service training for these teachers. For example, Colombia's *Escuela Nueva* rural school improvement program has provided thousands of Colombian teachers with relevant skills to work in small multigrade classrooms through targeted in-service training and local teacher support systems. Yet while this model has been adopted in more than a dozen other countries outside of Colombia, little research has examined how the *Escuela Nueva* model works in other systems.

As researchers and policy makers consider evidence related to teacher preparation and training, they must also pay close attention to the impact of different policy choices on teachers themselves. Our research finds that due to their locations in challenging living and working environments, teachers of marginalized children are less satisfied with their work and are often more keen to leave their positions for more desirable locations. What are the implications of these behaviors and attitudes for students and teachers? Are teachers of the marginalized more likely to be absent than other teachers? Are they likely to exert lower effort if they perceive that their jobs are secure? If so, what will be the implications of greater incentives or accountability-based systems? Will these systems ensure greater teacher effort, and ultimately, superior student outcomes? Or, in the long run, will such policies lead to the deprofessionalization of teaching and further denigrate the status of teachers and teaching, whereby teaching is seen as an undesirable job that one would never wish upon a bright high school graduate? These questions remain uninvestigated.

The distribution of teachers is clearly affected by the choices that teachers make. Senior teachers and female teachers in particular opt out of difficult teaching assignments, and most teachers prefer working close to home. What are the implications of these localized teacher labor markets? When we discuss the Indian teacher labor market—which in fact may not exist—the most relevant level of analysis is one district in one state of the country. Additional research that investigates the nexus between teachers' age, gender, and preferences to remain close to home and family may

provide important insights to inform policy. It is also important to systematically investigate the role of teachers unions in exacerbating or ameliorating inequitable teacher distribution in developing countries. To our knowledge, research investigating the influence of unions and politics on teacher distribution is very limited.

Finally, our country case studies revealed a number of promising new system-level strategies and reforms that may serve to both raise overall teacher quality and equalize the distribution of teachers across less and more advantaged children. For example, Mexico and India have both recently instituted national reforms focused on making teacher hiring and qualification requirements more uniform and transparent. Tanzania has introduced a greater emphasis on accountability in teacher-related work. The use of technology and data for teacher management and training have provided promising avenues to improve teacher quality and equity in marginalized children's access to qualified teachers. While these system-level approaches hold great promise for the educational opportunities of marginalized children, they must all be subject to evaluation and scrutiny to ensure that they fulfill this promise.

References

Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Reseacher, 36*(7), 369–387.

Andrabi, T., Das, J., & Khwaja, A. I. (2008). A dime a day: The possibilities and limits of private schooling in Pakistan. *Comparative Education Review, 52*(3), 329–355.

Asadullah, M. N., & Chaudhury, N. (2013). Peaceful coexistence? The role of religious schools and NGOs in the growth of female secondary schooling in Bangladesh. *Journal of Development Studies, 49*(2), 223–237. doi:10.1080/00220388.2012.733369.

Banerjee, A., Cole, S., Duflo, E., & Linden, L. (2004). *Remedying education: Evidence from two randomized experiments in India*. Working Paper 11904. Cambridge, MA: National Bureau of Economic Research.

Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement. *Educational Evaluation and Policy Analysis, 31*(4), 416–440.

Chaboux, C. (2005). *Meeting EFA: Bangladesh Rural Advancement Committee (BRAC) primary schools. Academy for Educational Development*. Academy for Educational Development. Retrieved from http://eric.ed.gov/?id=ED497021

Cumsille, B., & Fiszbein, A. (2015). Creme de la creme: The Teach for All experience and its lessons for policy-making in Latin America. *Education Policy Analysis Archives, 23*(46), 1–23.

Islam, M. N., & Anwar, A. (2012). BRAC in Afghanistan: Building South-South partnerships in teacher training. *PROSPECTS, 42*(1), 55–70. doi:10.1007/s11125-012-9222-1.

Kang, N. H., & Hong, M. (2008). Achieving excellence in teacher workforce and equity in learning opportunities in South Korea. *Educational Reseacher, 37*(4), 200–207.

Little, A. (2004). *Learning and teaching in multigrade settings.* Background paper prepared for the Education for All Global Monitoring Report 2005. Paris, France: UNESCO.

Luschei, T. F., & Chudgar, A. (2015). *Background report for Education for All Global Monitoring Report 2015: Evolution of policies on teacher deployment to disadvantaged areas. Submitted to UNESCO.* New York: UNESCO.

