**MODULE ONE:**

**INTRODUCTION TO SCHOOL MAPPING,**

**MICRO-PLANNING AND EDUCATION INDICATORS**

**🗁 Module Introduction**

In Ethiopia, national and regional educational planning undoubtedly offers a number of advantages to the development of a country’s education sector. However, major problems remain with educational planning systems at the national/regional level. Usually, policies laid down at the central level do not get implemented because they often lack adaptation to the realities at the grass root level. Moreover, experience has shown that despite priorities fixed by national and regional plans, inequalities have persisted among urban and rural areas and social groups.

Such inadequacies of centralized planning have led to a growing interest in the concepts of school mapping and micro planning. By strengthening regional and local planning activities, school mapping and micro planning can provide excellent techniques for bridging the gap between centralized planning and implementation.

This module consists of two units. In the first unit, the concepts of school mapping and micro-planning are defined and described. The unit also briefly treats the roles of school mapping and micro-planning in educational planning as well as their objectives and fields of application, and analyses the process of school mapping.

The second unit deals with an introduction to education indicators which are useful tools for the diagnosis, planning and monitoring of educational services at the local level.

**☺ Module objectives:**

After working on this module, you will be able to:

1. define the concepts of school mapping and micro-planning in education, and describe their relation to educational planning at the central and regional levels;
2. identify the factors which should be considered when preparing the school map;
3. acquaint yourself with education indicators;
4. identify and develop education indicators relevant for school mapping and micro planning;
5. distinguish among education indicators, data and information.

**UNIT ONE**

**DEFINING SCHOOL MAPPING AND MICRO-PLANNING**

**✈ Overview**

You may realize that there is a very notable lack of agreement among scholars and practitioners regarding the definition of educational planning in general. Some observers see planning as wholly or mainly as a technical exercise, utilizing “hard” quantitative data, complex statistical analysis, and research results. Others see it as primarily a political exercise, in which different interested groups in society try to advance their own interests, while still others see it as a combination of the two. Beyond this, some think of planning in terms of the activities of those who are called “educational planners” or who work in offices or units with planning in their title. Others define it with reference to a set of activities which must be carried out (by any number of people with varied titles and job descriptions) in order for any significant change in education to take place.

Despite such differences in perspective, educational planning essentially involves analysis of the existing situation, and proposes programmes of action to bring desirable changes in the region. In this unit, we will examine the concepts behind, objectives, and benefits of school mapping and educational micro planning.

# **☺ Unit objectives**

After working on this unit, you will be able to:

1. define the concepts of school mapping and micro-planning;
2. outline the rationales and benefits of educational micro planning and school mapping;
3. describe the objectives and outcomes of school mapping
4. identify and describe factors to be considered in school mapping and micro planning;
5. distinguish the similarities, differences, and relationships among macro planning, micro planning, and school mapping.

# **1.1. THE CONCEPT OF EDUCATIONAL MICRO-PLANNING**

**1.1.1. What is educational micro planning?**

**? W**hat does micro planning mean to you? What do you think is the difference between macro planning and micro planning?

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Lack of people’s participation in the planning and implementation has been one of the reasons for unsuccessful implementation of different plans. Logically, plans should be prepared and implemented in collaboration with the people. It is assumed that the active cooperation and support of the local people in the identification of genuine needs and available resources at the local level is essential for the successful implementation of plans. This is termed as “planning at the grassroots level” or “micro planning”

Broadly speaking, planning at micro level means:

* the participation of the beneficiaries, the local people, in identifying needs;
* generating available resources in terms of material inputs, cooperative actions, creation of more resources through supportive efforts, and;
* preparation of a plan, and keeping in view the available resources

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In the field of education, a distinction is usually drawn between the concepts of educational macro-planning and micro-planning.

Educational macro planning is often used to refer to decisions at a very aggregate level (or national level). For example, such decisions could refer to *the way* the state budget is allocated between different levels of schooling (primary, secondary or higher education).

In this manual, we use the terms “macro planning” and “central level planning” roughly to refer to planning activities at the national and regional levels.

**?** What then is educational micro planning?

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Educational micro planning is a term used to refer *broadly* to planning below the national level. In our context, such planning particularly refers to planning at the Woreda, Kebele, school (institutional), and individual levels.

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**? C**an you think of planning at the individual level? If so, indicate how this may be possible.

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In a restricted sense, micro planning concentrates on the improvement of the functioning of the education system by strengthening regional and local planning activities. While main lines are drawn at the national level, micro planning seeks to ensure greater equality in the distribution of educational services, a better adaptation of these to the needs of local communities, and a more efficient use of all the resources available**.** Lastly, it suggests, as a working method, participation of the communities in planning efforts.

**? B**y the way,why is there a need for educational micro planning in the first place? What is wrong with national level planning (or macro planning)?

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The need for micro planning (and school mapping) arises from deficiencies of macro planning. The deficiencies include:

* **Complexity**: Central level plans are complex. Thus local level implementers usually find such plans difficult to translate into action.
* **Communication:** It is usually the case that goals of education defined at the national level are not well communicated to the grass roots.
* **Relevance:** One major problem of many planning activities at the central level is that they are too far removed from the realities of the local situation, hence lacking relevance.
* **Inequalities:** particularly in developing countries, centrally designed plans fail to reduce inequalities in educational provision.

**? W**hat do you think are the factors that contribute to the above deficiencies in central planning?

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The above failures of central planning emanate from:

* Lack of sufficient knowledge of the local situation: educational, environmental, demographic, etc., which may result in definition of objectives and targets that are irrelevant to the needs of certain regions and districts;
* Lack of appropriate administrative, organizational, and financial means to implement the objectives and targets in the regions and districts;
* Lack of participation of regional/district and local stakeholders/actors in the process of planning.

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**? Y**ou may be aware of the fact that problems of implementation, even of well-designed educational plans within well-conceived national objectives, vary from one region to another. Why?

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Do you also note that lack of implementation is obviously wasteful from the economic, social and educational viewpoints? That is why there is a need for micro planning.

Micro planning offers the possibility of correcting the deficiencies of macro planning in that it involves the participation and interaction of decision-making between the central level and the levels below. It, therefore, enables coordinated efforts in the definition of educational objectives and targets, and in planning, implementation, management of educational services and decisions. Thus, micro planning is complementary to macro planning rather than a substitute for it.

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**1.1.2. BENEFITS OF MICRO PLANNING**

**?** Based on your reading so far in this unit, identify some of the benefits of educational micro planning.

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The need for micro planning before the implementation of national educational plans at grassroots level is justified by the following benefits:

1. It will enable policy makers, planners, and implementers to clearly see emerging problems of implementation at an earlier stage and in closer perspective;
2. It will enable planners to identify different alternatives that may help to solve current problems at local levels;
3. It will enable planners to assess and weigh the merits and feasibilities of all proposed alternatives;
4. It will help to build the capacity of local level functionaries.

**Activity one**

1. What does planning mean to you? Why do you think that educational systems need planning in the first place?

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1. What is micro planning? How does it differ from macro planning?

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1. Describe the nature and purposes of educational micro planning

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1. How can micro planning help overcome the difficulties in macro planning?

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1. Do you think that educational micro planning is important for your Woreda? What advantages, do you think; can it provide in order to best serve the Woreda’s educational provision?

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**1.2. THE CONCEPT OF SCHOOL MAPPING**

We now come to the concept of school mapping. The term is often thought of as the research component of micro planning. But what does school mapping mean? What does it actually involve? What is its basic aim? And what are its benefits? This sub-unit helps you answer these and other similar questions.

**1.2.1. What is school mapping?**

School mapping, sometimes called school location planning, refers to the set of techniques and procedures that are used to identify future needs in education at the local level and to plan for measures to be taken to meet them. It is a practical means of assessing more accurately the educational needs at the local level and the amount of resources required, as well as means of ensuring proper implementation of the educational plan at the district and community levels.

School mapping deals with the planning of the:

* distribution,
* size, and
* spacing of schools.

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**?** What, do you think, is the basic aim of school mapping then?

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The basic aim of school mapping is to match the distribution of schools to the distribution of the potential population to be served and to optimize their utilization.

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**?** Do you think that school mapping is simply compiling a map which shows the distribution of schools, or is it something more than that?

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School mapping attempts to plan the pattern of educational provision in order to enable more pupils to have easier access to schools as well as to allow more efficient use of current and additional resources. School mapping is thus more than simply compiling a map showing the distribution of schools.

School mapping is concerned with the planning and distribution of schools and inputs such as learning materials and teachers for the efficient functioning of the school system.

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School mapping can be applied to all levels of education but its greatest value is in the planning of primary and secondary schools. This is because ensuring access to primary and secondary education for all school age children is an important goal of all

countries.

**1.2.2. Objectives of school mapping**

The school map is part and parcel of the educational planning process, one of its essential functions being to assist in the realisation of the targets (objectives) of the plan. It occurs at the local level once the major educational goals have been set out by the central or regional planning teams.

**? S**peaking of educational goals, what do you think are the most commonly known goals of education?

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A number of countries have identified the following goals of education:

**Ensuring access**

* This deals giving all children of school age a basic education, and depending on available resources and social and economic requirements, extending education beyond basic education.

**Ensuring equity:**

* This involves providing for equality of educational opportunity among different social groups, etc.

**Ensuring efficiency:**

* This has something to do with making the system more efficient by improving the ratio between costs and performances,

**Promoting quality:**

* This involves reforming structures, curricula, and methods.

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**?** Do you think that school mapping can play a role in realizing the above objectives of education systems? How? And what objectives does school mapping seek to achieve?

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School mapping has vital roles to play in realizing all the above goals of education systems. More specifically and directly, school mapping concentrates on:

1. To improve the efficiency in the use of resources. In this connection, school mapping can:

* help analyse the use of available resources (buildings, equipment, teachers)
* identify inefficiency ,and
* suggest measures to improve efficiency in order to make the utilization rates of premises, equipment and staff, and the length of time they are used to be the highest possible.

1. To achieve equality of opportunity through

School mapping can:

* help to equalize the supply of educational facilities among different geographic areas
* facilitate equitable distribution of resources (human, material, and financial) over the various areas.
* create equal social opportunities for, and access to, schooling through active measures encouraging all children to go to school.

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School mapping can help analyse in detail the inequalities which exist in educational development among regions, districts, and social groups. It can assist in finding appropriate measures of attaining equality of educational opportunity with regard to access (e.g. building new schools, providing school transport and other services).

**1.2.3.**  **Functions of school mapping**

The basic function of school mapping is to enable a detailed analysis of existing educational services in any one region or district in order to identify problems such as the following:

* Imbalances in geographical distribution of educational services,
* Differences in pupil enrolment and attendance,
* Under-and over- utilization of resources (buildings, equipment, teachers),
* Variations in teaching and learning conditions,

Through school mapping, planners try to find out solutions for the following types of questions:

* Are the existing school facilities used to full capacity, and if not, how can their use be maximized?
* To achieve a given objective, which kinds of school facilities will ensure the best use of resources?
* If new schools, classrooms, laboratories, workshops and teacher centres are needed, where should they be ideally located?

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Answering these questions adequately will lead to the rationalisation of the education system in a certain region, district or community. The first step in a process of rationalization of education system is a diagnosis of the school network as it exists in the area under consideration. The diagnosis will reveal possible weaknesses of the existing school network, helping to redesign and rationalize the school network.

**1.2.4. Outcomes of School Mapping**

**?**  What are the outcomes of school mapping exercise? In other words, what sorts of results are expected after a school mapping exercise? Can you identify some of these outcomes of school mapping?

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We hope that you have identified several results of a school mapping activity. Perhaps your list will resemble the following points which a school mapping exercise is expected to lead to.

A school mapping exercise is expected to lead to the following results:

* Identify a category of educational (learning) needs;
* Produce an inventory of available educational resources (facilities, equipment, human resources, etc.) within the district, and region.
* Show which of the resources are properly utilized, underutilized or over utilized;
* Provide guidelines on how to reorganize the available facilities so as to optimize their use;
* Enable to provide new resources in areas where they can be utilized to the highest advantage.

The net outcome of school mapping exercise is an evaluation of use efficiency, reorganization, redistribution of resources, and maximization of their use.

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# **1.2.5 Interrelation of school mapping, micro planning and macro planning of education**

The national or regional plan for education defines the quantitative and qualitative goals for the sector for a given period School mapping and micro planning are the means to translate these objectives into concrete measures in the field.

At the national level, important questions include:

* According to what criteria are we going to develop our education system?
* How many people should have access to secondary and higher education?
* What criteria for the allocation of resources among regions should be applied to reduce regional disparities? etc.

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These are relevant for both school mapping and micro planning. They should, however, be answered ultimately at the national/regional level with due account taken of the resources available and of the country’s /region’s development strategy.

To be effective, planning has to come closer to action, and

School mapping and micro planning serve to do so.

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At the local level, it is essentially a matter of understanding how the present educational services meet the needs of the local population groups and of proposing better ways of distributing the educational services or of diversifying their action programmes.

School mapping and micro planning ensure that national/regional objectives are adapted to the particular characteristics of each locality and constitute a formative stage in the planning process- that of applying the national/regional plan at district and grass root levels. At the same time, they enable a more exact assessment of the resources to be allocated for the development of education. Moreover, school-mapping and micro- planning are done at the local level by the same people who will have to implement them with the participation of the community.

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**?**  Are you clear with the similarities and differences between school mapping and microplanning?

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To further help you grasp the similarities and differences between school mapping and microplanning, study the following table.

Table 1. School mapping Vs Micro-planning

|  |  |  |
| --- | --- | --- |
| **Basis of comparison** | **School mapping** | **Micro-planning** |
| Focus | Resource allocation  Input provision | Resource utilization  Processes and outputs |
| Criteria | Norm based | Not so norm based  ( out put oriented) |
| Types of resources | Financial | Non-financial |
| Frequency | Occasional | Continuous exercise |
| Nature of activity | Technical ,expert driven “ less participation” | Less technical, participatory |
| Scope | Clusters of geographic areas/institutions | Single village, institution |

**1.2.6 Factors to be considered in School Mapping**

**?**  What do you think are the factors that should be considered in school mapping?

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The preparation and regular updating of a school map requires the consideration of a number of factors.

1. **Demographic factors**

These pertain to the potential demand for education and its territorial distribution. One of the greatest difficulties in school mapping is obtaining sufficiently reliable data at the local level. Information such as total population and its growth rate, and school age population is needed.

1. **Educational factors**

The purpose of considering the educational factors is to ensure the best educational conditions possible, while keeping costs down to a reasonable level. With regard to this, Pedagogical considerations will affect the fixing of various parameters.

* + The number of study hours per week and their distribution by subject,
  + The number of pupils per class and their division into smaller groups for certain activities (in workshops, laboratories etc.),
  + Normal length of time for which school facilities should be used etc.,
  + Teachers working hours and the extent of their specialisation.

After fixing such parameters, standard sizes need to be fixed which will enable the institutions to be run with full utilisation of premises, equipment, and teachers. Minimum and maximum school sizes will also need to be fixed.

**3) Geographic factors*:*** require study of the possibilities of pupils getting a school in the light of the road network, the topography of the area, and the existing means of transport.

1. **Economic factors**:

These require that low cost solutions be sought. Economic considerations combined with educational considerations mainly determine the standard, minimum and maximum sizes for educational institutions.

**5) Political factors**:

Political factors impose numerous constraints and pressures on administrators who must decide on the creation and expansion of educational institutions.

**6) Human resource and economic activities factor**:

Interaction between school mapping and economic activities is two-fold:

* The economic activities of a region and the possibilities of employment will affect the selection of the specialised subjects to be offered in technical and vocational education in the region or even general education when there are diversified options in pre-vocational education.
* The decision to establish, or to close, a school may have a real impact on a region’s economic activities.

**7) Social factors**:

Consideration has to be given to local traditions and customs, religious beliefs and practices and their effects on the provision of educational services. For example, among some traditional and pastoral societies, schooling is regarded as irrelevant in terms of education for survival among their youth. The strength of possible resistance to schooling (for example for girls) is such a social factor which can affect efforts to reduce disparities between regions and social groups.

**8)Technological factors**:

Consideration has to be given to the type of teaching materials and equipment (e.g. radio, television, films, audio and videocassettes, computers, satellite) for use in schools and the various issues that should be resolved in adopting and sustaining them.

**9) Legal factors**:

Account should be made to issues such as the type of school ownership, land ownership and the laws that govern the establishment of schools.

**10) Ecological factors:**

Other factors are ecological. They include diseases, epidemics, drought, flooding, etc all of which affect health and hence school attendance.

**11) Financial factors:**

With respect to financial factors,the following will have to be considered:

* Sources of finance-local internal, external
* Available funds-own funds, unspent funds from previous programmes, etc.
* Expenditure and cost levels

**Activity two**

1. Describe briefly the interrelation between macro planning, and micro planning and school mapping.

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1. Which of the factors that should be considered in school mapping do you think have greater influence on the attempt to universalise primary education in your Wereda? Give specific reasons for each of your responses.

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1. What measures can help to enrol and keep in school those children who are less likely to do so?

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**UNIT TWO**

## AN INTRODUCTION TO EDUCATION INDICATORS

**✈ Overview**

Nowadays, indicators have become one important tool of planning and monitoring functioning of an education system and their limitations. Hence, it is necessary to have an idea of what they are, the rationale for their use, their purpose, their characteristics, their construction and limitations of quantitative indicators.

# **☺ Unit objectives**

After working on this unit, you will be able to:

1. explain the rationale for using indicators;
2. identify educational objectives and construct indicators for each of them;
3. identify the characteristics of a good education indicator;
4. State the basic distinctions among raw data, indicator, and information;
5. Point out the draw backs of quantitative indicators in education.

**2.1. What is an indicator?**

**? W**hat do you understand by the term “indicator”?

You can write your answers on the spaces provided below.

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The literal meaning of an indicator is that which points out or directs attention to something. In a specialized sense, an indicator can have several definitions. Study the following for illustrative purposes and identify the main similarities and differences among them.

* An indicator is a composite index obtained from complex calculations performed to amalgamate information;
* An indicator is statistics specially put together and related to an objective of the education system;
* An indicator is a tool that should make it possible both to have a sense of the state of the education system, and also to report on that state to the whole of the education community;
* Educational indicators are statistics that allow value judgements to be made about key aspects of the functioning of education systems.

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Included in such definitions of educational indicators are:

* + The idea that one is dealing with measurable characteristics of education systems;
  + The aspiration to measure key aspects, be it only to provide an ‘at a glance profile of current conditions’ rather than an in-depth description;
  + The requirement that indicators show something of the quality of schooling, which implies that indicators are statistics that have a reference point against which value judgements can be made.

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Strictly speaking, an indicator is not an elementary item of data.

**? I**f an indicator is not an elementary item of data, then what is it?

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An indicator is data processed so as to permit the study of an educational phenomenon.

Thus, a list of indicators is not the same as a set of tables produced for a statistical yearbook. An indicator is used to sum up and synthesize data into a structure geared to the needs of the users. The difference between raw data and indicators in analytical potential is great. This means that indicators have great analytical potential compared to raw data.

It should, however, be noted that the line between management statistics and indicators is not clear-cut. *Generally, indicators imply a comparison against a reference point, but statistics do not.* A composite statistics, the pupil-teacher ratio for example, is distinguished as an indicator, so that the number of pupils enrolled in a cycle would not be considered as indicator (though it could well be an important item of management information). All statistics are not indicators. Statistics qualify as indicators only if they serve as yardsticks (e.g. of the quality of education).

**Activity three**

1. Identify which of the following show ‘raw data’ and which ones show indicators. Write (rd) for row data and (I) for indicatiors.

* *Number of students in the district\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Transition rate from primary to secondary\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Number of pupils entering grade 9\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Pupil-teacher ratio in primary\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Number of qualified teachers\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Sections in a secondary school\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Female teachers in a district\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Male/female teacher ratio in a district education system\_\_\_\_\_*
* *Proportion of pupils promoted to grade 5\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* *Number of pupils in grade 5 in a region.\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
* Survival rate to grade 5 in Amhara region\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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You might have probably noticed that one commonality in the above definitions and examples in the exercise is that of quantity. Indicator is defined in quantitative terms and the examples are quantitative ones, too. This indicates that often analysts reserve the definition of an indicator to a narrowly quantitative sense. There are people, however, who broaden the definition of indicator to include descriptive or even evaluative statements. For example:

* Graduates willingness to work in rural areas
* Teachers acceptance of a new policy

The fears of those who adopt a broader view are that when the concept is limited to just the quantitative, it will mean that indicators cannot portray the full richness and diversity of the educational process, and that at worst, they will indicate merely the trivial and focus attention on the unimportant.

## 2.2 Purposes of Indicators

**?** **I**n your opinion, what purposes do indicators serve?

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Indicators serve as an instrument of providing information on the functioning of the education system in light of the objectives set. They facilitate the identification of problems and allow for their magnitude to be measured but they do not identify the causes of problems, nor can they provide solutions. This means that if something is wrong, the indicators themselves do not provide the diagnosis or prescribe the remedy; they are simply suggestive of the need for action. Indicators highlight malfunctions and successes but do not explain them.

In sum, indicators reveal the system’s state of health, but diagnosis and identification of suitable strategies require more searching questions and analyses.

The purposes of a system of indicators are:

1. to assess the current situation of the system compared to the objectives set;
2. to identify unacceptable or problem situations;
3. to evaluate the degree of disparity;
4. to aid decision making (by strengthening the decision makers knowledge).

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Indicators are designed to provide information about the state of an education system. They act as an early-warning system that something may be going wrong or as a reassuring device that everything is functioning well.

## 2.3 Characteristics of a Good Indicator

The characteristics of a good indicator or a set of good indicators may be outlined as follows:

* **Relevance or validity**: the indicator is suited to the measurement of the phenom enon being considered. The indicators should measure what they are intended to measure.
* **Conciseness:** a good indicator has the ability to summarise (consolidate) as much information as possible without distortion.
* **Accuracy and comparability**: A good indicator is precise, with no much overlap and double counting. It also enables comparisons to be made among geographic areas, institutions, and social groups.
* **Reliability:** An indicator is of good quality, from the collection to compilation of the basic data needed to calculate the indicator.
* **Feasibility:** The cost of staff and data collection must be reasonable.
* **Timeliness and feedback**: Indicators should be adaptable to changing circumstances and there should be regular updating of the indicator system. Moreover, information should become available within the time frame necessary for decision-making.
* **Comprehensibility**: Indicators should provide information that can be readily understood by a broad audience. They need to be easily comprehensible and meaningful to those concerned: policy makers, the general public, the press, etc.

A good indicator or a set of indicators should make it possible to:

* Measure how close to or how far one is from an objective;
* Identify problematic or unacceptable situations;
* Meet policy concerns, and answer the questions leading to its choice;
* Compare its value to a standard, or to itself as computed for a different observation period.

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The value of an indicator can only be measured in relative terms by comparison to a point of reference. The point of reference can be:

* **A standard value**: for instance, a ratio of 70 pupils in a section in district A will be compared to the national standard of 50 pupils per section; or if there is no national standard, it is compared to the national or regional average.
* **A previous value**: For example, the pupil/section ratio will be compared to that of the previous year. So data must be gathered regularly.
* **The value for other groups at regional or district levels**, **by gender** etc.: for example, the pupil/ section ratio by district will be compared.

**2.4 Rationales for the Use of Indicators**

**?** **W**hy do you think education indicators have become part of the regular communication in education circles recently?

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The use of indicators to measure the performance of social services- education being the main one- has become increasingly important since the early 1980s. The reasons associated with this increasing importance are:

* Increasing education costs cause stakeholders to examine the schools and the education system more critically: “Are we getting our money’s worth”.
* Society from time to time demands better results and holds education managers responsible for achieving these results: “Is the education system doing its job effectively? What does student performance look like?”
* More government intervention and role in the monitoring and evaluation of the functioning of the education system particularly the functioning of schools.

In many countries, this was stimulated by dissatisfaction with and criticisms on school performance and poor results. This led to increased emphasis on accountability for what schools do in turn leading to the use of various instruments of monitoring such as performance indicators, internal and external evaluation, etc.

Education indicators are part of the search for information about educational activities and are part of an evaluation system. They are used as means of external validation of the work of the education system.

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The belief that underpins the development of education indicator systems is that the provision of information will optimise the conditions for improvement. Education indicator systems are designed to strengthen monitoring and evaluation and provide accurate and comprehensive information as a basis for effective policymaking and improved educational outcomes. Within the above mentioned contexts and uses, we can then outline the benefits of education indicators.

Indicators help:

* Policy makers use arguments solidly based on quantified information in order to defend education’s share in the budget;
* Provide objective data not only for the monitoring and planning of the education system, but also for use in public debates with regard to the provision and quality of education;
* Provide decision makers with more analytic and to the point information in a concise, easier to read document.;
* Show the evolution of the education system, underscore certain trends, and highlight problems.

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Ideally, an indicator’s document reports on the functioning of the education system in all its aspects to a readership not specialised in statistics and quantitative analysis.

## 2.5 Constructing Indicators

**?** **H**ow are education indicators constructed?

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There are two basic requirements to develop indicators:

1. A reliable and usable data system. There should be a recent data from the current school year or at worst from the previous year at a sufficient level of disaggregation.
2. Clear and measurable objectives. These can be obtained from several sources: educational plan, framework policy, and certain guidelines.

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Once you have reliable and recent data, and identify the objectives of the education system, then it is possible to transform policy objectives into indicators. Thus, it is essential to identify some fundamental objectives of the education policy and to classify the indicators by the objective they are used to evaluate. The identification of indicators is done as a function of the objectives. The same indicator can be used for several objectives.

**Activity four**

1. Given the following educational objective and four possible specific intervention areas,
   1. Select monitoring indicators for each of the above areas.
   2. What raw data do you need to calculate each of the indicators you selected?

**Objective:** Reduce overcrowding in schools

**Possible specific areas:**

1. reduction of the number of overcrowded classes

Indicator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Data needed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. reduction of the number of underage children

Indicator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Data needed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. reduction of the number of repeaters

Indicator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Data needed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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## 2.6 Framework for Constructing Indicators

To avoid an indiscriminate accumulation of indicators, it is useful to use a model of the functioning of the education system which portrays the different variables. Building a system of indicators that provides a valid representation of the functioning of the education system will be most beneficial. This compensates for the unidimensional nature of each indicator and the ad hoc collection of readily available statistics. To give an overall picture of the system, the selected indicators should be logically linked. The linkage should emanate from the model or framework that describes how the education system works. The model can permit a broader assessment of an indicator’s relevance.

The most commonly used framework to develop indicators is the input-process-output model of education systems. One way of depicting this is as follows:

**Determinants**

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**Inputs processes**

Student characteristics forms of instructional organization

Teacher characteristics alternative technologies

School characteristics use of student and teacher time

Instructional materials and

Equipment characteristics

Facilities characteristics

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Effects**

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**Outputs outcomes**

Cognitive achievement employment

Improved manual skills earnings

Attitudinal changes status

Behavioural changes attitudinal changes

behavioural changes

Using this framework, it is possible to construct a number of indicators for each category depending on the need.

## 2.7 Limitations of Quantitative Indicators

There are concerns that quantitative indicators are limited as regards the qualitative description of the education system and hence are not sufficient to analyse the way it operates. The fact that quantitative indicators reduce the rich diversity and quality of the information on the process has become an area of concern among some experts and educators. They argue that indicators should not make the functioning of the education system appear too simple.

Because of this, there are attempts to develop and include qualitative process indicators by quantifying qualitative data intended to shed light on what happens in the ‘black box’ of schooling, i.e. on teaching and learning at the classroom level and school organizational functioning. These attempts base themselves on the knowledge base produced by the research on school effectiveness.

**Activity five**

1. Construct 2 possible indicators for each of the following objectives.

1. Enhancing the amount of interaction between teachers and students

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1. Improving leadership of school principals

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1. Enhancing participation of parents in school activities

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1. Improving management support for teachers

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**MODULE TWO:**

**DIAGNOSIS OF THE LOCAL EDUCATION SYSTEM**

**🗁 Module introduction**

As noted earlier, school mapping is a set of techniques and procedures used to identify the needs for education at the local level and to plan the actions to be taken to satisfy the needs. Basically, the steps to be followed in school mapping involve diagnosis of the local education situation, projection of schooling requirements, and making proposals for future networks of educational institutions.

In diagnosis, you make a thorough study of the level of development of the education system and the way it operates in order to identify gaps or imbalances. Proper diagnosis helps to make proposals for the location of new institutions, the repair of facilities or the allocation of teachers, and the reorganization of existing schools. It is a critical stage in the school mapping process.

This module comprises five units: Unit 1 deals with selection of school mapping units. Unit 2 is concerned with the analysis of coverage of the educational system. Units 3 and 4 discuss internal efficiency of the educational system, and quality of educational services and use of resources respectively. Unit 5 deals with data collection for diagnosis.

**☺Module objectives**

After reading this module, you will be able to:

1. be aware of the process and activities involved in selecting school mapping areas;
2. select the units of analysis which will be used in preparing diagnosis;
3. diagnose the coverage of the educational services at the local level( access, enrolment and accessibility);
4. Calculate the different rates of internal efficiency, and understand their significance as well as their limitations;
5. Calculate and interpret the indicators which enable an analysis to be made of the quality of educational services and of the way the resources available( teachers, premises, equipment) are utilized;
6. Identify the data needed to make the analyses, assemble the available data and devise a survey to obtain missing data.

**UNIT ONE:**

**SELECTION OF SCHOOL MAPPING UNITS**

**✈ Overview**

Basically the objective of any school mapping work is to establish a network of institutions or, more broadly speaking, of an educational service which will enable to equitably and efficiently meet the projected demand for education to be met as equitably and efficiently as possible. The important initial stage in this work consists of making an inventory of what exists in the way of educational supply and of assessing how far the present educational services satisfy the objectives of the educational policy.

This extremely important stage of diagnosis shouldenable you (1) to identifyexisting problems and imbalanceswith respect to pupil participation, schooling conditions and degree of utilization of resource; (2) supply you with basic data from which you can project future enrolments;(3) suggest some measures that could be taken to correct deficiencies and imbalances; and (4) identify priority action areas and give necessary guidance for preparing the future school map.

**☺Unit objectives:**

After working on this unit, you will be able to:

1. define diagnosis in the context of school mapping;
2. elaborate the benefits and steps in diagnosis;
3. elaborate the basic issues addressed by diagnosis in school mapping; and
4. select appropriate school mapping areas and homogeneous zones for diagnosis and planning
   1. **Diagnosis in school mapping**

As noted earlier, in diagnosis, you make a thorough study of the level of development of the education system and the way it operates in order to identify gaps or imbalances. Proper diagnosis helps to make proposals for the location of new institutions, for the repair of facilities or the allocation of teachers, and the reorganization of existing schools. It is a critical stage in the school mapping process.

School mapping has several benefits. These include:

1. identifying existing problems and imbalances.
2. supplying with basic data to project future enrolment.
3. suggesting measures that should be taken to correct deficiencies and imbalances

In school mapping diagnosis, you deal with:

* + general development of the education system
  + coverage of the education system
  + internal efficiency of the system
  + quality of education services, and the degree of their utilization
  + data collection

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The process of diagnosis involves several activities:

**Step 1:** selection of school mapping units

**Step 2:** identifying and assembling the needed data.

**Step 3:** analysis of coverage, internal efficiency, quality of educational services and use of resources

**1.2 Issues and indicators in diagnosis**

**?** **W**hat kind of questions in education, do you think, are answered by an appropriate diagnosis in school mapping?

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Diagnosis in school mapping should provide you with answers to the following questions:

* How many children are at present moment served by the educational system?
* How are they served?
* Who is in school and where?

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Let us now discuss each of the above questions one by one:

1. **The question of “how many”**

The first question to raise is: “How many children have access to education at the different levels in the school system?” It is not enough, however, to know the number of children who have access to school: You must also know how many remain there, how many repeat and, above all, how many have droped out without having completed an educational cycle?

1. **The question of “how”**

How, and in what conditions, do the pupils receive schooling? This raises the whole question of the means used. What are the resources available—teachers, facilities, school equipment? Are they available in sufficient quantities? Do they ensure education of high quality? Are they used as efficiently as possible?

1. **The questions of “who and where”**

School mapping diagnosis will not be complete if it does not enable you to know who the children presently served by the educational services are and those who are not, or who are badly served.

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| --- |
| From the point of view of school mapping, we are interested in knowing what groups, in terms of age, sex, ethnic group or socio-occupational background, are disadvantaged, and, above all, where such groups live. Which are the worst-served areas? It is in these areas and sub-areas that *priority action* should be undertaken to improve the coverage and the quality of the educational service. |

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Analysing “who” and “where” brings up the whole problem of the selection of the analysis units for diagnosis. By what criteria should the data be grouped to show up the disparities? To do this, you will need to use indicators as tools of analysis.

The list of indicators which you will be using in your analysis is long. In selecting indicators, you will take into account the characteristics of the educational system policy of the country concerned.

Although the details of working out the indicators and using them for diagnosis will be dealt with in later units of this module, we will have a highlight of the indicators that are used in diagnosing the education system.

These indicators can be grouped in three main areas:

1. The educational system’s coverage: the relevant indicators include:
   * Admission rates
   * Enrolment rates
   * Promotions rates
   * Percentages of pupils who take less than 30 minutes, less than an hour, etc. to get to school
   * Percentages of pupils who travel less than 3 km, and less than 5 km etc., to get to school
   * Percentage of children not attending school

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1. Efficiency of the educational system: the main indicators include:

* Promotion,
* Repetition rates,
* Drop-out rates,
* Retention rates

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c) The quality of the educational services and the way resources availability are used: There is a whole series of indicators concerning availability staff, and conditions of buildings and equipment. It especially includes:

* Pupil: section ratios
* Pupil: teacher ratios
* Percentages of qualified teachers
* Percentages of classrooms in poor conditions
* Percentages of pupils without standard seats
* Percentages of pupils without textbooks, exercise books, etc.
* utilization rates of premises
* average enrolment of schools.

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Most of the indictors cannot be calculated from the normally available statistics, So, you will have to undertake one or more ad hoc surveys. (Methods of collecting data will be discussed in Unit 5 of this module). The next task, which involves some difficulty, will be to interpret the different indicators which you have calculated. You will be able to do this by reference to the country’s education policies.

**Example:** A 30% transition rate to secondary education may be judged to be very high, very low, or normal, according to the country and its education policy objectives. In the absence of precise objectives or directives, you will compare the data obtained with the national or the regional average.

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As far as possible, when you observe something unusual, you should attempt to give some explanatory comments. Suppose, for example, that you find low admission rate in a given Woreda, or even decreasing one: you should try to determine how far this is due to the organization of the educational supply, or to a lack of demand for various socio-economic reasons, etc. Analysis of explanatory factors may require further research and you may not have the means to go very far.

It should be emphasized that diagnosis cannot be carried out

only in an office: it must be the occasion for numerous contacts in the field

with the population groups concerned and with local administrators,

inspectors, school principals, teachers and community representatives.

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**Activity six**

1. Construct a table showing main categories of education indicators and corresponding lists of indicators

2. Elaborate on the basic questions of school mapping diagnosis.

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* 1. **Selection of school mapping units**

**1.2.1 Choice of school mapping area**

**?** What do you think should be the first territorial unit that must be chosen for any school mapping in the Amhara region?

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The first statistical unit that you have to select in any school mapping exercise is the territorial unit for which you are going to prepare the school map. How large should this territorial unit be? Should it be the whole region, the zone, or the wereda?

In Module 3, we will return to detailed criteria for the selection of a pilot region. For the moment, it will suffice to stress that the chosen territorial unit (s) should preferably have certain characteristics:

**?**  What do you think are these characteristics?

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* First, it should be an administrative division such as Zone, Woreda, or Kebele. This is because normally statistics are organized following the administrative divisions.
* Secondly, it should be of a reasonable size. For example in the context of Amhara region, the preparation of a school map by zone would entail a large number of primary and secondary schools which will make the task unmanageable. The preparation of a school map by Woreda, however, would reduce the number of schools, thus making the task manageable.

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The first school mapping unit your study should, in addition, have some geographic diversity and be fairly representative of the situations you expect to encounter in the rest of the region. Throughout the rest of this text, we shall refer to this selected area as “school mapping unit”. Once you have selected the appropriate school mapping unit, you then have to collect necessary data that will enable you to make your diagnosis.

**2. Selection of the analysis units**

**?** **S**uppose now that you have gathered all the data needed to enable you to calculate the necessary indicators mentioned above. How are you going to make your analysis? For the region as a whole?

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Although making the analysis for the whole school mapping unit will certainly be useful, it will not enable you to highlight inequalities within the unit. Will you study each school separately? This is possible at the secondary level if the number of schools is not very large but it would be extremely and pointlessly long at the primary level. Hence, you have to determine the variables which you will have to settle the question of the unit of analysis to be selected. This means that you will have to determine the variable or variables which you will use to disaggregate your data for the school mapping unit.

**?** **W**hat selection criteria would you use to determine your disaggregate unit of analysis?

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There is no general rule for making such a selection. Everything depends upon what you want to show, or upon your assumptions regarding the variables likely to affect an indicator’s value. The enrolment rate, for example, might vary according to geographic area, sex, ethnic groups or socio-occupational categories.

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The choice of criteria depends on the particular situation of the country, on the educational level you are studying and, of course, upon the objectives of educational policy. It also depends upon the ease with which the needed data can be obtained. Data on ethnic or socio-occupational groupings are not normally readily available.

**?** So, what unit of analysis should be selected?

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Generally, the basic unit of analysis a territorial unit within the Woreda studied. The territorial unit at the primary education level should be the smallest possible one for which you have demographic data.

**?** What is the basic territorial unit which we have demographic or population data in our country?

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If you have said the basic territorial unit for which we have population data is the “kebele”, you have answered correctly. The 1994 population census takes the “kebele” as the smallest unit for reporting population data.

If, in your Woreda, there are not too many such kebeles, you may take them as your basic analysis units. If the number is too large (over 20) perhaps you should use an intermediate administrative unit by regrouping your kebeles. The result of the regrouping ,however, must be sufficiently homogenous with respect to a certain number of demographic, human and educational criteria.

You can call the intermediate units created by regrouping kebeles “homogeneous zones”. Homogeneous zones are zones within which the educational characteristics are as similar as possible, while these same characteristics should differ greatly from one zone to another.

To identify homogenous zones you are advised to follow the following steps as much as possible.

First, identify the main town and villages as well as the areas with a very low population’s density. Regroup the basic territorial units according to this demographic criterion and test the division by calculating a certain number of indicators for each zone.

Second, to make the data for each zone more homogenous, modify the division by introducing another criterion. This may relate to:

1. **Geography**: distinguish between areas where access in difficult, such as mountainous areas, and the rest of the woreda.
2. R**oad infra-structure**: here you should identify the areas that are best served and equipped and those which, by these criteria, are the most disadvantaged;
3. **Education:** Here, for example, you should calculate the apparent enrolment rate for each kebele and group then into homogeneous areas or zones those kebeles having similar rates. Another important criterion is that of the secondary schools’ catchment areas. It is assumed that a secondary school will favourably affect the development of primary education in its surrounding. Hence, kebeles should be regrouped into: 1) zones where children can have access to secondary education, and 2) zones where such access is difficult or even impossible (these areas are usually in mountainous regions, not served by roads, and are distant from urban centres).

The number of zones may vary from 5 to 12 utmost. You should avoid choosing “enclave” zones which have too few pupils or schools in comparison with the rest of the region.

Irrespective of the type of geographic grouping adopted, it is possible to classify the data by treating them according to different criteria relating to the objectives of the diagnosis.

1. In order to highlight inequalities in schooling, classify the data by:

* Year of study and level of education
* Sex
* Age
* Socio-economic status of pupils
* kebele, etc,

You have to group pupils by one of the above-mentioned criteria according to the inequality you wish to point up. For example, the analysis by the criterion of sex must be used if you wish to show girls’ poor participations.

The above-mentioned criteria may also be combined. For example, the distribution of pupils may be analysed by sex and grade, in order to show how girls school enrolment evolves by grade and educational level.

1. **If you want to show disparities in educational conditions according to the sizes of schools,** grouping of school data by size of schools will be very useful.

One may often observe that the smaller a school’s enrolment, the lower is the pupil: teacher ratio, the larger is the area available per pupil, and the scarcer are educational equipment and materials. This criterion is also very closely linked to location in an urban or rural area.

1. **In** **order to show that educational conditions vary according to the type of school** – e.g. government or private, complete or incomplete school, you will have to make an analysis according to this criterion.

**Activity six**

1. Discuss the purpose (s) that diagnosis in school mapping serve.

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**UNIT TWO:**

**COVERAGE OF THE EDUCATIONAL SYSTEM:**

**ACCESSIBILITY, ACCESS, AND COVERAGE**

**✈ Overview**

The problem of coverage of an educational system may be summed up in two questions: The first question is: “Does the school network, as it is now organised and territorially distributed, serve efficiently the school-age population or the region or area under study?” In other words, this is a matter of studying the location of the various schools in the different areas and of seeing, in particular, how near a school is to the homes of the pupils and of how easily the latter can travel from one to the other. This is what is called **the accessibility of the school network** for the region’s school-age population. The second question is: “Do the families and their children make efficient use of the existing school network?” To answer this, it is necessary to study the interaction between families’ demand and educational supply as represented by the existing school network. Proximity to a school, -.i.e. physical accessibility,-does not guarantee that children are necessarily sent to school. E**ducational access** attempts to measure this in reaction between family demand and educational supply.

In this unit, we will deal with an analysis of the enrolment development, accessibility, access, and coverage of education in the Wereda.

**☺Unit objectives:**

After reading this unit, you will be able to:

1. analyze the enrolment trend in your Wereda
2. Matediagnosis of the accessibility, access, and coverage in your werea
   1. **Analysis of enrolment development in the region studied**

**?** How do you assess the changes in enrolment in your Wereda over several years?

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In the preceding unit, you have seen how to choose your geographical study units. You may ask yourself, for example, how total enrolment in primary education in the different homogeneous zones (i.e. the total number of pupils in that level of education) has evolved during the last 5 years. Perhaps you will prefer to use a longer period. This will depend on the available data you have.

Naturally, to make comparisons, the data must be capable of being broken down for the years you wish to study, according to the zone you have defined. If each zone is made up of a number of clearly-identified schools, you can obtain the total enrolment for each of the zones by adding up the enrolment in its schools. Beware, however, of the fact that, during the period of study, new schools may have been established and others may have been closed.

There are several ways to measure enrolment development in an area:

**2.1.1. Absolute growth during the period**

This is the simplest way to measure enrolment development which involves subtracting initial enrolment figures from the final figures you have for your study period. Let us call the last year for which you have data the year “t”. If you want to study the development of enrolment during a period of 5 years, you will have to compare enrolments in year “t” with those in the year “t-5”.