Luschei, T. F., Chudgar, A., & Rew, J. W. (2013b). Exploring differences in the distribution of teacher qualifications across Mexico and South Korea: Evidence from the Teaching and Learning International Survey. *Teachers College Record*, *115*, 1–38. Retrieved from http://www.tcrecord.org/DefaultFiles/SendFileToPublic.asp?ft=pdf&FilePath=c:\WebSites\www_tcrecord_org_documents\38_16964.pdf&fid=38_16964&aid=2&RID=16964&pf=Content.asp?ContentID=16964

Sen, A. (1990). More than 100 million women are missing. *New York Review of Books.* Retrieved from http://www.nybooks.com/articles/archives/1990/dec/20/more-than-100-million-women-are-missing/

Straubhaar, R., & Friedrich, D. (2015). Theorizing and documenting the spread of Teach For All and its impact on global education reform. *Education Policy Analysis Archives*, *23*(44). doi:10.14507/epaa.v23.2055.

Vegas, E., & Umansky, I. (2005). *Improving teaching and learning through effective incentives: What can we learn from education reforms in Latin America?* Washington, DC: World Bank.

Appendix: Interview Protocols

Interview Protocol (Public Officials)

Introduction

1. Please describe your current position and your responsibilities related to teacher recruitment, retention, and retirement.
2. How long have you held this position?

Resource Distribution

3. Please describe your understanding of the availability of educational resources for children of different backgrounds in your country.
4. Please describe your understanding of the availability of teachers for children of different backgrounds in your country.
5. Please describe your assessment of the current availability of educational resources and teachers for children of different backgrounds in your country.

Teacher Recruitment, Retention, and Retirement

6. Can you please describe how teachers are recruited in your country?
7. Can you please describe any policies and practices in place to retain teachers in their schools or in the teaching profession?
8. Can you please describe the process and current state of teacher retirement in your country?

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries*, DOI 10.1057/978-1-137-57926-3

Teacher Allocation and Distribution

9. When teachers complete their training, how are they generally hired and assigned to schools?
10. When teachers wish to change schools, what processes are in place for them to do so?
11. Are teachers often reassigned from one school to another in your country? If so, for what reasons does this occur?
12. If a teacher is reassigned to a different school, what is the procedure for doing so?
13. Are you aware of any incentives in place to encourage teachers to work in difficult areas or teach disadvantaged children?
14. Please describe how these incentives work.
15. In your opinion, are these incentives effective in encouraging qualified teachers to work in difficult areas or to teach disadvantaged children?
16. In general, do you believe that disadvantaged children in your country have the same level of access to qualified teachers as other children? Please explain.
17. If not, what do you think educators, policy makers, non-governmental organizations, or teachers unions in your country can do to ensure that disadvantaged children have the same level of access to qualified teachers as other children?
18. Are you aware of any regions, districts, schools, or non-governmental organizations that have been particularly effective in ensuring that disadvantaged children have the same level of access to qualified teachers as other children? If so, please explain.
19. Is there anything you would like to add regarding any of the questions I have asked, or questions that I have not asked but would be pertinent to this discussion?

Additional Questions for Other Respondents

For Representatives of NGOs

- Can you please describe the role of your organization or other non-governmental organizations, if any, to ensure that disadvantaged children have the same level of access to qualified teachers as other children?

For School Leaders

- As a school leader, what is your role in hiring teachers and reassigning teachers to other schools?
- Please describe the strategy that you use in identifying and hiring teachers to work in your school.
- Please describe the strategy that you use in assigning teachers to work with different classrooms in your school.
- What are your major considerations and objectives when you hire and reassign teachers and assign teachers to classrooms?
- What do you think school leaders in your country can do to ensure that disadvantaged children have the same level of access to qualified teachers as other children?

For Teachers

- Please describe how you were hired and assigned to teach in this school and in your current classroom.
- Do you work in another school besides this one? If so, please describe how you were hired and assigned to teach in that school and classroom.
- In the process of being hired and assigned to this school, were you able to select the school and classroom where you teach?
- In the process of being hired and assigned to this school, were you offered any incentives to teach in difficult areas or with disadvantaged children?

For Teachers Union Representatives

- What is the role of the teachers union(s) in teacher recruitment, retention, and retirement in your country?
- Can you please describe the role of the teachers union(s), if any, to ensure that disadvantaged children have the same level of access to qualified teachers as other children?

Index

Note: Page numbers followed by 'n' denote notes.

T.F. Luschei, A. Chudgar, *Teacher Distribution in Developing Countries,* DOI 10.1057/978-1-137-57926-3