For example, to get the growth of enrolment from 1995 E.C (i.e. 297,230) to 1997 E.C (i.e. 377,658) of Mirab Gojam Zone, we have to take the difference between enrolment in 1995 E.C and in 1997 E.C. This is called the absolute growth in enrolment from 1995 E.C to 1997 E.C. This may be written as: **Absolute growth** in enrolment, 1995 E.C -1997 E.C = Enrolment in 1997 E.C - Enrolment in 1995 E.C, or in a still more condensed from as:

For Mirab Gojam

**∆ E, absolute growth of enrolment;**

**Et, enrolment in** 1997 E.C**.** (i.e. 377,658)

**Et -2, enrolment in** 1995 E.C. (i.e. 297,230)

**∆ E = Et -Et - 2**(i.e. 377,658-297,230 =80,428)

**?** In your opinion, can absolute enrolment growth be used to compare the trend of enrolment in several different Weredas?

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**2.1.2 Relative growth**

We use relative growth instead of absolute growth because of these differences result from larger or smaller enrolments in the starting year of the study (in our case the year t-2). The growth is termed as ‘relative’ because it is related to enrolment at the beginning of study year, which is being expressed as a percentage of it. Using the symbols already defined, you may write:

Relative growth (as a percentage) = Et -- E t-2 x 100 or ∆E x 100

E t-2 E t-2

For Mirab Gojam, 377,658-297,230 x 100 = 80,248 x 100 =27.0

297,230 297,230

Relative growth enables us to compare enrolment growth differences between /among different zones.

**Example:**

We have the following data for Mirab Gojam and Waghimera Zones

|  |  |  |
| --- | --- | --- |
|  | Total primary enrolments | |
| **Zones** | **1995** | **1997** |
| Mirab Gojam | 297,230 | 377,658 |
| Waghimera Zone | 24,688 | 35,210 |

Relative increases in enrolments in Mirab Gojam and Waghimera Zones are:

Mirab Gojam: 377,658-297,230 x 100 = 27%

297,230

Waghimera Zone: 35,210-24,688 x 100 = 42.6%

24,688

**?** What are your comments on the results?

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While absolute increase is greater in Mirab Gojam than in Waghimera Zone, the relative increase in fact shows the opposite situation: the relative increase in Waghimera Zone (42.6%) is much greater than that in Mirab Gojam (27%). This results from the fact that the enrolment in Mirab Gojam in1995 was already 297,230. while that in Waghimera Zone was only 24,688. Hence one may say that, from 1995 E.C. to 1997 E.C., Waghimera Zone, which started from a small base, has had a high relative increase, while Mirab Gojam, though started from a much larger base, has a lower relative increase, though started from a much larger base.

Hence, absolute growth cannot be used to compare the trend of enrolment growth differences in several zones/Weredas. This is because different zones may differ quantitatively: some having larger populations than others. Since the initial year, they will have had different total enrolment and you may expect that those zones with the larger populations and enrolments will have absolute growth greater than those which have smaller populations or enrolments.

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**2.1.3. Calculation of enrolment trend index**

For both absolute and relative growth, consider the period as a whole. It is likely, however, that growth may not be the same from one year to another. To trace the trend in a more detailed manner, following it year by year, you may choose to show the trend by an index. Give this index the value of 100 for the starting year of the analysis and you will try to see how this index must be changed to faithfully translate the trend in enrolment observed during the different years in the period.

Let us take an example to clarity this. The trend of total primary enrolment in Amhara region from 1993 E.C. to 1997 E.C. has been as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1993** | **1994** | **1995** | **1996** | **1997** |
| 1,754,802 | 1,964,101 | 2,034,497 | 2,215,849 | 2,798,860 |

If you give the index value of 100 in 1993 E.C. (when enrolment was 1,754,802) for the index to reflect the situation in 1994 E.C. (when enrolment had reached 1,964,101) the index in 1994 E.C. would have the value of:

1,964,101 x 100 = 111.9

1,754,802

For 1997, when the enrolment was 2,798,860, the value of the index is:

2,798,860 x 100 =159.5

1,754,802

As you can see, the value of the index has risen from 100 in 1993 E.C. to 159.5 in 1997E.C. This corresponds to a relative growth of 59.5%. As a result, if you calculate the relative enrolment growth in total primary enrolment in Amhara region for the period 1993 E.C. -1997E.C You can see that it is identical. Hence the index clearly shows enrolment trends by year.

**?** Using the following figures, can you now calculate the indices for boys and girls in primary enrolment in Amhara region from the year1993 E.C. -1997E.C. using the figures below?

Table 2. Primary enrolment in Amhara region from the year

1993 E.C. -1997E.C.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Enrolment** | **1993** | **1994** | **1995** | **1996** | **1997** |
| Boys | 945,012 | 1,064,215 | 1,104,256 | 1,180,603 | 1,468,766 |
| Girls | 809,790 | 899,886 | 930,241 | 1,035,246 | 1,330,094 |

**2.1.4. Average annual rate of growth**

The annual rate of growth may be defined as being the relative growth during the course of one year. As we have already seen, this rate may vary from year to year during the period studied. Therefore, one needs to calculate an **average** annual rate- i.e. one figure which is indicative of the whole period.

Let us suppose that we started from the year 0 with an enrolment E0 and Let us also suppose that the growth rate equals. The enrolment for the year that follows, i.e year 1 will be:

E1 = E0 + E0 r

(relative growth being r, absolute growth is obviously E0 r, and this absolute increase is added to the enrolment E0 of the year 0).

E1 = E0 + E0 r may also be written:

E1 = E0 (1+r) ---------------------------------------------------------- (1)

If the rate of growth is constant and continues to be r from year 1 to year 2, will have:

E2 = E1 (1+r)

or, replacing E1 by its value after equation (1):

E1 = E0 x (1+r) x (1+r) = E0 (1+r)2

Extending this formula to n years we may write:

En = E0 (1+r)n --------------------------------------------------------------------------------------(2)

Let us take again the example of the total enrolment in Amhara region between the years 1993 E.C. to 1997 E.C.

On the basis of equation (2), you may write

E 1997 = E 1993 (1+r) 4, that is

2,798,860 = 1,754,802812 (1+r)4, or again

2,798,860 = (1+r)4

1,754,802812

1.5949 = (1+r)4

To obtain the value of r, you must extract the fourth root of 1.5949:

41.5949 =1+r

1.1238 =1+r

r =0.1238 or 12.4%

Thus, with a constant growth rate of 12.4% per annum during a period of 4 years, enrolment will rise from 1,754,802 to 2,798,860.

**Activity four**

Calculate the average annual rate of growth for boys and girls in Amhara region shown in Table 2.

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1. **Analysis of the school network’s accessibility**

**?** How long do you say a first cycle primary school child on average travels in Amhara region to reach school? What is the longest distance children have to travel to reach a first cycle primary school in the region?

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Journey from the children’s homes to school is an important aspect of accessibility. Such accessibility, which may be termed as physical accessibility, depends on the way the schools are located in relation to the homes of the population which they are supposed to serve. In the Wereda, do all the children living there have the same possibilities of getting to a school, from the point of view of the distance they have to cover and the ease with which they can do it? This problem prevails particularly in sparsely-populated Weredas and in those in which there are villages that are far from one another and with very small populations.

In fact the concept of accessibility extends much beyond mere physical accessibility. And can include economic and socio-cultural accessibility.

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In what follows, we will deal only with the problem of physical accessibility. To analyse this, you can begin by identifying the geographical locations where the pupils who attend the existing schools come from. To do this, a survey will have to be made in the schools.

The methods and means which may be used to gather data will be dealt with in detail in unit 5. For the moment we will simply try to see the information should be asked for. This includes:

* Distance to be travelled;
* Travel means used;
* Time of journey;
* Location of residence of pupils

3.1**1. Distance to be travelled**

In gathering information regarding the distance to be travelled, you should keep in mind that the **objective** which is to assess the physical accessibility of the school network. In doing so, you can identify **different categories of situations from the point of view of accessibility.** In other words, it is a matter of defining a table of distances corresponding to the ease or difficulty of the journey.

For example, you may select the following categories;

* Less than 1 km: **Easy journey**;
* From 1 to 3 kms : **Reasonable journey**;
* From 3 to 6 kms: **Difficult journey**;
* Over 6 kms: **Unacceptable situation which needs**

**remedying**

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You can see for yourself the subjective nature of such categories. That is what might be acceptable in one country may not be so in another.

**?** Is there a set distance beyond which it is considered unacceptable for a primary school child to travel to reach school?

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Furthermore, a table of distances of course depends on the terrain. What is easy in a flat area may be burdensome in a mountainous one. You must therefore keep this in mind when establishing the table of distances. The essential purpose of the analysis you make is that you can see for each homogeneous zone the percentages of pupils in each defined category and so which are the homogeneous zones particularly under-privileged from the point of view of physical accessibility.

**2. Means of travel in use**

Distance is only one of the dimensions of physical accessibility. The availability and affordability of means of transport (bicycle, or school, public or private transport) may lessen the problem of distance by reducing the difficulty of the journey. In practice, you have to combine the sets of data on distance and on means of travel- and take account of both when making your categories. Hence, you will construct a table such as the following:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Less than 1 km** | | | **1 to 3 kms** | | | **3 to 6 kms** | | | **Over 6 kms** | | |
| School | On  foot | Bi cycle | Motor trans. | On  foot | Bi cycle | Motor trans. | On  foot | Bi cycle | Motor trans. | On  foot | Bi cycle | Motor trans. |
| School  No. 1  Enrolment %  School 1  No.2  Enrolment % |  |  |  |  |  |  |  |  |  |  |  |  |

If we suppose, that a distance of more than 6 kms indicated above is unacceptable, in your analysis you are going, to concentrate your attention on those who have to cover such a distance, and especially those who have to do so on foot.

**2. Time of journey**

The time taken by the journey is a function of the distance, the terrain and the availability and affordability of means of transport. In this sense it is a figure which better reflects the problem of accessibility. Here again, it is not a matter of knowing precisely the time taken by each pupil for the journey, but of fixing different categories and of seeing the percentage of pupils in each of them.

Categories, for example, might be:

* Less than 15 minutes;
* From 15 to 30 minutes;
* From 30 to 60 minutes;
* More than 60 minutes.

A journey which takes more than 60 minutes might, for example, be considered as very damaging to school work. Of course, account must also be taken of the frequency with which the journey is made.

**4. Residence of pupils**

Information on the location of the homes of the pupils at the different schools in the Woreda is important for two reasons. First, such information enables the **catchments area** of each school to be charted.

The catchments area is formed by the totality of the places from which the school’s pupils come.

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When there is no **strict regulation linking** the locality of the home with a particular school, it is possible that some over-lapping of catchment areas may occur. Where the network is relatively dense parents may have a choice between two or more schools at comparable distances away. They may also, for various reasons which should be made clear, prefer to send their children to a distant school rather than to the nearest one (e.g. the distant school may be better, or there may not be room in the one that is near).

Second, such information makes it possible to calculate more exactly the rates of admission and of attendance. It is possible, in fact, that pupils in a given area may be enrolled in schools that is located in another area. Naturally, you will have to take account of this so as to avoid over-estimating enrolment in the second area and under-estimating it in the first. Such displacement of children from one area to another can be selected only by exact data on where the pupils come from, and these can be obtained by rigorous investigation in the schools.

**?** Do you think the different data to which you have just been introduced such as distance to be travelled, time of journey, location of residence of pupils will giving a complete picture of the problems of accessibility in the school network?

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**Answer:** A problem associated with these data is that they are limited to children who are **already in school**, since they have been obtained in the schools themselves. Using these data it is possible to calculate the proportions of pupils who have to make a very long journey to go to school or have to spend a long time on the journey. On the other hand, these data give no information at all about the children who are not in school, because there is no school in the neighbourhood. No doubt if one had a map giving the precise location of the inhabitants, each dot representing a certain number of them, and if on this map one could draw **the catchment areas of existing schools**, one could discover the inhabited areas **not served** by a school network. This would, however, be a matter of an indirect approach.

1. **Examination of access**

**?** How do you define access?

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Access is the result of the interaction between family demand and the educational supply presented by the network of existing schools. Faced with such school supply, what proportions of children take effective advantage of it or benefit from it?

Although to begin with this question may seem very simple, answering it accurately poses a certain number of problems. Distinctions must be drawn proportions of children:

1. admitted to a given level—e.g. primary education (this is termed admission or intake rate);
2. in such a level (enrolment rate);
3. finishing this level and going on to the next (transition rate).

Further, the ages of children in school do not always coincide with the official age for the level of education concerned and this complicates the definition of concepts and the calculation of indicators. Access is measured using admission or intake rates.

**4.1. Intake rate**

Right from the first entry level, pupils’ ages do not correspond to the official admission age, since both early and late entry occur. For this reason two types of intake rates are commonly used:

1. **Apparent intake rate**

This rate is the simplest to calculate but it has the drawback of not being exact and for that reason is called “apparent”. The apparent intake rate is the total number of new entrants in the first grade of primary education, regardless of age, expressed as a percentage of the population at the official primary school-entrance age. For example, the entry age to primary schooling in Ethiopia is age 7. The apparent intake rate is thus obtained as follows:

Apparent intake rate = All new entrants to grade 1 x 100

Population of 7-year olds

Of course, the new-entry group is not to be confused with lst year enrolment since this includes repeaters, whom you will have to deduct. To the degree to which there are early or late entrants the apparent rate will tend to over-estimate the real entry rate and in some cases it can **exceed** 100%.

A high apparent intake may be the effect of a backlog(excess) of over-age children who did not begin school when they were at the official primary school-entrance age.

1. **Age-specific intake rate**

The age-specific intake rate gives a better and exact idea of entry. Here, in fact ,distinctions are made among entries according to the children’s ages instead of having a single intake rate (as is the case with the apparent intake rate) That is, one has a series of intake rates corresponding to different ages-i.e. intake rates for 5-year olds, 6-years olds, 7-years olds, etc. The intake rate for children aged 7, for example, is calculated as follows:

7-year old intake rate = new 7-year old entrants to grade 1 x 100

Population of 7-year olds

**Note:** Since the official age of admission to primary schooling in Ethiopia is 7, the 7-year old intake rate is called net intake rate.

Age –specific intake rates greatly improve information on admission in that they clearly show entry behaviour at different ages. They in particular, indicate the relative extent of early and late entry.

**2. Enrolment rate**

The enrolment rate is the measurement most often used to estimate the quantitative level of development of an educational system. It is especially useful because it enables one to get a direct and quick idea of enrolment; In addition, it makes comparisons easy,

Because of the differences that occur between pupils’ actual ages and the official ages fixed for each educational level, three types of enrolment rate are distinguished, these are:

* Gross enrolment rate
* Net enrolment rate
* Age-specific enrolment rate

1. **Gross enrolment rate(GER):**

This rate is calculated by dividing total enrolment in a given educational level (whatever the pupils’ ages may be) by the school age population corresponding to the official age for the level, and converting the result to a percentage. For example, in Ethiopia primary education lasts 8 years and the official entry age is 7. The official school age population corresponding to primary education is, therefore, the 7 to 14 years group. The gross enrolment rate for primary education in Ethiopia is, therefore, expressed as

**Gross enrolment rate (GER) :**

**Total primary enrolment regardless of age x 100**

**Population of 7-14 year olds**

Gross enrolment ratio is widely used to show the general level of participation in a given level of education. It indicates the capacity of the education system to enrol students of a particular age-group.

1. **Net enrolment rate(NER):**

Whereas in GER, we tate total enrolment, irrespective of age, we must take only pupils of the official age for the level of education concerned to get the enrollement rate. In our example this has been taken as 7-14 years. Hence, the net enrolment rate is calculated on the basis of the following formula:

**Net enrolment rate (NER) =**

Pupils aged 7 -14 x 100

Population of 7-14 year olds

NER shows the extent of the participation in a given level of education of children and youths belonging to the official age-group corresponding to the given level of education. A high GER denotes a high degree of participation of the official school-age population.

However, it excludes pupils who have not yet reached the official entry age and, especially, those pupils who are above the official age, whether because they entered late or because they repeated once or more times during their schooling.

In many countries including Ethiopia, late entry and repetition are very widespread and make it difficult to interpret both gross and net enrolment rates. The gross enrolment rate tends to over-estimate the size of the enrolment (especially if repetition is high) and the net rate to underestimate it.

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**c) Age-specific enrolment rate (ASER):**

To avoid the drawbacks just mentioned, instead of calculating the enrolment rate for a complete age-group you may do it specifically for each annual age-group. For example, the enrolment rate for 7-year olds is obtained by making the following calculation:

**7-year old enrolment rate = pupils aged 7 years x 100**

**Population of 7-year olds**

This rate is easier to interpret in that it gives for each annual age-group (including those above and below the official age limits) the exact proportion of children who are in school. Nevertheless, it has two difficulties:

1. A single rate which can be easily compared with those in other zones,

does not exist.

1. At the older ages, one finds some children are still in the primary schools while others are in secondary education.

Hence, it should be clearly stated whether or not an age-specific enrolment rate is for primary, secondary, or for both together.

**Activity**

Assume the following data on primary education are available for a particular Wereda in Amhara Region\*

|  |  |  |
| --- | --- | --- |
| **Age** | **Population** | **Enrolment in primary schools** |
| 6 | 656 | 32 |
| 7 | 764 | 584 |
| 8 | 678 | 440 |
| 9 | 684 | 432 |
| 10 | 665 | 390 |
| 11 | 620 | 360 |
| 12 | 614 | 380 |
| 13 | 596 | 342 |
| 14 | 584 | 316 |
| 15 | 576 | 296 |
| 16 | 567 | 274 |
| 17 | 540 | 254 |
| 18 | 518 | 202 |
| Total |  |  |

In this activity, only hypothetical data are used

\*due to lack of data by single age groups for the zones and Weredas in Amhara region,

Calculate the:

1. gross primary education enrolment rate;
2. net primary education enrolment rate;
3. age-specific enrolment rates.

**3. Transition rate**

So far, in calculating admission rates and enrolment rates, we dealt with entrants into, for example, primary education or with pupils in a given level of education. However, one may also deal with those who, having reached the end of one level, succeed in passing into a higher one and this is what one tries to do by calculating transition rates.

The transition rates from primary to secondary education shows the percentage of pupils in the final grade of primary education who are admitted to secondary education to continue their studies during the following year. This rate is calculated as follows:

**Transition rate to secondary education =**

New entrants to secondary education in year t+1 x 100

Enrolment in final year of primary education in year t

This indicator shows the degree of access or transition from one cycle or level of education to a higher one.

**Activity**

Using the data below, calculate the transition rate from primary to secondary education:

|  |  |  |
| --- | --- | --- |
|  | 1994 E.C. | 1995 E.C. |
| Total enrolment in grade 8 | 892 | 964 |
| Repeaters in grade 8 | 112 | 120 |
| Total enrolment in grade 9 | 486 | 525 |
| Repeaters in grade 9 | 84 | 98 |

In many countries secondary education is not available everywhere. For obvious reasons, it tends to be concentrated in urban and semi urban areas. That is, in areas, where there is large and dense population. This being so, children often have to go to a secondary school found in an area which is different from that where they live and have attended primary school. To calculate transition rates by zone, one, therefore, needs to know and take into consideration the place where the secondary education pupils come from. In other words, figures for a given zone must not contain pupils who come from other zones. Conversely, A zone has no secondary school, does not necessarily mean the transition rate is necessarily nil.

**Activity seven**

1. Do data on physical accessibility alone give a complete picture of the problems of accessibility in the school network? Given reasons for your answer.

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2. What is the difference between a gross enrolment rate and a net enrolment rate?

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1. What is the main advantage of the age-specific intake rate?

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**UNIT THREE:**

**INTERNAL EFFICIENCY OF THE EDUCATIONAL SYSTEM**

**✈ Overview**

Admission to school is merely the start of a long educational process. The difficulties that have affect upon the progress of pupils in a given cycle of schooling are a major concern of planners, parents, and pupils alike. Indeed, it is vital for planners to know how many of those pupils enrolled actually complete a given cycle of schooling or obtain a given diploma within the official time limit. This is an important point, in so far as it enables educators to assess the relevance of educational objectives, curricula and teaching methods, as well as to consider the relationship between the whole series of internal and external factors connected with attendance and school performance and achievement.

Rapid educational expansion coupled with growing claims on national budgets has made planners and policy makers preoccupied with efficiency more than ever. The high grade repetition and dropout rates observed in many countries are seen as an important manifestation of low efficiency, though certainly not the only one.

Although the term efficiency was coined by economists, it applies to all spheres of planned activities directed towards given objectives. In any activity, it should be possible to define one’s objectives, or, in other words, the output expected from that activity. To achieve the defined objectives, an individual or organization has to utilize the available resources in such a way that the desired outputs are produced with minimum cost and effort.

Efficiency is thus defined as the optimal relationship between inputs and outputs. An activity is being performed efficiently if a given output is obtained with a minimum input, or conversely, if a given input yields maximum output.

All this is well known. The question which concerns you as educational planners is whether and how this broad notion of “ efficiency” can be applied to educational activities and, in particular, to the flow of students through an education system. The efficiency of an education system is evaluated with the aid of a certain number of indicators.

In this unit, you will be introduced to a practical, working understanding of how these indicators are established and how they affect the efficiency of the education system.

**☺Unit objectives:**

After reading this unit, you will be able to:

1. define different terms related to internal efficiency;
2. calculate the different rates used to measure the systems internal efficiency, and explain their significance and limitations.

**3.1 Calculating rates of promotion, repetition and dropout**

**?** What does *internal* efficiency of the educational system mean? What are the means used to measure the system’s internal efficiency?

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The internal efficiency of the educational system is defined as its ability to educate the greatest number of pupils who have entered the system in a year t, in the shortest time and with the least use of financial and human resource.

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If the internal efficiency of the educational system is defined as its ability to educate the greatest number of pupils who have entered the system in a year t, in the shortest time and with the optimal use of financial and human resource, the flow of such pupils needs to be followed through the system for the duration of each level of study.

**3.2 The flow of pupils through the education system**

In order to trace the flow of pupils through the education system, it is important to ask the following question at the beginning of each school year:

“What happened to the pupils enrolled in a particular grade in the previous year?”

As you are probably aware, three possible and mutually exclusive events might have happened to them:

1. They might have been promoted to the next higher grade or have graduated.
2. They might have repeated the same grade they were attending the previous year, or
3. They might have dropped out (i.e. no longer attend school, or have moved to another school system or even have died)

Apart from purely financial aspects, the means generally used to follow this flow and to measure the system’s internal efficiency are the following:

1. Promotion, repetition and drop-out rate;
2. Cohort analysis using a flow chart
3. Survival rates.

**3.1 Promotion, repetition and drop-out rates**

The promotion, repetition and drop-out rate give us information on how pupils pass through the school system.

**3.1.1 Promotion rate:**

This is the proportion of pupils who have successfully completed a grade and proceeded to the next grade for, the following year. The basic formula for calculating promotion rate is:

No. of pupils promoted to grade g + 1 in year t + 1 x 100

Total number of pupils in grade g in year t

For example, promotion rate from grade 1 to grade 2 is equal to the number of promotees to grade 2 this year, divided by the number of pupils in grade 1, last year.

When the number of promotees is not known, it is possible to estimate it by subtracting the number of repeaters from the total enrolment as follows

PR= E t+1 - R t+1

g+1 g+1 x 100

E t

g

Where : PR= promotion rate

E = enrolment

g= grade

t= year

R= repeaters

**3.1.2 Repetition rate**

This is the proportion of pupils who repeat the same grade in the following year. The repetition rate of grade g, year t, is obtained by dividing repeaters of grade g, year t+1 by enrolment in grade g, year y and multiplied by 100.

No. of repeaters in grade g + 1 in year t + 1 x 100

Total number of pupils in grade g in year t

A high repetition rate is associated with low internal efficiency. Repeaters consume more resources for the additional years they spend attending the same grade. It blocks access to schooling for other children who have not got chance to go to school because repeaters occupy space in repeated grade.

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**3.1.3 Drop-out rate**

This is the proportion of pupils who leave the system without completing a given grade in a given school year. This rate shows the extent to which pupils abandon school. High dropout rates imply high input/output ratio and hence lead to low internal efficiency.

The formula for calculating dropout rate is:

No. of students dropping out from grade g in year t x 100

Total number of pupils in grade g in year t

Data on drop-outs are rarely reliable. Pupils considered by a school to have dropped out may have been be enrolled in another school elsewhere. On the other hand, data on repeaters are usually more reliable. The number of drop-outs is, therefore, estimated by subtraction.

**3.2 Complementarily of the three rates**

4 drop outs (year 1997 E.C.)

100 pupils’ year 1997 E.C.

92 promoted (year 198 E.C.)

4 repeaters (year 1998 E.C.)

This figure, which shows the breakdown of an enrolment in 1997 E.C of grades of 100 pupils, enables us to understand that the total of the three rates, for repetition, promotion and drop-out, equals 100%:

Promotion rate + Repetition rate + Drop-out rate = 100%

Grade 5 to 6 (92%) Grade 5 (4%) Grade 5 (4%)

**Activity**

Given the following data on regular primary enrolment in Amhara region by grade for two consecutive years, and repeaters by grade for the latter year, calculate the flow rates (promotion rate, repetition rate, and dropout rate).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Enrollment 94 | 495920 | 372823 | 314657 | 244218 | 189455 | 133149 | 112067 | 71503 |
| Enrolment 95 | 448351 | 349150 | 309561 | 271738 | 225557 | 153154 | 135987 | 109,904 |
| Repeaters 95 | 90222 | 53983 | 37741 | 25641 | 26248 | 9535 | 16437 | 24237 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Promotion rate | 70.4 |  |  |  |  |  |  |  |
| Repetition rate | 18.2 |  |  |  |  |  |  |  |
| Dropout rate | 11.4 |  |  |  |  |  |  |  |

N.B. 43, 805 pupils promoted at the end of 1994 from grade 8.

Example

a) Promotion rate from grade 1 to grade 2

349150 -53983 X 100 = 59.5%

495920

1. Repetition rate in grade 1

90222 X 100 = 18.2%

495920

1. Dropout rate

100 - (59.5 + 18.2) = 11.4%

**3.3The internal efficiency of a cycle of Education**

Applying the idea of efficiency to the analysis of pupil flows requires satisfactory answers to the following questions:

* How are the outputs of an education system defined?
* How are the inputs of an education system defined?

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The objectives of an educational activity, its expected output, can be viewed in different ways by different people. However, educational planners take the immediate and most important objective to be the maximum numbers of those pupils who enter the education system or cycle complete it successfully within the prescribed period. *Thus output of a given cycle is defined as the number of pupils who successfully complete that cycle.*

This definition has both advantages and drawbacks. The advantage is that it avoids ambiguities and is 'operational' in the sense that educational output becomes an easily measurable quantity. The drawback of the definition is that by equating the objective of education with the production of graduates, it takes a narrow view of the role of education in the economic, social, political and cultural life of a society.

**?** What do you understand by the statement” by equating the objective of education with the production of graduates, it takes a narrow view of the role in education in the economic, social, political and cultural life of a society”? Explain.

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**3.4 The inputs of an educational activity**

Each year, a pupil spends in school, a variety of provided resources teachers, school buildings, classrooms, equipment, furniture, textbooks, etc. The quantity of these resources rises not only with the number of pupils but also with the number of years a pupil takes to complete the cycle in which he/she is enrolled. Because of this, the **pupil-year** is used in educational planning as a convenient non-monetary way of measuring educational inputs.

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One **“pupil-year"** stands for all the resources spent to keep a pupil in school for one year. Two pupil-years represent the resources needed to keep a pupil in school for two years or, alternatively, to keep two pupils in school for one year etc.

As pupils proceed through an educational cycle, inputs are defined and measured in terms of pupil years. The pupil-year is an easily measurable quantity applicable in all contexts, but it is also a crude, non-monetary measure. Nevertheless, it is possible to assess inputs in monetary terms by multiplying the corresponding number of pupils by the average cost of a pupil- year in the cycle under consideration.

After having defined outputs and inputs of education operationally, it is important to recognize that pupil flow through the grade structure of an education cycle provides the link between inputs and outputs and the idea of internal efficiency can be derived from it.

A pupil, who successfully completes a school cycle of, say eight years, would require at least eight pupil-years to pass through the education cycle and pass the final exam for the cycle. It, therefore, would take at least 16 pupil years to produce two successful completers, 24 to produce three etc. *In other words if all goes well and no pupil drops out or has to repeat, the best possible input/output ratio for a school cycle of eight years would be 8:1= 8*

🗹

In a school cycle of 'n' years, perfect internal efficiency is achieved when inputs relate to outputs as follows:

**One successful completer to 'n' pupil years**

However, this standard of perfect efficiency never occurs in the real world. This is because there are always some pupils who repeat one grade or another, thus adding to the number of pupil years (inputs). Even if repetition were abolished, there would still be pupils who dropout before completing the cycle. In this way they will have use a number of pupil-years (i.e. the material and human resources which these years represent), without contributing to the output from that cycle because they are included in our definition of output as “successful completers” or graduates. As a result the input/output ratio becomes inflated by additional 'non-productive" pupil-years, and tends to become higher than it would be under ideal conditions. In other words, internal efficiency declines.

It should be noted here that we have so far referred to internal efficiency' rather than 'efficiency' in general. The reason for this is that there are indeed two different concepts of efficiency: 'internal' and 'external'. On the one hand, you can have an 'internally' efficient educational cycle which turns out successful completers without wasting many pupil-years on dropping out and repeating. On the other hand, this same cycle may be 'externally' quite inefficient in that the graduates may fail to meet what society, the economy, or higher levels of education require. For example, they may be unemployable in the sense of being (deficient in knowledge, abilities, and motivation they need to have or they may be to fit the world of work), too academically oriented, unwilling to work in rural areas, or aspire to leave the country. Thus, it is important to bear in mind that 'internal' efficiency does not necessarily guarantee 'external' efficiency.

**3.5 Cohort analysis: An analytical device to calculate indicators of internal efficiency**

First a definition of basic terms and phrases is in order.

* A cohort is defined as a group of persons who jointly experience a series of events over a period of time.
* A school cohort is defined as a group of pupils who enter the first grade of a given cycle in the same school year and subsequently experience promotion, repetition, dropout or successful completion of the final grade.
* Cohort analysis is a method that traces the flow of a group of pupils who enter Grade 1 in the same year and progress through an entire educational cycle.

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To illustrate cohort analysis in operation imagine a cohort of, say, 1,000 pupils who enter Grade 1 of a 4-grade cycle in the same year y=1. The 1,000 pupils will proceed step by step through the cycle, except those who dropout at various points along the way and others being held up by one or more repetitions and only a few completing the entire cycle in the minimum time of four years. The flow diagram shown below illustrates this flow of a cohort through a cycle. Flow diagrams of this type are used as a basis for calculating several indicators of the degree of internal efficiency in a given educational cycle.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 1 |  | Grade 2 |  | Grade 3 |  | Grade 4 |  |
| Year |  |  |  |  |  |  |  |  |
|  |  | D11 |  |  |  |  |  |  |
| t=1 |  |  |  |  |  |  |  |  |
|  | R21 | P22 |  |  |  |  |  |  |
|  |  | D21 |  | D22 |  |  |  |  |
| t=2 | S 21 |  | S 22 |  |  |  |  |  |
|  | R31 | P32 | R32 |  |  |  |  |  |
|  |  | D31 |  | D32 |  | D33 |  |  |
| t=3 | S 31 |  | S 32 |  | S 33 |  |  |  |
|  |  | P42 | R42 | P43 | R43 |  |  |  |
|  |  |  |  | D42 |  | D43 |  | D44 |
| t=4 |  |  | S 42 |  | S 43 |  | S 44 | G4 |
|  |  |  |  | P53 | R53 | P54 | R54 |  |
|  |  |  |  |  |  | D53 |  | D54 |
| t=5 |  |  |  |  | S 53 |  | S 54 | G5 |
|  |  |  |  |  |  | P64 | R64 |  |
|  |  |  |  |  |  |  |  | D64 |
| t=6 |  |  |  |  |  |  | S 64 | G6 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Key S=Pupil numbers

D=Number of dropouts R= number of repeaters

G=Successful completers P = number promoted

S1 denotes pupil number in year 1(t=1,…n)

S1 denotes pupil numbers in grade 1(g=1,…4)

S11 accordingly denotes pupil numbers in year 1 and in grade 1 etc.

Example of a flow diagram for a school cycle of 4 grades

Flow diagrams are built on a number of important assumptions:

1. Other than the original cohort of 1,000 pupils, there will be no additional new entrants in subsequent years,

2. At any given grade, the same rates of repetition, promotion, and dropout apply, regardless of whether a pupil has reached that grade directly or after one or several repetitions.

3. The number of times any given pupil will be allowed to repeat a grade must be well defined.

4. Flow rates for all grades remain unchanged as long as members of the cohort are still moving through the cycle. It is assumed that these rates remain constant throughout the period of the entire cycle.

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Because obtaining individualized data for all the flow elements is generally difficult, costly, and time consuming, we use, as an approximation, the repetition, dropout and promotion rates as actually recorded in a given year for the different grades of the school cycle whose degree of efficiency we wish to determine. Using these flow rates which we have observed in reality, we can bring to life, as it were, the hypothetical group of 1000 pupils to form our' cohort.

To apply this, let us use the flow rates you found for the Amhara Region in 1994 and 1995 E.C. in Activity?

We hope you have found the following results:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Enrolment 94 | 495920 | 372823 | 314657 | 244218 | 189455 | 133149 | 112067 | 71503 |
| Enrolment 95 | 448351 | 349150 | 309561 | 271738 | 225557 | 153154 | 135987 | 109,904 |
| Repeaters 95 | 90222 | 53983 | 37741 | 25641 | 26248 | 9535 | 16437 | 24237 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Promotion rate | 59.5 | 72.9 | 78.2 | 81.6 | 75.8 | 89.8 | 76.4 | 61.3 |
| Repetition rate | 18.2 | 14.5 | 12 | 10.5 | 13.9 | 7.2 | 14.7 | 33.9 |
| Dropout rate | 22.3 | 12.6 | 9.8 | 7.9 | 10.3 | 3.0 | 8.9 | 4.8 |

N.B. 43, 805 pupils promoted at the end of 1994 from grade 8.

Now use these flow rates in a flow diagram to construct the hypothetical flow of 1000 primary children who entered primary school in 1994 E.C.

**?** Find out the inputs per grade

Find out the total inputs used by the cohort

Find out the total outputs for the cohort

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Based on the flow diagram and the definitions we have adopted for input and output, we can work out a number of indicators of internal efficiency.

**Wastage rate**

If we compare the number of pupil-years spent by the cohort as it follows through the eight grades of the cycle with number of pupils who pass grade 8 as successful completers, we can assess how efficient or inefficient the educational process has been.

In a perfectly efficient situation the 1000 members of the cohort would have completed the level in the ideal time of eight years-and would have spent 8x1000=8000 pupil-years.

Therefore, the ideal input/output ratio would be:

*Ideal Input ratio* = 8x 1000 pupil years = 8000 =8.00

*output*  1000 successful completers 1000

However, in reality and as the diagram shows, out of the 1000 (i.e, 88 in 2001 E.C, 111 in 2002 E.C an 80 in 2000 E.C, only 279 cohort members successfully completed. The output from this cycle is, therefore, much less than it could have been. The reason is that high repetition rates inflated the number of pupil years which the cohort used

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 1 |  | Grade 2 |  | Grade 3 |  | Grade 4 |  | Grade 5 |  | Grade 6 |  | Grade 7 |  | Grade 8 |  |
| Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 223 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 1000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 41 |  | 75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995 | 182 |  | 595 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 108 | 86 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 25 |  | 43 |  |  |  |  |  |  |  |  |  |  |
| 1996 | 33 |  | 194 |  | 434 |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 20 | 25 | 141 | 52 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 13 |  | 19 |  | 26 |  |  |  |  |  |  |  |  |
| 1997 |  |  | 48 |  | 193 |  | 339 |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 35 | 23 | 151 | 36 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 13 |  | 14 |  | 28 |  |  |  |  |  |  |
| 1998 |  |  |  |  | 58 |  | 187 |  | 277 |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 45 | 20 | 153 | 39 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 12 |  | 19 |  | 6 |  |  |  |  |
| 1999 |  |  |  |  |  |  | 65 |  | 192 |  | 210 |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 53 | 27 | 146 | 15 |  |  | 17 |  |  |
|  |  |  |  |  |  |  |  |  |  | 19 |  | 4 |  |  |  |  |
| 2000 |  |  |  |  |  |  |  |  | 80 |  | 161 |  | 189 |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 61 | 12 | 145 | 28 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | 7 |  | 16 |  | 7 |
| 2001 |  |  |  |  |  |  |  |  |  |  | 73 |  | 173 |  | 144 | 88 |
|  |  |  |  |  |  |  |  |  |  |  |  | 66 | 25 | 132 | 49 | 9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 21 |  |  |
| 2002 |  |  |  |  |  |  |  |  |  |  |  |  | 91 |  | 181 | 111 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 70 | 61 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 51 |
| 2003 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 131 | 80 |

Up, and dropping out reduced the outputs from the cohort. To get the inputs from the diagram and the successful enrolments in each grade and sum up for all grades.

Pupil-years per grade

|  |  |  |
| --- | --- | --- |
| Grade |  | Pupil-year |
| 1 | 1000 + 182 +33 | =1215 |
| 2 | 595 + 194 + 48 | =837 |
| 3 | 434 + 193 + 58 | =685 |
| 4 | 339 + 187 + 65 | =591 |
| 5 | 277 + 192 + 80 | =549 |
| 6 | 210 + 161 + 73 | =444 |
| 7 | 189 + 173 + 91 | 453 |
| 8 | 144 + 181 + 131 | 456 |
| Total for all |  | 5230 |

Hence, the actual input/output ratio is

*Actual Input ratio* = 5230 pupil-years = 18.75

*output* 279 successful completers

As final step, we can calculate the wastage ratio which shows the degree of internal efficiency by relating the actual input/output ratio to the ideal input/ output ratio.

*Wastage ratio: WR= Actual input/output ratio*

*ideal input out put ratio*

WR= 18.75 = 2.34

8.0

Thus, primary education for Amhara Region in 1994 E.C. was characterized by a wastage ratio of 2.34. This means that graduates would be produced in the cycle at 2.34 times the ideal cost. The best (ideal) ratio could have been equal to one.

**Coefficient of efficiency**

*Coefficient of efficiency = ideal number of pupil years to produce the graduates*

*Actual number of pupil years spent*

*Or = ideal ratio 8.0 = 0.43*

*Actual ratio 18.75*

**Survival rate**

This is an indicator of the retention capacity of the education system. This helps us to know the proportion of pupils admitted to a level of the education process reach the 2nd , 3rd, 4th etc of that level right up to the final year. It gives planners a rough guide to the retention capacity of the level under consideration. Again, once we have drawn the diagram for cohort in a certain level, the task of calculating the survival rate is easy.

The survival rate is equal to the proportion of the sum of pupils admitted- through promotion- to the relevant year of study in successive years, and the initial numbers in the cohort.

Using our flow diagram, we find that for grade 2:

* In 1994 595 pupils where promoted.
* In 1995, 108 pupils where promoted;
* In 1996, 20 pupils where promoted;

The total number of pupils promoted to grade 2 in the years from 1994 to 1996 was 723.

Survival rate: 723:1000=**72.3%**

Now calculate the survival rate for the rest of the grades.

One can also use the flow figures to find out the number of dropout by grade, by number of graduates from the final year and etc.

**Average duration of study per graduate**

Another indicator of interest to educational planners, parents and pupils alike is the average duration of study per graduate. It is the estimated average number of years taken by graduates to complete the cycle. Each successive batch of graduates is multiplied by the number of years it has taken them to complete the cycle. In our flow diagram there will be 88 graduates in 2001 that complete within 8 years, 111 graduates in 2002 who will take 9 years, and 80 graduates in 2003 who will take 10 years to complete. These figures are summed up and divided by the total number of graduates

The average duration of study per graduate is equal to

(88x8) +(111x9)+(80x10) = 2503 = 8.97 pupil years

* 1. 414

**Proportion of total wastage due to dropout and Repetitions**

Here we try to separate wastage due to dropout and wastage due to repetitions. This helps us to see which one is contributing the most to wastage dropouts or repeaters. To do this we have to find out the total pupil years wasted. *Pupil-years wasted are the difference between total pupil years and pupil- years used by dropouts and repeaters.*

Pupil Years wasted = Total pupil years- (8x output)

5230-(8x279) =2998

To calculate the proportion of total wastage due to dropouts, multiply the dropouts at each grade by the grade up to which they have remained in school. Add up the resulting figure over all the grades and divide that by the pupil years wasted.

PYD= (223x1)+(75x2)+(43x3)+(26x4)+(28x5)+(6x6)+(17x7)+(7x8) x 100

2998

=957 x 100 = 32%

2998

In this example, the interpretation of this indicator, in this example, would be that 32 percent of the 2998 pupil- years 'wasted' was due to dropouts; conversely the proportion of total wastage due to repetitions would be 68 percent. In the primary education in Amhara Region in 1994 E.C., therefore, repetition is a more serious source of internal inefficiency than dropout.

# **Limitations of the Concept of Internal Efficiency**

**?** What do you think are the limitations of the concept of internal efficiency?

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The concept of internal efficiency is one of the key applications of pupil flow analysis. Apart from problems associated with data vulnerability, accuracy, and consistency, internal efficiency is vulnerable to over-interpretation as a tool of educational diagnosis. The tendency of the assumptions underlying the flow analysis is clear: they sacrifice reality for the sake of measurability and analytical clarity. Thus the limitations of the concept of internal efficiency must be recognized and taken into account. The limitations are briefly summarised below:

# **Inputs**

* The ‘pupil-year’ is a non-monetary measure of inputs which fails to take into account the concepts and findings of educational cost analysis. Costs of education are not simple linear function of the number of pupils. The pupil year concept fails to grasp the many different determinants of educational costs.

# **Outputs**

* The fact that output is considered equivalent to the number of graduates makes a very narrow view of educations contribution to the economy and society.
* The fact that grade repetition is considered as wasteful (and automatic promotion accordingly as raising efficiency) is not justified given the pros and cons of repetition.
* The fact that no output value of whatsoever is accorded to the years that dropouts have spent in school ignores recent research to the acquisition of literacy; for secondary education, this assumption is particularly unrealistic.

# **The educational process**

* The concept of internal efficiency is applicable only to those educational processes that conform to the age/grade pattern of conventional formal schooling.

# **Efficiency**

* Internal efficiency in no way guarantees external efficiency; in reality, the two concepts frequently conflict with each other.
* There is no simple relationship between internal efficiency and budgetary expenditure.

Contrary to popular, beliefs, reduction of educational wastage through higher internal efficiency will not necessarily, entail any budgetary savings: if the elimination of grade repetition happens by decree, it will remain ineffective in terms of learning achievement. If it is backed up by remedial teaching, unit costs of education may be increased.

Where dropout is to be reduced through lowering dropout rates, the accommodation capacity of the school system will have to be increased accordingly, particularly in the higher grades: educational budgets will rise as a consequence.

**Activity eight**

1. What do you think are the effects of improved internal efficiency on intake capacity?

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2. What are the differences between the concepts of internal efficiency and external efficiency?

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3. What do you think are some of the measures that should be taken to improve the internal efficiency of an education system?

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**UNIT FOUR:**

**QUALITY OF EDUCATIONAL SERVICE AND USE OF RESOURCES**

**✈ Overview**

The goal of achieving Universal Primary Education (UPE) has been on the international agenda since the 1948 Universal Declaration of Human Rights that affirmed, that primary education was to be made available freely and compulsorily for all children in all nations. This objective was restated subsequently on many occasions, by international treaties and in United Nations conference declarations. However, most of these declarations are silent about the quality of education to be provided.

On the contrary, the two most recent United Nations international conference declarations focusing on education have given some importance to its qualitative dimension. The Jomtien Declaration in 1990 and, more particularly, the Dakar Framework for Action in 2000 recognized the quality of education as a prime determinant of whether or not education for all is achieved. More specifically than earlier pledges the second of the six goals set out in the Dakar Framework commits all nations to the provision of primary education ‘of good quality’. Moreover, the sixth goal includes commitments to improve all aspects of education quality so that everyone can achieve better learning outcomes, “especially in literacy, numeracy and essential life skills.”

In this unit, you will study various indicators which enable the quality of education or the use of resources or both to be assessed. Three main components in educational provision may be distinguished: staff, buildings and equipment.

**☺Unit objectives:**

After working on this unit, you will be able to:

1. discuss the concept of quality of education;
2. elaborate on the possible dimensions of analyzing quality in education;
3. identify relevant norms and indicators for analyzing staff conditions, school buildings and equipment;
4. calculate and interpret indicators of the distribution and utilization of teaching staff; and
5. Calculate and interpret the indictors of the condition and utilization of school buildings and equipment.

**4.1. The concept of quality of education**

**?** What do you understand by the quality of educational services? How do we define quality of education?

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Analyzing the quality of educational services presents conceptual as well as methodological problems. Conceptually, what do we understand by the quality of educational services? How do we define quality of education? The answer to such questions depends on the judgment criteria used. One may use subjective criteria like parent satisfaction, a school’s reputation etc. One may also use more objective criteria such as success of students in examinations, external efficiency, etc.

There could be a number of criteria used to assess the quality of education. The criteria generally preferred for judging the quality of educational services is that of *students’ achievement based on the objectives set.*

For a basic educational programme, for example,

student achievement could be measured in terms of

mastery of:

* *the learning tools:* reading, writing, arithmetic, and problem-solving which are essential for acquiring and applying other knowledge and skills, and
* *the knowledge, skills, attitudes and values needed for everyday life* (concerning nutrition, health, environmental protection, relating and living with others, etc.).

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However, measuring students’ achievement in relation to these different objectives is not an easy task as it especially relates to attitudes and values.

Methodologically, what are the variables that contribute to the quality of education? This leads to a series of questions:

1. What makes one school better than another?

* Is it the level of training, the degree of motivation of its teachers, the interaction they have with students, the methods they use?
* Is it the availability of good teaching materials, the attractiveness or functional characteristics of its facilities?
* Is it the characteristics of its students?
* Is it the type and quality of its management and leadership?
* Is it its interaction with parents and the community?

1. Can we ascertain the cause and effect relation ships between means (methods, resources, for instance) and the results obtained?
2. Does an increase in resources (qualified teachers, appropriate premises and materials etc.) automatically entail improvement in student achievement?
3. Should quality of education be primarily measured in terms of *the inputs*, the *processes,* or *results* of the system or a combination of them?
4. Can one develop measures that can help accurately assess each of these or a combination of them?

Answering such and other questions and selecting relevant indicators to assess the quality of education are a constant concern for educational policy makers, planners and managers.

Apart from the quality of education, the educational planner is preoccupied with *reducing costs*. The teaching staff, the construction and maintenance of buildings, and the provision of educational materials and technology cost a lot whereas the resources available for education are limited. Hence they must be put to the best use possible.

Depending on the intended objectives, there could be a number of indicators used to measure the quality of education relating to the inputs, the process and the results of the education system. In this section we will study various indicators, mainly that relat to inputs. To do this, we distinguish three main components in educational provision*: staff, buildings*, and *equipment and materials*.

* 1. **Diagnosis of staffing conditions**

The objective of this diagnosis is, of course to find out the present situation, and to suggest where and how a reorganization of the educational provision could improve teaching and learning conditions and teacher utilization.

Hence, attention will be paid to the composition and quality of staff, and their utilization. Where norms exist, you will make your diagnosis in comparison with the, on the other hand, if norms do not exist, your task will be analyzing variations between weredas and institiutions.

**4.2.1 Staff distribution by function**

In this, you will analyze the distribution of staff by the nature of work they perform. Analysis of the functional distribution of staff enables you to:

1. draw distinctions among teaching staff ( class teachers, special teachers), principals (with teaching duties, without teaching duties), administrative and services staff;
2. identify differences in the availability of different types of staff in the different Weredas and institutions.

In what follows, we will deal only with the staff responsible for teaching.

**4.2. 2 Quality of teaching staff**

**?** Do you think that there is a satisfactory way of assessing a teacher’s quality? In your opinion, how can one assess a teacher’s quality?

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To arrive at a proper assessment of teachers’ quality, we need to adequately answer questions such as the following:

* Is there a common curriculum that prospective teachers must take?
* Is there a rigorous examination they must pass and there by show what they know and can do before getting employed?
* Is there a good way to measure their continued improvement on the job they perform?
* Is there teacher licensing? On what basis is it done?
* Are there measures of teachers’ engagement in an ongoing professional development?
* Are there measures used to describe the quality of student teaching practices or teacher induction practices?
* Should teacher quality be measured primarily in terms of *what they do* or in terms of what their students know or are able to do?

If you can answer such questions positively and adequately, then it can be assumed that you have a satisfactory way of assessing teacher quality.

It is usually assumed that teacher quality is a function of factors such as:

1. the length of a teacher’s general education,
2. the length of his/her training as a teacher,
3. the upgrading or refresher courses he/she has attended
4. his/her experience.

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It should be noted that these factors do not by themselves guarantee quality in a teacher. So, account must also be taken of the type of school in which he/she works (e.g. its size and location), his/her working environment (e.g. relations with his/her colleagues and the composition of the school’s teaching staff), his/her age and his/her motivation. This last factor however is not easily measurable.

**?** What are the common indicators of teacher quality. That are used in Amhara region?

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For the purpose of analyzing the quality of teaching staff, teacher distribution in an education system can be seen from the point of view of:

* qualification level;
* years of service (teaching experience);
* sex, and
* status.

1. **Teacher distribution by qualification level:**

This is a matter of studying the percentage of distribution of teachers according to their levels of general education and professional training.

The definition of a qualified teacher varies from country to country. In some countries for example, a qualified teacher is only one who has obtained official recognition of his suitability for teaching in view of his professional qualifications, such as a diploma or certificate from a teacher- training institution. Other countries recognize as qualified all teachers with a certain level of general education (the first or second cycle of secondary education for a primary school teacher).

Further more, some countries give different professional status to teachers with different levels of education and training though all may be recognized as teachers of the same level, whether primary or secondary.

**Activity five**

1. What categories of teachers are considered in our education systems as qualified to teach in primary and in secondary schools?

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2. What is the length of general education and professional training required of teachers to teach in each of the cycles of the education structure in Ethiopia? Do you think the requirements are fulfilled in practice? Why?

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3. What sorts of teacher qualifications do you find in reality? What could be the reasons for such a reality?( For this refer to the region’s annual education statistics)

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When data on teachers’ qualification are collected it is necessary to deal with them by zone (rural, urban), by governing body (government, public, private), and by size of schools. It seems that there is often a correlation between the percentage of qualified teachers at the primary and secondary levels and the degree of urbanization (the largest schools being found in urban areas).

b**) Teacher distribution by years of service (teaching experience*)***

The indicator *‘years of service’* serves to:

1. categorize staff which affect their territorial distribution

Generally, regulations for teacher assignment stipulate that a teacher who has completed his/her course in teacher training institution will be attached to a rural area. In most cases a teacher assigned to a rural area will desire to go back to town. Hence, it is likely to find in rural areas, a high percentage of teachers with high percentage of experienced teachers in urban areas.

It has generally been noted that a large number of inexperienced teachers (say, with less than one year of service) is prejudicial to good quality education, especially if they are found in isolated rural schools where there is in adequate counselling and supervision and if they teach in multi-grade schools.

1. assess the quality of educational provision because it has implications for a certain quality of teaching linked with the
2. teacher’s experience.

It is generally assumed that a teacher with experience will

provide better learning experiences for his/her students.

However, They should be used carefully since a high percentage of very long serving teachers who have not attended

refresher courses might imply teaching of a lower quality

than that which might be provided by inexperienced teachers.

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The number of years of service in school may also be an indicator of:

1. High staff turnover (if we find out that few teachers have a considerable number of years of service);
2. Lower teacher efficiency if there are many who have become “fixtures” in the same school for many years without any upgrading or refresher courses.

It should, however, be noted that continuity of teachers in a school is linked with the school’s geographical location, material teaching conditions, students’ behaviour, the stimulation given by the school principal and with the school climate.

Measuring another factor i.e., teacher absenteeism may complete the teacher continuity or turnover issue*.* Since teacher absenteeism is a real problem in many areas, it is important to be able to measure its degree of prevalence. However, it should be noted that measuring this factor is not always easy as it is difficult to obtain data and school’s statistics are not reliable.

**Activity six**

1. What specific measures would you suggest to help keep experienced teachers in rural areas in your Wereda?

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2.What ways and sources would you use to obtain data on teacher absenteeism?

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1. **Teacher distribution by sex**

This is simply a matter of calculating, by area and by different educational levels, the percentage of women among the teachers. In areas where the schooling of girls meets with resistance from parents, the presence of women as teachers, managers etc. may contribute to overcoming such resistance and so encouraging the participation of girls. This is why encouraging the participation of women in all education and training programs, and increasing their participation in the teaching profession has become one of the missions of the education system in Ethiopia.

**d) Teacher distribution by status of employment**

In many countries, teachers have different status in their employment and work arrangement. They are:

* Civil servant teachers,
* Contract teachers,
* National service teachers,
* Volunteer teachers, and
* Community teachers

This has great implications on the planning and utilization of teachers

**4.2. 3. Teaching organization and the use of teachers**

**?** In your opinion, how large or how small should class size be?

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The pupil-teacher ratio and class size (pupil/section ratio) are often mentioned as very important indicators of the quality of education. Smaller class sizes are believed to contribute to good quality education. Small class sizes contribute to better achievement of students. Research also shows that teachers and parents and their unions would like to obtain a reduction in the number of pupils per class.

A limited number of pupils enables the teacher to give better attention to each pupil and meet his/her educational needs. Smaller classes are particularly important in the primary grades when children learn essential reading and mathematical skills. In secondary schools efforts to provide specialized instruction in areas such as the sciences and foreign languages have necessitated the need for small classes.

However, there are people who argue that the effect of class size on school results is not ascertained. They argue that all depends upon what the teacher makes of her/his class, large or small, and on her/his teaching methods.

Probably, there are thresholds which should not be crossed even if one is not quite sure what they are. Having 35 to 40 pupils per class probably involves no major changes in teaching conditions, but going from 40 to 60 is quite a different matter. In addition there is the problem of great variations from the national or regional average among zones and schools.

The organization of teaching and the allocation of staff are usually regulated by nationally defined norms. The educational planner’s task is to check how far these norms are respected.

1. **Norms**

**Norms for the number of pupils per class or section.**

A class is a group of pupils who follow at the same time. In Ethiopia we usually use the word section. The idea of a class does not necessarily coincide with that of a grade. In fact a grade (or year of study) is divided into several classes or sections when there are a lot of pupils. Conversely, a class may cover several grades, as in one teacher school in which all grades or more than one grade are taught in the same room simultaneously ( i.e. multigrade classes).

Norms for class size vary according to the level of education- primary or secondary. They may be set for upper or lower limits. They may be different according to whether they refer to classes covering one or several grades. They may also differ according to the subject taught. It is to these norms that we should refer when we make a diagnosis.

**Activity seven**

1. What are the norms or standards in Ethiopia concerning the number of pupils per section in primary, general secondary, preparatory, and in technical vocational schools*?* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Are there variations in these norms according to subject? Give examples.

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**Norms about teachers’ service.** These norms may vary according to the level of education. In primary education a teacher may be responsible for teaching a single class. In this case the hours worked are the same for all teachers and equal to the number of hours provided for in pupils’ time- table.

In secondary education the average number of hours a teacher should work is specified, but maximum and minimum numbers can be given as well. The official norms may not always be observed if:

* + The school’s size is small and the number of its classes is too small to fully use some specialised teachers;
  + A subject is given little time in the curricula for the various grades;
  + The teachers are over specialised.

Under utilization of teachers, which is contrary to official normal for the number of periods each teacher has to teach, may also result from poor organization of the time table.

**B) Indicators**

**i) Pupils per section**

These are indicators of the quality of educational service, and can help one to assess teaching conditions.

Pupils per section (class size) = Total enrolment

Number of sections

It is useful to analyze this indicator by size of school and to compare the data categorized with national norms. It is usually observed that class size does not take account of the fact that the pupils in several classes may be grouped together for some special activities, such as sport, or that a class may be sub divided into groups such as:

1. for teaching purposes, such as members of the same section taking different minor course
2. for different optional subjects

For this reason, the number of pupils taught may vary according to subject and teaching method.

* + 1. **The pupil/ teacher ratio (PTR)**

The pupil/teacher ratio is the average number of pupils per teacher in an education system.

Pupil/teacher ratio = Total of pupils

Total of teachers

The PTR like the pupil section ratio (PSR) enables one to assess the pupil organization condition and the quality of education. In addition it is an indicator of the utilization of teachers and of their costs. It provides one with useful information for one to keep an eye on costs. When there are zones where teachers are badly deployed, it entails excessive cost.

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This means that as the number of teachers employed in an

education system increases for a given number of pupils the

PTR inevitably decreases while often the cost of teaching increases.

We have noted earlier the reverse situation, i.e. when the number of

pupils per teacher exceedingly increases above the national norm

(in our situation it can be considered to be already high), it has

negative implications for the quality of education. The PTR is

usually calculated by level of education: primary, secondary, and

tertiary.

When data are available it is useful to follow the development of enrolments, numbers of teachers, and pupil/teacher ratio over several years. Comparison of such data by school or area over several years makes it possible to show clearly, for example, the areas or schools in which efforts have been made in the allocation of teachers; or the areas or schools in which the situation has worsen from year to year illustrated by a PTR above the national norm or above the national average and increasing as the time goes on. Accordingly, the PTR enables to make comparisons between zones or between schools and to measure inequalities in the allocation of teaching staff so as to select the areas in which reinforcement of the educational provision is needed.

**Activity eight**

1. A secondary school has an enrollment of 450 pupils and a staff of 18 teachers. Teaching takes place in five consecutive grades with three parallel sections within each grade

a) Calculate both the pupil/section and pupil/teacher ratios

b) How many teachers are required on average for each section in this school?

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In primary education where there is self-contained class (one teacher per class), the PTR is equal to the pupil section ratio. It may, however, differ if there are half-time classes or specialist teachers.

The PTR often varies according to the size of the school. In rural areas where population density is low, PTRs tend to be lower than the national average, or lower anyway than in the urban areas.

**?** How do you measure the utilization rate of teachers?

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Other indicators are generally used to check more exactly whether or not the time put in by teachers is consisted with the official norms, and if there is under utilization of teachers ( and hence waste), or on the contrary, overloading.

1. **Teacher’s average teaching load:**

This is the total weekly periods taught divided by the number of teachers:

Teachers average teaching load = Total weekly periods

Number of teachers

**b. The fulltime equivalent PTR.**

To arrive at this, we have get to first the number of full time equivalent teachers: This equals:

Tft= Total number of weekly periods taught by teachers

Normal number of weekly periods taught by one full time teacher

The result of this division gives the number of teachers who would be used if each worked full time according to official norms. The full time-equivalent PTR is then:

PTRft= Number of pupils

Number of full time equivalent teachers

**Example:**

A secondary school with 600 pupils has 18 teachers. If the school has to provide 330 periods a week of teachers’ time and if the full-time teacher’s weekly workload is 30 periods, the number of teachers in full-time equivalent will be:

330 = 11

30

The full-time equivalent PTR in this school will thus be:

600 = 54.5

11

When we compare this result with the actual pupil teacher ratio:

600 =33.3

18

The full-time PTR in the school is higher than the actual PTR since it would need only 11 teachers to cover the teaching periods provided by the 18 teachers.

The pupil teacher ratio and the full-time equivalent pupil teacher ratio would be the same if all teachers were occupied full-time.

This would require that either

1. the school is big enough for a teacher to be occupied full-time even in subjects with few weekly periods, or
2. the teacher should teach more than one subject

**Activity nine**

1. What is the difference between PTR and PSR?

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### 4.3 Diagnosis of School Buildings and Equipment

Their cost of construction and furnishing, maintenance, repair remodelling and replacement makes them the second must expensive following teachers’ salary. They should therefore be used optimally to give a proper return, and to enable the provision of education in satisfactory.

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Diagnosis of school buildings and equipment in school mapping is expected to:

1. asses the general availability and quality of school buildings;
2. identify priority areas for action with respect to renovating or extending buildings;
3. identify the most disadvantaged areas in respect to equipment available;
4. asses true school capacity
5. show schools which are under-utilised or over utilized

**?** How do you evaluate the quality of school buildings?

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The quality of school buildings is difficult to evaluate. It is also relative depending on regions, existing materials, available financial resources, financing policy, and the division of responsibility among government levels, communities and parents, the socio-economic conditions of the communities in which the schools are located, and on climatic conditions.

Diagnosis of the condition of buildings and the availability of equipment, and their degree of utilization should therefore be made with reference to national standards. The standards could relate to:

1. average areas of general classrooms and of specialized rooms such as laboratories and workshops;
2. average area for pupil-space in general and in specialized rooms, and for circulation, administration and other purposes;
3. degree of satisfaction and comfort: availability of running potable water, electricity, sanitation, lighting, ventilation, heating, cooling, and other conditions;
4. needs for school furniture and supplies and who supplies them;
5. time for which buildings are used: minimum, normal, and maximum number of periods; extent to which shift work is normal or acceptable;
6. minimum, maximum, and standard sizes for schools;

It is possible that standards may not exist for some things. You should then refer to :

1. guidance given by the MOE; REB
2. the national average;
3. international standards.

Moreover, the information needed for this type of diagnosis may not usually available; hence a special survey will have to be made.

**?** To what extent are the above issues addressed in Ethiopian standards for KG, primary and secondary schools??

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**1. Details of School Buildings**

Study of school buildings deals with construction materials, building conditions, and areas of the buildings by geographic area and kind of school.

1. **Construction materials and the condition of building***s*:

This looks into the materials that were used in general or specifically for walls, ceiling, floor, and the state of the buildings. The information on the state of the buildings is not easy to obtain since it is fairly subjective. Each school may have a different way of judging the state of its buildings depending on what is considered normal and the financial allocation the school management hopes to obtain. Thus care is needed in making the inventory and it should on preferably be done by an outsider who has architectural knowledge.

Generally, the condition of buildings is closely linked with the type of construction materials used. Based on to the building materials used, one can judge whether or not it would pay to rebuild the building rather than to carry out extensive repairs.

The indicators will be the percentage distribution of:

i) classrooms by building materials used;

ii) classrooms in bad condition needing immediate repair.

The data can be presented as follows:

Distribution of primary classrooms by construction

materials and condition

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Homogeneous  Zones | Number of  rooms | Number of rooms by construction  material | | | | Number of rooms by condition | | | |
|  |  | Concrete | Stone | Wood | Other | Good | Fair | Bad | Very bad |
| A(%) |  |  |  |  |  |  |  |  |  |
| B(%) |  |  |  |  |  |  |  |  |  |
| C(%) |  |  |  |  |  |  |  |  |  |

In situations where pupils assemble outside a classroom; calculations are to be made of the:

i) Number of classes held outside classroom/ under trees, etc/;

ii) Number of classes held in unsuitable premises.

1. **Analysis of building areas:**

The following indicators may be used:

i) average area per pupil in a general classroom;

ii) average area per pupil in a specialized classroom;

iii) average area of general classroom;

iv) average area of specialized rooms: laboratory, workshop etc

Such indicators may be calculated, as those above, by homogenous zones for primary or by school for secondary education.

If you want to measure space available per pupil, it is preferable to make the calculation by shift, i.e, for each shift separately because though the areas of the rooms remain the same, the number of pupils may vary according to shift. For example, in a double shift, if enrolment in shift 1 is E1, and enrolment in shift 2 is E2, S/E1 will be different from S/E2.

**2. Availability of Equipment**

For convenience, “Equipment” is here defined to include the equipment of buildings, teaching aids used by the teachers and educational supplies used by the pupils.

There are several indicators, For example:

1. *Equipment of buildings (including furniture*). The percentage of:
   * Schools with electricity and running water;
   * Schools with a sports ground, a garden plot;
   * Schools with teachers’ living quarters;
   * Schools with toilets for girls;
   * Classrooms with pupils desks (enough, not enough, none)
   * Classrooms with a teacher’s desk;

Example: Availability of equipment and materials

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Homogeneous  Zone | Number of classrooms | % of classrooms with | | Number of teachers | % of pupils having | |
| A black board | Teachers desk | All text books | No text books |
| A  B  C  D |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |

1. **Teaching equipment**: percentage of schools without a blackboard,

* Schools without enough geographic globes, or maps or with out any
* Schools with a library

1. **Pupils’ textbooks and supplies**: percentage of classes in which
   * pupils have enough textbooks, exercise books, pencils
   * pupils have no textbook, exercise book, pencil
2. **Other**-percentage of schools which arrange school lunches etc

From among the many possible indicators, one has to choose those that are most appropriate for the situation of the region or level of education being dealt with. The analysis will be done in homogenous zones, and by size of school since it is often the smallest schools that have least teaching materials.

Example: Availability of teaching materials according to size of school

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Percentage of classes in which pupils have | | | | | |
| Zone | School size | Text Books | | Exercise books | | Pupils | |
| enough | none | enough | none | enough | none |
| A | Under 50 pupils  50-100  100-150  150-200  over 200 |  |  |  |  |  |  |

**3. Analysis of use of Buildings**

School buildings and equipment should be used to the fullest extent possible by both pupils enrolled and by out-of-school groups. Making them available to the whole community may increase the time for which school premises and support facilities are used.

For primary schools, indicators that may be calculated for the use of buildings are the percentage of:

* schools which work double (or triple) shift;
* rooms which are used double (or triple) shift.

The percentages, calculated for homogenous zones enable to identify areas in which the provision of additional facilities would improve educational conditions by reducing extent of multi-shift working.

For secondary schools, three indicators may be calculated for assessing buildings:

1. **The time utilization rate (TUR):**

This rate compares the periods for which the buildings are actively used to their expected duration of use.

TUR = No of Periods actually used X 100

No of periods for which use is possible

**Example:**

If in theory each room can be used for 40 periods a week, and if each room is in fact occupied for only 30 periods a week, the TUR is:

30 x 100 = 75%

40

This means that in theory it would be possible to increase enrollment by 25% without having to build more rooms.

1. **The space utilization rate’(SUR):**

This compares the average size of the groups using a room with the rooms’ capacity.

SUR= Average No of pupils per Group x 100

Room capacity

**Example:**

A room built to accommodate 30 pupils is on average occupied by 40, which gives

SUR = 40/30 x 100 =133%, which shows overcrowding (over utilization).

This rate is more difficult to calculate than the TUR because of the assessment that has to be made of rooms’ capacities. Should one consult the capacities given in the rooms’ construction plan? Should one ask the school principals to assess each room’s capacity?

This has the risk that the principals may give the present number of places instead of the potential number as a room’s capacity.

1. **Overall utilization rate (OUR)**

This combines the time and space utilization rates, and shows the intensity of the utilization of classrooms.

OUR = TUR x SUR =

Number of periods per week x Average number of pupils per class x 100

Expected no. of periods per week Room capacity

**Example:**

If we take the rates already calculated in the above examples:

Overall utilization rate = 30/40 x 40/30 x 100 = 100%

**Activity ten**

A secondary school with 960 pupils has 23teachers. If the school has to provide 570 periods a week of teachers’ time and if the full-time teacher’s weekly workload is 30 periods, calculate the full-time equivalent PTR in the school.

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## UNIT FIVE

## DATA COLLECTION FOR DIAGNOSIS

**✈ Overview**

The preceding sections we have dealt with the four essential aspects of an education systems diagnosis at the local level: selection of school mapping units, coverage, internal efficiency, and quality. Alongside, we have seen the various information needed to make such a diagnosis. It has been noted that some of the data will already exist and will be available in the relevant education offices while others will have to come from other sources. Your task, as a planner, is to bring the data together and study them. Some data, however, will not be available in the form and by the units of analysis which you need to draw up the school map. Hence, you have to arrange for a special data collection to get the information required. For this, there are two aspects of data collection:

i) Recourse to data sources out side the education offices; and

ii) Preparation of means and arrangements for collecting supplementary data from schools.

This unit provides you with general guidelines on how to identify, and collect data that are not readily available.

**☺Unit objectives:**

After working on this unit, you will be able to:

identify the data needed to make the analyses, and

2. assemble the data available and devise a survey to obtain missing data.

1. **Data Sources Outside Education Offices**

Data collection in the field is a very costly task in terms of time and resources. Before deciding to collect a particular piece of information, you have to make sure that it does not already exist either with in the education offices or outside. If it exists, you need to obtain it.

**?** **W**hat kind of data do you think are needed from outside the education offices to draw up a school map?

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Generally, to draw up a school map, three categories of information with are often not found in education offices are needed. These are information on:

1. *physical environment* in which the schools in the area being studied are located;
2. Inhabitants of the area, especially with respect to age, sex, and geographic distribution;
3. Future development of this area, especially its economic potential and progress.

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***1.Physical Environment***

To study the physical environment, you will need maps. These may be found in specialized agencies such as the mapping agency.Population census offices may also produce special maps. The latter can help you locate population groups more

accurately and can be very useful as they can give the exact locations of villages and hamlets.

Three kinds of maps will be particularly useful:

1. *Physical maps* giving elevations that enabling to study access difficulties and isolated places;
2. *Communications maps*, which enable to identify travel problems
3. *Administrative maps*, which enable different localities to be “placed” administratively and the boundaries of the various administrative units, including those adopted for the population census to be determined.

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The maps used should be detailed enough for each school to be exactly located and they should also accurately reflect the distances between schools. This accurate location of schools on the map is very essential both for diagnosis and for proposals for future re-organization of the school network.

Recently, the use of Geographic Information System (GIS) in the school mapping activity has become indispensable. We therfore hope that the school mapping work in the Amhara Region will be facilitated by the use of GIS in the location of existing, and planned schools.

* 1. ***Population Data***

Data on the population’s age-structure are essential and are periodically gathered at the time of the population census. Moreover, such data may be obtained from the census bureau, the national statistical authority, and other relevant bodies.

**?** You can’t make a direct use of censuses to make your diagnosis because censuses take place occasionally, every ten or more years. What then can you use instead to make your diagnosis?

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Since a census takes place only occasionally, you will not always be able to make direct use of the data to make your diagnosis. For the years intervening between two censuses and for the years following the last one, you will have to turn to:

1. Population estimates made on the basis of census data, and official data on birth and mortality rates;
2. Population projections likewise based on census data, and on assumptions about the average rate of growth or on trends in birth and mortality rates.

Obviously, the more recently a census has been held the more useful it is since you will not have to make projections for very long a period.

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* 1. ***Data on the area studied***

Besides demographic data you will need economic and social data on the area for two purposes; namely:

1. to identify the characteristics of the area and its activities;
2. to forecast its future development;

To develop proposals for the re-organization of the school network, we need to foresee as accurately as possible the probable evolution of educational demand. Such demand obviously depends on the population. At the local and regional level migration may have a marked effect on population growth and on its distribution among different localities. Thus, we should take into account internal migration between zones in the region and immigration from or to areas outside the area. Migration movements are often specific to an area and largely depend on the level of economic activity of its various localities.

# **Schools Survey**

**?** In your opinion, why do we need to undertake a school survey?

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A school survey supplies with information which is not normally gathered by means of the annual or biannual questionnaires sent out by the MOE or REB. It is, therefore, important to:

1. identify the additional information needed;
2. devise a questionnaire to gather this information; and
3. distribute the questionnaire to schools in the area.

***2.1. Identification of Information Needed***

The information needed will vary according to the education level concerned. In primary education the information needed is fairly limited since teachers are mostly generalists and may be teaching all subjects in the grade to which they are assigned (at least first cycle primary schools in our case) and the buildings consist almost wholly of general classrooms. In secondary education where which each teacher is a specialist and where, besides general classrooms, there is a whole range of specialized facilities, the items of information needed are much more numerous.

***Information on Primary Education***

Information on primary education mainly deals with pupils, teachers, buildings, and educational materials.

1. Information on Pupils
   1. pupil distribution by grade and sex
   2. repeaters by grade and sex
   3. pupil distribution by year of birth, grade, and sex

**?** What can you do if data on pupils have already been collected by the annual questionnaire of the MOE or REB ?

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If these data have already been collected by the annual questionnaire of the MOE or REB, you can use the completed questionnaires if they are available. It is important, however, to verify the reliability of the data and assure yourself that there are no problems in identifying the schools. The diagnosis will rely on these and additional data gathered by a special enquiry. In most cases, such additional data deal mainly with the distance from home to school and with journey time which we have already seen in our topic of physical accessibility. We can get such information by asking pupils, teachers, and relevant community people.

Activity 8

Study the annual education statistics questionnaire of the MOE for primary and secondary schools, and answer the following question:

1. What elements necessary for school mapping are missing?

1. Information on Teachers

Information on teachers relates mainly to their distribution by age, sex, years of service, level of qualification, and the number of periods they teach.

1. Information on Buildings

Apart from the number, size and purpose of buildings, it is also useful to have data on the construction materials used, and above all, on the present state of the buildings.

Formulating questions on the state of buildings is fairly tricky since, as noted earlier, judging the state of a school building is very subjective and may differ widely from one school principal to another. Thus, questions should be put in ways which give the least openings to ambiguity.

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If you have to use terms such as good, average, bad, you need to explain precisely what these terms mean. You can, for example, give such explanations as:

Good = well-maintained, no repairs needed;

Fair = lacking in maintenance;

Bad = needs considerable maintenance;

Very bad = should be re-built.

1. Information on Equipment and Teaching Materials

This involves knowing the state of availability of school furniture, equipment for collective use, supplies for individual pupils, such as textbooks, exercise books etc.

*Information on Secondary Education*

Besides the information mentioned above, you will need to gather additional and more specific information for secondary education. To begin with, to ascertain the exact catchment area of a secondary school, you will need to know where each pupil lives and the primary school to which he/she went before entering secondary school. This information can be obtained from each pupil separately and a questionnaire similar to the following may be filled out.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Name of Pupil | Sex | Place of Residence | Journey from Home to School (one way) | | Primary School Attended |
| Distance | Time |
|  |  |  |  |  |  |  |

To work out some indicators, such as the pupil-teacher (full-time) ratio, you will have to get the number of weekly working periods for each teacher. Moreover, to calculate the time utilization rate for each room in the school, you will need to get for each room, whatever its nature-general classroom, library, workshop, and other specialized room- the number of periods a week it is used. The rate can be worked out on the basis of pupil timetable but it is preferable to ask for the room timetable if documentation of it exists.

***2. 2. Preparing a Survey Questionnaire***

**?** What can you do if data on pupils have already been collected by the annual questionnaire of the MOE or REB ?

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Preparation of the survey questionnaires comprises three stages:

1. Preparation of draft questionnaire;
2. Testing of the draft questionnaire by visits to a series of schools, which have different characteristics and may be considered as representative of the different situations in which the questionnaire will be used;
3. Construction of the questionnaire in final form.

Let us now have a brief description of each of the stages.

*a) Preparation of the Draft Questionnaire*

Preparation of the draft questionnaire implies that the information to be collected has already been identified. The stage involves:

i) *Question formulation*. This is extremely important since upon it depends the reliability of the information obtained depends on it. You should in particular:

* ceck that question are clear and present no interpretation problems;
* ak only information which can be obtained easily.

ii) *Structuring the questionnaire*. In structuring the questionnaire, you should take in to account the convenience of those answering it. It is advisable that you:

* begin with questions that deal with identification;
* group the questions according to the main fields for which you want to get information on-data a on pupils, teachers, buildings, equipment, teaching materials, etc.

You should also see to it that the format and typography should be such that the questionnaire is

* easy to handle
* easy to read
* easy to fill out
* easy to examine

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*b) Testing of the Draft Questionnaire*

Once the draft questionnaire is finished, you should test it by trying it out. This stage is very important because it enables to make assessment of the efficiency of the tool which you have prepared. It is recommended that you should apply the draft questionnaire in some schools making sure that these are well representative of the situations you are likely to meet in the course of the survey.

The main objective of this testing is to check whether or not all the questions asked have been understood, without any mistakes in interpretation, and that replies are given to the questions correspond exactly to the information sought, without any ambiguity.

*c) Preparing the Final form of the Questionnaire*

On the basis of the draft questionnaire and of the reactions of those filled it, which you have observed through the testing, you will be able to draw up in final form the questionnaire that will be used in all schools. It is always important to remember that you prepare your questionnaire taking into account the specific characteristics of the area you want to study and the education system of the country.

***3. Application of the Questionnaire***

To apply your questionnaire, you may use the methods generally used by the MOE or REB for gathering data. This consists of distributing questionnaires among the schools and asking the school principals and teachers to fill them out, and then collecting them again. In this case, attaching an instructional leaflet explaining the aim of the questionnaire and how it should be filled out correctly would be helpful.

If you have the means needed for the questionnaire to be applied by investigators working for you, then the reliability of the data gathered will be increased. Such investigators, however, should be trained so that they understand properly the objective of the questionnaire and the sort of information you intend to obtain.

**MODULE III:**

**ESTIMATING DEMAND FOR EDUCATION**

**AND**

**PREPARATION OF THE SCHOOL MAP**

**🗁 Module introduction**

In planning the future of any educational system, the first problem that arises is that of estimating its potential users. The first years of schooling especially are organized in direct relation to the size of the population concerned. Hence school mapping and micro- planning require the collection and processing of local demographic data. These help to determine the present coverage of the educational system and enable to estimate future users. It is on the basis of population projections that enrolment projections are made.

In this module, we deal with the forward- looking phase of school mapping, with the purpose of showing the minimum information needed for enabling population estimates and enrolment projections to be made at the regional level.

This module consists of two units. In Unit One, you will study local demographic analysis, focusing on data collection and demographic analysis at the local level. Also, methods of projecting the school age population and enrollments by zone are discussed.

Unit Two deals with the preparation of the school map.

**☺ Module Objectives:**

After working on this module, you should be able to:

1. Assemble the demographic data needed for school –mapping in your Wereda;
2. Use these data to diagnose the different demographic situations in your Wereda;
3. Project, by a simplified method, the demographic data needed for school – mapping in your Wereda;
4. Project, on the basis of the objectives set for the Wereda, the enrollment for the latter’s various Kebeles; and
5. Prepare a school map for your Wereda.

**UNIT ONE:**

**DEMOGRAPHIC ANALYSIS AND SCHOOL MAPPING**

**✈ Overview**

You will find out sooner or later that estimating the school-age population is one of the most difficult stages in school mapping or micro–planning. The problem however, is the difficulty of getting more recent data. In Ethiopia, for example, the last census took place in 1994 and that you cannot get more recent data except estimates based on the census. Whatever the case, one has to get some estimate of the present school age population so as to check the education system’s level of development. One will also have to make long-term projections. Population projections needed for school mapping are usually medium-term ones – for five year, or ten at most.

This unit deals with local demographic analysis, projection of school age population, and enrollment projections. It is concerned with data collection and shows what indications can be drawn from simple demographic analysis at the local level.

**☺Unit objectives:**

After working on this unit, you will be able to:

1. assemble the demographic data needed for school–mapping in your Wereda;
2. use these data to diagnose the different demographic situations in your Wereda;
3. make a school age population and enrollment projections using a simplified method.

**1. 1. The concept of demographic analysis**

**? W**hat do you understand by the concept of demographic analysis?

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Demographic analysis may be defined as the study of human populations. More specifically, it is concerned with the characteristics of these populations, their structure, and their fluctuations over time. Demographic factors have great role in the educational planning process. Hence, demographic analysis is useful in educational policy and analysis because:

* the age structure of the population at large determines the population of the school-age;
* the population growth rate affects the annual intake of school pupils and the total of number children enrolled;
* it is important to handle demographic figures, understand their meaning and the implication of the phenomena they reveal.

**1.2 Demographic projections: the school age population**

To plan the provision of education, you need to know the potential users of the education system—school age children in your Wereda. You can know this by projecting the school age population for the period you intend to plan. You do this through demographic (population) projection.

Projecting means estimating the future on the basis of past trends and recent (present) policies. School age populations and enrollment are projected on the assumption that the trend, whether growth, constancy, or decline, will continue to evolve as it did in the past.

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Projections tend to present what would happen if such and such conditions were to prevail. They do not attempt to describe what will happen in the future. The validity of the projections thus depends on the validity of the assumptions you make.

Projections can be local, regional or national in scope. The next important issue is the data you need to base your projections.

**1.3. Data needed for school age population projections**

**? W**hat kind of data do you think you need to make school age population projections and where can you obtain the needed data?

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1. **Data needed**

The data needed for projecting school age population are the following**:**

* + The basic population and its structure by age and sex corresponding to the scope of projection, e.g. for primary education you need the 7-14 age group.
  + The fertility, mortality, and migration figures for a given year.

**b) Data sources**

You may obtain these data from different sources:

*Population structure*: the latest population census or estimate from the National Statistical Authority.

*Births and deaths*: population registers, or demographic surveys. The problem in any country is that there are no mandatory population registers. Although there is proclamation provided for them, the practice has not yet started. Thus you will need to look for data on birth and death figures from any available source and use the growth rates of these phenomena to project them.

*Migration:* Though this is very difficult, you can see internal and external migration patterns from:

* Population record or the census
* Analysis of place of birth and place of residence between two census dates.

Unfortunately, such data are not always available. For these reasons, the methodology presented to you on the following pages is a simplified one. It represents the minimum that a person responsible for school-mapping needs to know in order to estimate the school –age population in each territorial unit in his administrative area.

Having the basic data at hand, you then have to make assumptions to be taken into account in light of your local or regional context in making your projections. The formulation of assumptions is central to the methodology of projections. In a simplified form, they relate to population growth, in more elaborate demographic projections they relate to fertility, mortality, and migration. At this stage, you will consider only school age population growth assumptions.

**c) Data adjustment**

Before being used, data sometimes need adjustment. This is particularly important when the Woreda administrative boundaries have changed between censuses.

This often happens and is happening in many regional states in Ethiopia including the Amhara Regional State. New Weredas are being created and Kebeles are being reshuffled. Fortunately, Weredas and Kebeles are not, in most cases, completely new. Thus, because the census data is available by Wereda and Kebele, finding the population of the new Wereda and its Kebeles will involve making adjustments on the population of the Kebeles. For example, a certain Wereda A which had 40 Kebeles was split into Wereda A and Wereda B. Wereda A retains part of its former name and Wereda B gets a new name or takes part of the former Wereda’s name. Wereda B is formed by taking 12 Kebeles from the former Wereda, six Kebeles from two other adjacent Weredas, i.e., four from one, and two from the other.

**? W**hat will you do to know the population of the new Wereda and the other three Weredas?

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We think these will suffice. You now have (or are able to get):

1. the total population, at two different times, of each of the geographic units of analysis (Wereda and Kebele );
2. data on the age structure of your population at the regional level ;such data may be by single years of age or five–year age- groups;
3. if possible, data on the proportion of the population in concentrated population areas in each Wereda or in the region;
4. also if possible, data on the population by sex for the region.

If this has all been understood we can now go on to using these data for:

1. assessing the local demographic situation with respect to educational problems;
2. projecting the data we need to continue with school mapping and micro- planning.

**1.5. Diagnosis of the local demographic situation**

**?**  Speaking quantitatively is easier to meet the educational needs of:

1. a rapidly- growing or of a stable population?
2. a concentrated or a scattered population ?

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No doubt you have replied that it is easier to meet the needs of a stable and concentrated population.

In which Weredas is population growth highest? In which Weredas is population the most scattered and so the most difficult to get into school? You should be in a position to give exact answers to these questions.

*1.5.1. Population evolution*

**?** Between a time 0 and a time N the population of a Wereda changes from P0 to PN. What are the factors which come into play to determine this evolution?

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Factors which increase population are:

1. births from 0 to N;
2. immigration by people coming into the Kebele from O to N;
3. deaths between O and N;
4. emigration by people leaving Woreda between O and N.

Evolution will then be positive if the first element (a and b) is greater, negative if it is the lesser.

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This evolution may be studied in two ways: one by studying the absolute and relative growths, the other by studying the annual growth rates.

1. **Study of absolute and relative growths:** the difference between populations Pn and Po give the absolute growth. Thus:

Pn- Po = absolute growth, when:

Pn = population in year n,

Po = population in year o,

n = number of years elapsed.

**Example :**

in 1988 E.C. Kebele X.had a population of 2435 and in 1997 E.C. had of 3024.

Absolute population growth was then 3024 -2435 = 589 inhabitants.

One may want to calculate the growth in relative terms. This is done by expressing the absolute growth calculated above as the growth per cent of the total population in the base year.

Pn – Po x 100

Po

In the example we have taken above:

P97 – P 88  = 596 X 100 = 24.18%

P 88 2435

Thus, the population of Kebele x grew by 24.18% between 1990 and 1996.

One may also calculate what is called the Pn to Po growth coefficient. In the example above: P97 = 3024 = 1.2418

P88 2435

**Exercise 3**

Calculate the absolute and relative growth and the growth coefficient for Kebele Y between 1988 and 1997 E.C.(Population in 1988: 1896, Population in 1997: 2410)

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Absolute growth : 514

Relative growth : 514 X 100 = 27.11%

1896

Growth coefficient : 1.2711

If these results are compared with those for Kebele X, one observes that the latter has a smaller relative growth than Kebele Y but a greater absolute one. To cope with the increase in its population, Kebele X has needs for development efforts greater than those of Kebele Y, although this has a higher growth rate.

You can calculate population growth between censuses in each of your chosen Kebeles and rank them. This will show the Kebele which will need provision of the greatest additional means if growth continues according to the trends so far observed.

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1. *Calculation of annual growth rates:*

For comparative purposes, it is useful to calculate annual growth rates. To do this, the compound interest method needs to be used.

Let *r* be the annual population growth, and Po the base–year population. Then :

P1 = po (1+*r*)

P2 = p1 (1 +*r*) = po (1+*r*) 2

Expressed generally :

Pn = Po ( 1+*r*) n

The foregoing calculations on the growth coefficient enable us to calculate (1+*r*)n what we are looking for now is the annual growth coefficient (1+*r*) and the annual growth rate *r.*

1+ *r* = n **√** Pn

Po

**r =** n **√** Pn - 1

Po

**Exercise**

Calculate for Kebele X the annual growth rate between 1988 and 1997:

P97 = 3024

P88 = 2435

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Answer: 9 **√** 3024

2435

1 + *r* = 1.0243

*r* = 0.0243 or 2.43%

The annual growth rate of the population of Kebele X has been 2.43% from 1988 to 1997 E.C..You can calculate the same rate for all Kebeles and easily rank them.

Applying the same calculation to the total population of the region, you can obtain the annual growth rate for the population of the region. You can then re–group the Kebeles, Woredas - or the zones- into three groups, those in which:

1. the annual growth rate is close to the average rate for the region;
2. those in which the rate is below that of the first group;
3. those in which the growth rate is above that of the first group and in which the needs for educational provision are therefore growing particularly fast.

We should note that if the population is stable, once universal primary education is attained and adequate educational provision has been made, simple management and upkeep of this will be enough so long as educational standards are not changed or there is no large- scale migration.

*1.5.2. Population dispersion*

Study of a population’s evolution gives us information on the extent of the efforts to be made to satisfy quantitatively the additional demand for education due to it.

Study of population dispersion is indispensable to get an idea of the difficulties (and not merely the quantitative) of providing educational services.

*a) Population density:*

For each Kebele, the simple population-density indicator is given by the formula:

d = p d= density

A (in sq. km) p= population

A = area

The area is sometimes given in the census. It may also be obtained from local authorities. As a last resort, one can easily calculate it for oneself from administrative maps on a known scale.

This indicator is simple, but is it enough? Imagine for a moment two administrative units of the same size and population. Their density will be the same. But the population of one may be grouped in a large town while that of the other is scattered among isolated farms. Do you think the difficulties in putting children in school will be the same in both? Obviously not. This is why we should, if possible, get more precise information.

*b) Population in different – sized villages and degree of concentration of population:*

Suppose we have the following data:

|  |  |  |
| --- | --- | --- |
| Population living in villages of : | Kebele X | Kebele Y |
| 1000 inhabitants and over  500-999 inhabitants  200-499 inhabitants  100-199 inhabitants  50- 99 inhabitants  Less than 50 inhabitants | 1 252  1 453  893  428  273  159 | -  772  615  328  510  982 |
| Total | 4 458 | 3 207 |
| Area of the Kebele | 162 sq. km | 131 sq. km. |

**Exercise 5**

Calculate the population density of each Kebele.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer :** d x = 27.5 inhabitants per sq.km.

dy = 24.5 inhabitants per sq.km

These densities are very close to each other.

**Exercise 6**

Calculate the percentage of the population living in villages of more than 200 inhabitants in each of the two Kebeles.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer :** For x: 80.7 %

For y: 43.2%

While the population density of the two Kebeles is almost the same, it seems that it will be easier to provide schooling for Kebele X’s population since this Kebele has villages which could probably justify construction of a school, or the grouping of a large number of school pupils for arranging school transport.

You are now in a position to classify your Kebeles or Woredas according to their demographic characteristics:

1. population evolution characteristics:
   * Absolute and relative growth;
   * Annual growth rates.
2. population dispersion characteristics :
   * Density;
   * Concentration.

You can draw up a table of your Kebele with the indicators for each. You can ring with red the most unfavourable indicators. You, thus, have before you the areas in which the demographic conditions (over which you have in practice no control) will be the least favourable for the action you plan. You will, therefore, have to be particularly on the watch for these areas. Here you have already a valuable pointer to future action.

However, you still have work to do in the field of demography, not how to analyze the situation but how to prepare the items for which you will later have urgent needs.

**1.6. Projecting the school- age population**

In dealing with projecting the school–age population, we will limit ourselves to the problems of:

* 1. Estimating total population, now and for the years to come;
  2. Projecting population age- structure to estimate:
     + the population reaching school entry–age;
     + the school–age population.

*1.6.1. Estimating total present and future population*

The total population which we have used to analyze the demographic situation has been that of the most recent census. This is not the present population, so how are we to estimate this?

Possible answers are:

* Ask the local authorities or those responsible for the statistical services, though you will in this way get only a first estimate;
* Project, for each Kebele, the population at the last census, using annual growth rates previously calculated.

**For example,:** Let us take again the data in the preceding exercise: Kebele x had in 1997 E.C. a population of 3024 inhabitants, and the growth rate noted from 1988 E.C. to 1997 E.C. was 2.43% p.a. What will be its population in 2004 E.C.?

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With a population growing at 2.43% p.a (r ), the population for a given year is obtained by multiplying the population in the preceding year by 1.0243 (the annual growth coefficient : 1+ r). Then:

P n = Po (1+r) n

In our example:

n= 2004 -1997 = 7

Hence , P04 = 3024 x (1.0243) 7 = 3577.

**?** What do you think of this method? In what conditions is it reliable?

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Simplicity is the advantage of this method. But its has some arawbanks. Its main drawbacks are:

1. It assumes that the trend observed from 1988 to 1997 E.C. has continued. This assumption is justified only if there have been no major changes in fertility, mortality and migration rates.
2. It assumes that the gross rate calculated for the Kebele is itself reliable. If the estimates for 1988 and 1997 E.C. of the populations of X came directly from the census, their reliability is satisfactory. But if one or both of them result from adjustments, the growth rate itself is only approximate.

**Use of an adjusted growth rate:**

If the annual growth rate obtained from a Kebele seems abnormally high or low in relation to the regional average, it may be preferable to use an adjusted rate. This would be the mean between the Kebele’s rate and the average rate of the other rural Kebeles, if one is dealing with a rural Kebele, or of the other urban Kebeles if one is dealing with an urban one. Such correction would have the effect of lessening what may be merely be the :

1. a simple change in Kebele boundaries;
2. under–estimation in one of the censuses of the Kebele ‘s population;
3. and abnormal occurrence in the Kebele between 1988 and 1997 E.C., which the earlier method would have resulted in the continuation of the abnormal trend in full.

**Project the population by the “quota” method:**

The principle of this method is “The share of a Kebele growth in the region’s growth is a constant”.

A hypothetical numerical example will make this principle clear.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Population 1988 E.C.** | **Population**  **1997 E.C.** | **Difference** | **Annual Growth Rate** |
| Kebele X  Region | 2 435  14,472,000 | 3 024  18,233,000 | 589  3,761,000 | 2.43%  2.6% |

From 1988 to 1997:

The population of Kebele x increased by 589 inhabitants

The population of the region increased by 3,761,000 inhabitants

The share of Kebele X’S growth in the regional growth was 589 x 100 = 0.0157%

3,761,000

At the regional rate r = 2.6%, the region’s population in 2004 E.C. will be:

P04 = P 97 (1+r) 7

= 18,233,000x (1.026) 7

= 21,821,254.

From 1997 to 2004, the regional population will have increased by 21,821,254-18,233,000=3, 588,254 inhabitants. In this regional growth, the share of Kebele X stays constant and amounts to 0.0157%, as it did from 1988 to 1997 E.C.

The growth of Kebele X will therefore, be:

3, 588,254 x 0.0157= 563

100

The 2004 population of KebeleX thus calculated will be:

3,024 + 563 = 3,587.

**Which method should be chosen?**

Which method is chosen will depend on the degree of certainty of your Kebele data, on your knowledge of the region and on the confidence which may be placed in any local estimates. Taking these factors into account, you can choose whichever method seems to you the most suitable.

To get a future year’s population, you make the same sort of calculation, using the same rate as before. Check, however, with regional administrative authorities that there are no development projects specifically planned for the region. Obviously, if there are going to be projects for irrigation, land re-grouping, new crop development, etc., these could influence migration rates and so the total population growth.

**1.6. 2. Projecting the population’s age –structure**

Projection of the population’s age–structure poses two problems: getting the structure for a given year (such as the census year) and projecting the structure for any future year.

1. *Analysis of the age- structure in the census year:*

We have indicated that there is population statistics not only by region but also by Wereda and Kebele levels. From the population statistics, the items to look for are the:

* + Population of primary school entry–age ; you know this is 7 years;
  + Population of school age. Again this is the 7-14 years, and 15-18 years for primary and secondary education in Ethiopia respectively.

The census data required are rarely directly available. Usually they are divided into five-year age–groups: 0-4 years, 5-9 years, 10-14 years, etc.

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* School age population easy to derive if the projected population is provided in single years.
* Population projection in single-years may be available at the national level, but it is not available at sub-national levels.
* If projected population in single year is not available, it is normally estimated by splitting (sub-dividing) the population in five-year age groups into single years.
* There are several ways to do this, but Sprague Multipliers are the most reliable and widely used.

Sprague Multipliers

* is the technique to estimate intermediate values from a given series in total of fives(age groups in 5-year)
* produces a relatively regular or smooth series of interpolated data (population in single year)
* maintains the age group total
* assumes the pattern of distribution among the actual single-year ages
* requires at least population in five consecutive age groups except for the first and last ten ( ages 0,1,2,…,9 and 65,66,…,74 ) years where only four consecutive age groups are required.

To use Sprague Multipliers, as far as possible, you need to use a suitable calculator programmed for these multipliers. Manual calculations are in fact fairly long but will have to be used if you cannot get programmed calculators.

In the following page, you are provided with Sprague Multipliers table:

**Sprague Multipliers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Age 0-4 | Age 5-9 | Age 10-14 | Age 15-19 |
| Age 0 | 0.3616 | -0.2768 | 0.1488 | -0.0336 |
| Age 1 | 0.2640 | -0.0960 | 0.0400 | -0.0080 |
| Age 2 | 0.1840 | 0.0400 | -0.320 | 0.0080 |
| Age3 | 0.1200 | 0.1360 | -0.0720 | 0.0160 |
| Age4 | 0.0704 | 0.1968 | 0.0848 | 0.0176 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Age 0-4 | Age 5-9 | Age 10-14 | Age 15-19 |
| Age 5 | 0.0336 | 0.2272 | -0.0752 | 0.0144 |
| Age 6 | 0.0080 | 0.2320 | -0.0480 | 0.0080 |
| Age 7 | -0. 0080 | 0.2160 | -0.0080 | 0.0000 |
| Age8 | -0.0160 | 0.1840 | 0.0400 | -0.0080 |
| Age9 | -0.0176 | 0.1408 | 0.0912 | -0.0144 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Age 0-4 | Age 5-9 | Age 10-14 | Age15-19 | Age 20-24 |
| Age 10 | -0.0128 | 0.0848 | 0.1504 | -0.0240 | 0.0016 |
| Age 11 | -0.0016 | 0.0144 | 0.2224 | -0.0416 | 0.0064 |
| Age 12 | 0.0064 | -0.0336 | 0.2544 | -0.0336 | 0.0064 |
| Age 13 | 0.0064 | -0.0416 | 0.2224 | 0.0144 | -0.0016 |
| Age 14 | 0.0016 | -0.0240 | 0.15504 | 0.0848 | -0.0128 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Age 5-9 | Age 10-14 | Age 15-19 | Age20-24 | Age 25-29 |
| Age 15 | -0.0128 | 0.0848 | 0.1504 | -0.0240 | 0.0016 |
| Age 16 | -0.0016 | 0.0144 | 0.2224 | -0.0416 | 0.0064 |
| Age 17 | 0.0064 | -0.0336 | 0.2544 | -0.0336 | 0.0064 |
| Age 18 | 0.0064 | -0.0416 | 0.2224 | 0.0144 | -0.0016 |
| Age 19 | 0.0016 | -0.0240 | 0.1504 | 0.0848 | -0.0128 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Age 10-14 | Age 15-19 | Age20-24 | Age 25-29 | Age 30-34 |
| Age 20 | -0.0128 | 0.0848 | 0.1504 | -0.0240 | 0.0016 |
| Age 21 | -0.0016 | 0.0144 | 0.2224 | -0.0416 | 0.0064 |
| Age 22 | 0.0064 | -0.0336 | 0.2544 | -0.0336 | 0.0064 |
| Age 23 | 0.0064 | -0.0416 | 0.2224 | -0.0144 | -0.0016 |
| Age 24 | 0.0016 | -0.0240 | 0.1504 | -0.0848 | -0.0128 |

… until the age group 60-64

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Age 55-59 | Age 60-64 | Age 65-69 | Age 70-74 |
| Age 65 | -0.0144 | 0.0912 | 0.1408 | -0.0176 |
| Age 66 | -0.0080 | 0.0400 | 0.1840 | -0.0160 |
| Age 67 | 0.0000 | -0.0080 | 0.2160 | -0.0080 |
| Age 68 | 0.0080 | 0.1840 | 0.2320 | 0.0080 |
| Age 69 | 0.0144 | -0.0480 | 0.2272 | 0.0336 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Age 55-59 | Age 60-64 | Age 65-69 | Age 70-74 |
| Age 70 | 0.0176 | -0.0848 | 0.1968 | 0.0704 |
| Age 71 | 0.0160 | -0.0720 | 0.1360 | 0.1200 |
| Age 72 | 0.0080 | -0.0320 | 0.0400 | 0.1840 |
| Age 73 | -0.0080 | 0.0400 | -0.0960 | 0.2640 |
| Age 74 | -0.0336 | 0.1488 | 0.2768 | 0.3616 |

**Breakdown of age groups using Sprague multipliers**

How to arrive at single age population using the Sprague multipliers

* read the table horizontally
* to get single age population, multiply the population given for the five year age group by the factor corresponding to the single age you want to find out successfully and add each figure you obtain by each multiplication.

**Example**

**Given the following population for Wereda X in 1997 E.C.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Age 0-4** | **Age 5-9** | **Age 10-14** | **Age 15-19** |
| **Population** | 459, 374 | 392, 669 | 340, 742 | 315, 684 |

The number of four year olds is equal to the 0-4 years age group multiplied by a factor of 0.0704, plus the 5-9 age group multiplied by a factor of 0.1968, plus the 10-14 year age group multiplied by a factor of 0.0848, plus the 15-19 years age group multiplied by the factor of 0.0176.

(459, 374 x0.0704) + (392, 669 x 0.1968) +(340, 742 x 0.0848 )+ (315, 684 X 0.0176) =459, 374

**Activity**

Find out the population of age 7 from the above data.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. *Projection of population by age for a given future year*

To project the school age population in single years (especially the admission age) and the total age group for a cycle, apply a growth rate to the current school age population figures.

**Activity**

Project the population for seven year olds you found in the above activity for 2004 E.C. assuming the annual growth rate of 2.33% will remain the same during the period.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This method has the advantages of being simple, quick and needing little calculation, but it is not very exact. Further, it can be applied only in countries in which fertility is relatively stable. In countries in which one finds a rapid decline in fertility, involving a decrease in the number of births over several years, this simplified method cannot be used.

It is a different matter in towns, where migration can be very large. Under–estimation of migration could significantly affect school mapping data. You are advised to work very closely in the towns with the town planning services, which are the best place to make population projections.

All the same, do not be too worried about the precision of your data and the certainty of your forecasts. On so small a scale, demographic laws are only approximations. The number of births see-saws year to year and economic or social measures may sharply modify migratory habits. What is needed above all is to make up a framework, bring out the main trends and promote the planning of educational structures with the maximum efficiency.

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**1.6.3. Enrolment projections**

Future enrolment depends on the growth of the school–age population, the policy regarding expansion of the educational system and the social demand for education. The last two factors affect both the proportion of children who enter the system- the admission rate- and that of those who remain in it – promotion and repetition rates.

Usually there are four stages in projecting enrolments:

1. determine what admission rates will be for the period concerned
2. Calculate new admissions;
3. Estimate the probable promotion, repetition and drop-out rates, as well as the different transition rates from one level to another;
4. Calculate enrolments by grade.

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The choice of assumptions on the development of the different parameters – admission, promotion, repetition, transition and drop- out rates- is crucial, and will depend both on educational policy aims and on past trends.

**1.6.3.1. Choice of assumptions**

*a) Projection of past trends*

The working procedure chosen here is extrapolation of past trends noted in prior analysis of the system. The information thus obtained is not aimed at indicating the most likely or the most desirable development. On the contrary, continuing past trends may lead to results which those responsible will judge altogether undesirable. The value of these projections is merely that they will show any need to take steps to modify such trends.

The problem here is *determining the trend*. For this, one must necessarily have a series of fairly numerous observations. Study of this series will lead to one of the following conclusions; that there is

a) a continuous upward or downward trend;

b)Stagnation;

1. No trend observable.

**First case- A trend emerges:** If, by advanced mathematics, this trend can be expressed as an equation, projection is easy, in accordance with the function obtained. More generally, graphic representation of the observations enables the trend to be projected. If one of the observations made seems completely out of line, and thus foreign to the series, it can be omitted and the trend determined on the basis solely of the other values.

**Second case- No trend emerges:** In this case, there is usually a see-saw movement. Only knowledge of the setting and experience of the region can and should be observed and that a mean should be chosen between the extremes observed. Observations should be as numerous as possible so as to reveal any trend which might emerge. In any case, special attention should be paid to the most recent values.

Let us suppose some examples of series of gross admission rates observed during the last 6 years are:

**1. 66%; 69%; 68%; 71%; 73%; 74%.**

This trend is definitely rising. A graph will give the rates to be considered for future years, but these should be kept within reasonable limits.

**2. 57.6%; 56.5%; 57.9% ; 60.3% ; 56.6% ; 58.2% ;**

This trend on the other hand, is to stagnation despite some aberrations. This stagnation will be retained by using, for example, either the average of the rates observed:

57.6% + 56.5% + 57.9% + 60.3% + 56.6% + 58.2% = 57.85%

6

or the mean of the extremes:

56.5% + 60.3% = 58.4%

2

**3. 66%; 82%; 69%; 70%; 72%.**

In this case, the figure 82% should be dropped. On the other figures, the trend is **one of a slight rise**, especially if the last three figures are extended.

**4. 68% ; 80%; 72%;58%; 81% ;67%.**

Here, no trend emerges: it seems that low and high rates alternate. The last figure is almost the same as the first. Projection of a static figure, on the basis of an average or mean rate (see second case above) seems wisest.

**?**  In your opinion, in what case would one proceed to make projections on the basis of past trends?

One can proceed to make projections on the basis of past trends in the following cases.

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* 1. **Operationally,** in the absence of any guidelines and any knowledge of changes in the means implemented to modify trends.
  2. **For reference,** to show the effects of implementing a new policy. This involves comparison of the results observed after implementing such policy with the results foreseen on the basis of past trends.

*b) Projections on the basis of objectives set*

Projections on the basis of objectives are made in a quiet different situation. With the first, one has a local situation, well–analyzed by a diagnostic process, while with the other; one has general objectives fixed at the national level.

The projections must reconcile these two. This requires adaptation of overall objectives to each local situation, as well as their concentration with those implied in the implementation of appropriate measures to attain the objectives.

There is no general way of adapting a national plan to local conditions. For this a realistic approach, based on full knowledge of the particular situation, should predominate.

Nevertheless, the system of “Homothetic reduction” of difference may be suggested. An example will show how this works better than any explanation.

**Example:**

The enrolment rate is 80% and the national aim for enrolment in the target year is 90%. How is this aim to be adapted to various local conditions?

A ceiling of 100% will be considered fixed for all rates of 100% or more. The present difference between the national average and the maximum is then 100-80 = 20.

For the target year, the difference will be: 100-90 = 10. Thus, for the target year the difference will be 1/8 of the present one.

This same reduction – i.e. to 1/8 of the present figure – is applied to all differences.

Thus, for example, one could on this basis draw up the following table (in percentages) .

|  |  |  |  |
| --- | --- | --- | --- |
| Present rate | Difference from 100% maximum | Final difference  (1/8 of present) | Final rate |
| 100  70  48  39 | 0  30  52  61 | 0  3.75  6.5  7.63 | 100  96.25  93.5  92.37 |

This simple method ensures a progressive reduction in differences while respecting national directives. This is the stock model which planners suggest; although there is no guarantee it will be realistic in every case. According to specific local conditions, larger or smaller adjustments could be made to this theoretical progressive basis, after consultation with local authorities.

In the present example, the ceiling by reference to which divergences are to be calculated is easy enough to fix, but it is not always so. Before applying this method, one must first determine the value to be attached to the first line of the table. Sometimes this will be easy to decide. Sometimes much less easy.

**Exercise**

A list of indicators used for projections and for later decision on the resources to be allocated, for which the national plan gives present and target figures. Is given below. For which of these can you fix without difficulty the floor or ceiling level which will serve as the reference figure? Put this figure or your comments in the last column.

|  |  |  |  |
| --- | --- | --- | --- |
| **INDICATOR** | **Preset average figure** | **Target figure** | **Reference floor or ceiling figure** |
| 1.Gross admission rate | 68% | 80% |  |
| 2. Net enrolment rate at age 7 | 55% | 75% |  |
| 3. percentage of girls in primary enrolment | 32% | 40% |  |
| 4. Repetition rate in 6th year primary | 40% | 20% |  |
| 5.Transition rate from primary to secondary education (examination pass rate) | 30% | 40% |  |
| 6. Pass rate in the secondary school leaving certificate | 65% | 72% |  |

1. *Time span*

The length of time for which future estimates are needed varies with the use to be made of them. Three main purposes and projections for them are: the following.

1. If one intends merely to arrange for good conditions for the start of the next school year and for this to find out how may pupils and classes there will be at each level, projections for one year ahead will be enough;
2. If the forecasts are to serve for getting everything needed ready so as to receive the enrolment foreseen – buildings, staff, furniture, support services – the time needed for these to be got ready must be taken into account. Projections should then normally be made for at least 2 or 3 years ahead;
3. If the school map forms part of national planning, then the work involved will be closely linked with national plans, and these are usually 4 or 5 year ones.

**?** The longer the time- span, the greater will be the uncertainty of the forecasts.

Given your situation, do you think projections should be made

1. on the basis of past trends, or
2. for attaining defined objectives ?

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You may be in a mixed situation. For example, you may have to apply quantitative admission targets but have to foresee the flow from grade to grade or from primary to secondary education, on the basis of past trends.

**?**  For how many years ahead do you consider it necessary to make local projections in your region?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**1.6.3.3. Projections of new admissions**

Two approaches are suggested for new admissions projections. The admission rate will need to be used for both. In the examples below, target rates have been arbitrarily fixed. You have seen above how such rates should be fixed, in accordance with the guidelines given.

All projections in the examples are made for 3 years. It will be for you to retain, lengthen or shorten this period in your actual work. This does not pose any particular technical problem.

*a) Projection based on admission rates by age*

The following setting is assumed: the legal entry age is 7; the number entering at this age is negligible but a large number of pupils enter at the age of 8.

The diagnosis shows that the present admission rate is 52% at the age of 7 and 25% at 8. Changes foreseen in these rates are shown in the working tables, as well as the 6 and 7- year old age groups in the coming years.

Let us first study the matter of admission of children aged 7.

**Exercise**

Complete the table for Kebele X

|  |  |  |  |
| --- | --- | --- | --- |
|  | Population aged 6 | Admission rate foreseen | Number of children foreseen |
| Base year t  (actual data) | 185 | 52% | 96 |
| Year  t + 1  t + 2  t + 3 | 192  195  204 | 55%  58%  60% | ?  ?  ? |

Answer : Year t + 1 = 106 (55% of 192)

Year t + 2 = 113 (58% of 195)

Year t + 3 =122 (60% of 204)

Let us now look at the question of children aged 7. It is assumed that all children aged 6 who entered school in a given year will still be in school the following year, or that if some have dropped out and re- enrolled, they will be considered as repeaters and not as new entrants.

**Exercise**

On the foregoing bases, complete the following table.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Population aged 7 | Admission rate (%) | New entrants aged 7 |
| Base year  T (actual data) | 182 | 25 | 46 |
| Year  t + 1  t + 2  t+ 3 | 185  191  194 | 25  24  24 |  |

New entries resulting: Year t + 1 =46

Year t + 2 = 46

Year t + 3 = 47

Total numbers of new entrants foreseen:

Aged 6 Aged 7 TOTAL

Year t + 1 106 46 152

Year t+ 2 113 46 159

Year t +3 122 47 169

**?** What is your opinion of this method?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

It is undoubtedly the surest, but in the diagnosis one needs to have calculated the net admission rates at the ages of 6 and 7, which is not always possible. Try to use this method whenever you can. The two working tables have here been separated for training reasons, but you will find below a table which combines them. You should adapt this to your own data. Familiarize yourself with the technique by additional exercises.

You can insert as well other ages- 8, 9, etc. The calculation will be longer but what is wanted will be the same.

Make sure when aggregating the age- group entry rates that the total does not exceed the whole of the generation which was 6 years old in the base year, the total being:

The admission rate at 6 years of age in the year t

+ the admission rate at 7 years of age in the year t +1

+ the admission rate at 8 years of age in the year t +2

+ the admission rate at 9 years of age in the year t + 3, etc.

should never exceed 100%. If the admission rate at 6 years of age increases , the admission rates at 7 and 8 years of age and more may stagnate and even decrease.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| YEAR | Population aged 7 | Admission rate of 7 year olds | Admitted aged 7 | Population aged 8 | Admission rate of 8 year olds | Admitted aged 8 | Total entry |
| Base year actual figures t |  |  |  |  |  |  |  |
| t+ 1  t+ 2  t+ 3 |  |  |  |  |  |  |  |

*b) Projection of gross admission rates*

Example: Entry age 7 years: Kebele X

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Population aged 7 | Gross admission rate | Entrants |
| Base year (actual data) | 185 | 76.7% | 142 |
| t + 1  t+ 2  t +3 | 192  195  204 | 79.3%  80.8%  82.3% | 152 |

New entrants will be

Year t + 1 = 192 X 79.3 = 152

100

Year t + 2 = 195 X80.8 = 158

100

Year t + 3 = 204 X 82.3 = 168

100

This method appears the simplest but its drawback is that it is difficult to grasp the evolution of the gross admission rate when late entry is common. This rate may regularly rise to over 110%, after which it has to fall to reach 100% again.

Let us assume a year in which the admission rate is 100% at 8 years of age, 20% at 9, and 15% at 10. The gross admission rate – equal to the total of entrants as a percentage of the 7 year age group – will then be above 100%. The next year, however, there could be no entrants aged 8 since all children of that age would have entered the year before. So the gross admission rate would have to drop progressively to 100% (In some occasions the rate stays steady at a level above 100% for a fairly long time: this is probably due to the fact that some children re-enter the educational system after having dropped out and are counted as new entrants.)

This method will be used for two cases especially in which the problem of projecting gross rates is easier to solve. These are those in which:

1. the gross rate is very much below 100% .One can then suggest projections of this growth rate based on past trends, or planned, without much risk of differing widely from what one would get with more sophisticated techniques,
2. When entry has reached its full: the rate is then stabilized at a figure of near 100%.

For other cases, the preceding method has the advantage of dealing with the problem of each age- group separately.

**1.6.3.4. Enrolment projections for subsequent grades**

*a) Apparent promotion rates model*

This model consists of forecasting enrolment in a grade, for a given year, by simple extrapolation of enrolment in the grade below the year before. This process implies that one can, beforehand, by some other method, determine enrolment in the 1first grade, since there is no grade below this. Enrolment in the 1first grade is composed of new entrants (we have just studied two ways of estimating these) and of repeaters whose number we shall then have to decide. It is, therefore, imperative to have data on the number of repeaters in the 1first year if we are to project enrolment in this year.

**Example of Kebele X**

|  |  |
| --- | --- |
|  | 1st 2nd 3rd 4th 5th 6th Total |
| Enrolment  1996 E.C. | 161 152 149 140 165 209 976 |
| Enrolment  197 E.C. | 156 153 148 144 142 243 986 |

The apparent promotion rate is obtained by dividing the number of pupils in one year by enrolment in the grade below the year before.

The apparent promotion rate Pa 1 -2 from 1st to 2nd grade =

Enrolment in 2nd grade 1997 E.C.

Enrolment in 1st grade 1996 E.C.

In this example then:

Pa 1-2 = 153/161 = 0.950

Pa 2-3 = 148 /152 = 0.974

Pa 3-4 = 144/149 = 0.966

Pa 4-5 = 142 /140 =1.014

Pa 5-6 = 243/165 = 1.473

By calculating such rates for several consecutive years, one can extract a development trend for them which one can continue or modify according to the course chosen.

The method of projection is then extremely simple; one applies to the enrolments in a grade the rates adopted.

**Example:**

If the same rates are kept, what will be the enrolments for Kebele X in 1998 E.C.?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | 1st | 2nd | 3rd | 4th | 5th | 6th |
| 1997 E.C. | | 156 | 153 | 148 | 144 | 142 | 243 |
| Rate | | 0.950 | 0.974 | 0.966 | 1.014 | 1.473 |  |
|  | 1st | 2nd | 3rd | 4th | 5th | 6th |  |
| 1998 E.C. | ? | 148 | 149 | 143 | 146 | 209 |  |

It can be seen that enrolment in grade 1 cannot be determined by this method.

**Exercise**

Project enrolments for the next three years in the table below. Enrolments for the 1st year have been calculated elsewhere and the apparent promotion rates are marked on the arrows.

1st 2nd 3rd 4th 5th

Base year

204

166

174

169

172

0.980 0.970 0.860 1.310

184

+ 1

0.980 0.975 0.880 1.330

+ 2

186

0.980 0.980 0.900 1.290

191

t + 3

**?**  What do you think are the advantages and drawbacks of this method? When can it be used?

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Its advantage is the simplicity of its calculations. It can be used when:

1. there is a system of automatic promotion. In which the promotion rates are then real rates. Enrolment in 1st year is equal to entry;
2. repetition is low;
3. a quick projection of enrolment is desired.

If repetition is high, the main drawback of this method lies in the impossibility of controlling the evolution of the promotion and repetition rates; these parameters not being explicitly included in the projections.

Hence, this model is useful when one does not have data on repetition, but it is better not to use it if such data exist. It has the advantage of simplicity but it will be avoided if it is desired to improve the internal efficiency of the school system.

*b) Flow- rate mode*

The flow- rate model keeps much closer to reality. Enrolment in a given grade and year is divided into those promoted from the grade below and repeaters.

The projection table can be constructed on the lines of the model in the above exercise. Each box corresponds to a level in a given future year. In the box shown:

1. at the top left the number of new entrants to the level concerned. This number may be the number of pupils.
2. newly admitted to the 1st grade; these are calculated by one of the methods given above;
3. coming from another level of education according to a set transition rate or objectives concerning guidance in different streams;
4. Coming from the grade below and promoted according to the rate stated on the arrow;
5. At the top right the number of repeaters. This number is obtained by applying the repetition rate given on the arrow to the total enrolment of the same grade the previous year.
6. Underneath, the total of new entrants plus repeaters.

|  |  |
| --- | --- |
| New entrants | Repeaters |
| Total | |

**UNIT TWO**

**PREPARATION OF SCHOOL MAP**

**✈ Overview**

In this unit we deal with the last stage of the process of preparing the school map at the regional level. This comprises the working out of proposals to extend, rationalize or restructure the school network – or in more general terms, the educational services - so as to: (i) solve certain of the problems, identified in the diagnosis; (ii) satisfy the previously-estimated demand for education. To prepare these proposals, those responsible for school – mapping need to fix criteria and lay down the rules of the game. They must, for example, determine:

1. what will be the minimum size for a primary and for a secondary school;
2. how far a child should reasonably walk to attend school.

Hence, to begin with, we will study two very useful concepts: standards and catchment areas. We will then study techniques for planning school location. There might be several ways of organizing the educational services and their advantages, disadvantages and costs need to be compared.

# **☺ Unit objectives**

After working on this unit, you will be able to:

1. fix the minimum standard and maximum sizes of primary and secondary

schools;

2. plan rational locations for schools so that they can take in the enrolments

estimated;

3. assess additional resources which need to be committed to enroll the

projected number of pupils.

**2.1. Norms, standards and catchment areas**

You have encountered the terms norms, standards and catchment areas earlier in this material. In the unit on the coverage of the education system, the importance of knowing and analyzing the geographic location of schools was explained.

We also dealt with norms and standards for the number of pupils per class, for teachers’ teaching load, for space per pupil, and for utilization of premises. We have indicated that you have to use such norms and standards as reference figures in diagnosing educational conditions.

We are now going to study norms as principles to be observed during preparation of the prospective school map and deciding on the means to be provided. First, we are going to see why and how maximum standards and minimum sizes for schools should be fixed. Secondly, we will deal with the idea of catchment’s areas, theoretically and then from the point of view of regulations closely linked with the idea of norms.

The exercise in this section will show the interreaction between standards of school sizes and catchment’s areas.

*2.1.1 Norms and standards*

Whatever the level of education, an educational institution could not reasonably function with one teacher and one pupil; its running costs would be prohibitive. Conversely, an education institution which is too big would not be administratively manageable and would not provide the best educational conditions.

Thus, there arises the need to set norms for minimum and maximum sizes for schools, reflecting the purpose of school-mapping, i.e. to keep costs to a minimum and ensure a satisfactory utilization of resources (this sets the minimum size) and to guarantee good educational conditions (this sets the maximum size).

**?**  Are there standards for (1) minimum and maximum sizes for schools, and classrooms? (2) maximum distance to be travelled by pupils in Ethiopia or in your region? Do you say that these standards/norms are applicable for the next five to ten years?

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Such norms may often be only implicit: a school which gets too few pupils is closed and schools which are thought to be too big are not proposed.

You should in the first place know the norms and standards in use in the country, and if there are separate ones, in your region, both in respect of the size of primary and secondary schools and on the distances to be travelled by pupils. The school, mapping objectives here will be to check whether such norms and standards are still suitable or pertinent in the light of regional conditions and educational policy aims. If there are no specific norms or standards, the school mapping objective will be precisely to establish some.

It is useful also, when new schools have to be built or existing ones rationalized for example in enlarging or dividing them, or by changing their equipment, to suit subjects and teaching methods – to define standards sizes of schools.

Standard sizes for schools result from a concern to ensure both a satisfactory utilization of premises and teachers and the maintenance of good educational conditions. Let us see for each educational level in turn how to determine minimum, maximum and standard sizes for schools. First, it will be useful to recall the meaning of norms and standards for class size.

* + 1. **Class size**

The first standard relates to the size of a class – defined as a group of pupils who are taught the same subject together. It is generally acknowledged that the greater the number of pupils in a class, the worse is the educational conditions. However, research results show that there is no strict or linear correlation between the size of a class and the pupils’ achievement, even though there are probably thresholds which should not be crossed. On the other hand, the greater the number of pupils in a class, the less the number of teachers needed and the less the cost.

Norms and standards for class size are, therefore, fixed with due account taken both of teaching considerations and of the means available, such as numbers of teachers and financial resources.

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Sta**n**dards usually fixed for the normal number of pupils per class, a maximum number above which a class should be split and a minimum number below which the class should be abolished and the pupils absorbed into other classes or schools.

**Table 1**

Standards regarding numbers of pupils per class

in primary and secondary education in certain countries

|  |  |  |
| --- | --- | --- |
| Country | Primary education | Secondary education |
| Jamaica (1983) | 40 | 40 |
| Costa Rica (1973) | 35 | 35 |
| Ecuador (1981) | 25 min. | 45 max. |
| Tanzania (1982) | 40 | 40 |
| Cameroon (1978) | 50 | 40 |
| Indonesia (1977) | 40 | 40 |

**?** What are the standards in Ethiopia for the number of pupils per section/class? Is there a limit on maximum and minimum number of pupils per section/class?

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**2. Minimum school size**

The minimum number of pupils which a school should justify its opening varies with the educational level. It should be borne in mind that the aim of educational planning, for whatever level, is to secure the best possible use of teachers, premises and equipment, while guaranteeing satisfactory educational conditions there by quality.

1. *Primary education*

The minimum size for primary schools depends on various factors, notably:

* 1. the standard number of pupils per class;
  2. the number of grades or years of study;
  3. the possibility of one teacher dealing at the same time with pupils in different grades;
  4. The number of shifts for which the premises may be used.

The minimum size for a primary school is a one-teacher school, the same teacher dealing with all grades. Where this educational practice is accepted, the minimum size is equal to the standard number of pupils for one class. This will be, for example, 30 pupils where the requirement is for at least 30 pupils per class.

However, this practice is not always accepted. Some educators argue against the idea of one teacher dealing at the same time with several groups of pupils belonging to different grades. The minimum size of a primary school then equals the number of pupils per class multiplied by the number of grades or years of study. For example, for the first cycle of primary education in Ethiopia, the minimum school size would be 50 x 4 =200.

**?** Do you think this is small enough to open a first cycle primary school in every village/group of villages in Ethiopia? Explain.

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In practice, to make it possible for children to attend school in sparsely populated regions and in isolated communities with poor outside links, this minimum- size rule often has to be relaxed.

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In our country, at present, with high birth rates and until recently because of earlier limited access, the question of minimum school size was not a serious matter. But, after a few years, with a possible scenario of universalizing primary education, where there will be little or no backlog of children waiting for school, and with the possible stabilization of births at much lower rates than today, the issue of minimum size for primary schools will become more important.

In many countries, it is considered that one teacher can teach up to three or four grades at the same time. If the primary cycle is one of six years, a complete school can then be started with two or three teachers.

An example from France is illustrative. A 1970 circular defined the minimum size by saying “ the closure of schools with less than 16 pupils should be considered”. In 1975, another circular brought the minimum size for one teacher schools down from 16 to 12 pupils within the frame work of government policy against the population decline in rural areas. In 1977, this minimum size was reduced again, this time down to 9 for villages in the rural areas, although the pupil teacher ratio in primary education was 30:1.

While the above example is in the context of population decline, the situation at present in Ethiopia is one of expanding primary education to more remote and scattered villages so as to attain UPE. Opening a minimum size for first cycle primary school of 200 pupils will be unreasonably costly.

Other measures which could make it possible to avoid starting or keeping open primary schools with too few pupils – and hence expensive – are:

1. maintaining one – teacher schools with low enrolments, as we have seen, but giving the teachers other responsibilities, such as adult literacy, of domestic science or agricultural education;
2. opening incomplete schools – where, for example, only the first three grades would be taught – linked to a neighbouring central school. The Amhara regional state already started satellite school systems which reflect this.
3. starting schools which bring together pupils from several

villages/ settlements by means of school transport;

1. establishing boarding facilities for some primary schools.

The last two cases must be rejected in many countries for lack of money, roads and transport. Boarding should be only exceptionally a solution where there are, for example, nomadic peoples.

1. *Secondary education*

The problem of determining the minimum size for a school is encountered again in secondary education, but in even more complex form in that the teachers are subject specialists and sometimes there are specialized premises, such as laboratories and work shops. Hence, ensuring full use of staff and facilities may demand fairy large number of pupils and classes.

To this is added the fact that, to be merely of the same size as a primary school, a secondary school must have a much more extensive catchment area: all primary pupils do not go on to the secondary level. A large catchment area means school transport or lodging facilities at the school, with the same attendant problems as for primary education.

The minimum size of secondary schools thus depends upon;

1. the length of the course and the size of classes, as in primary education;
2. the degree of teacher-specialization – i.e. how many subjects each of them can teach;
3. the curricula and the number of possible options;
4. possibilities of getting to the school.

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When these last are limited and policy is to avoid boarding ( in lower secondary, at least), the minimum size of a secondary school may be fixed fairly low. It is probable, however, that pupils in such schools will have less equipment and fewer options than those in larger ones.

*2. Maximum school size*

You have the problem of maximum school size in very densely populated areas, especially large towns.

In determining the maximum size for a school, of whatever level, the criteria used are both administrative and educational. There is general agreement that it is difficult to ensure good administrative and financial management of a very large school and that communication difficulties among management, teachers and pupils may be detrimental to its atmosphere. The question of how large is a matter that seems to have no policy direction in Ethiopia.

The region will, therefore, have to decide on maximum sizes, not to be exceeded, for primary and secondary schools in the light of the priorities at present.

* 1. **Catchment areas**

**?** What is a catchment area?

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**?** How are students in Amhara region placed to a school they have to attend?

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Let us recall the definition of "school catchment area"; this is the geographic area served by a school.

The extent of catchment areas varies enormously with the educational level. Usually you will find that, with primary education the catchment area is determined by the distance which children can walk between home and school, e.g. the norm in Ethiopia for a primary school within 3 Kilometres radius. By contrast, an institution such as one giving highly specialized training, e.g. an engineering or a national administration institute- may have a catchment area which covers the whole region.

The idea of a catchment area may be considered from the point of view of description, theory or regulation.

Analysis of existing school catchment areas may show up imbalances and suggest measures to be taken, e.g.:

1. If, for example, a large number of children go on foot for too long a distance every day, you should study the possibility of opening new schools or of arranging transport.
2. If a lot of pupils do not enroll in the school near their home because it is not as good as the one further away, you should consider measures to improve educational condition in the former school.

As we shall see later, one of your aims will be to rationalize the existing schools' catchment areas.

From the theoretical point of view, the catchment area may be thought of as a circle having as its center an existing or potential school, and as its radius the maximum distance which pupils can travel. If we know the density of the population, or preferably the density of the potential school-age population, we can calculate the numbers for who schooling should be provided within this catchment area.

If the catchment area A of a school is a circle with a radius r the maximum distance from home to school (in kms), the area of this catchment area will be 3.14r2 sq.km. If d is the density per square kilometer of the potential school-age population in the area under consideration, the potential enrolment E will be: E=Ax d= 3.14r2 d. To be quite exact, should be replaced by the density of the population which is going to enter school—i.e.the density of the potential school-age population d multiplied by the school enrolment rate.

Showing catchment areas by circles has the disadvantage of not covering the whole of the geographic area concerned. Areas can be shown more satisfactorily by hexagonal honeycombing

Areas not covered

Area belonging to

two catchement areas

Hexagonal cells

For a hexagonal catchment area, enrolment is calculated thus:

E= 2.598r2d

Such representations are, of course, theoretical since very rarely does a catchment area have exactly the form of a circle and still more rarely that of a hexagon. More often, the shape of a catchment area follows that formed by the grouping of villages along roads, streams or rivers, in the valleys more often than on mountainsides, etc.

Though theoretical, such representation has its own value. Firstly, it can serve as a guide in rationalizing the catchment areas of existing institutions. Secondly, if you have to foresee the establishment of a large number of schools in regions so far badly served, it can help you to decide in what sort of Woreda or area you will be in a position to open complete schools or ones of minimum size, in view of the population density.

**Example :**

What is the minimum density of the school population aged 12 to 15 required in a catchment are for it to be possible to start a first-cycle secondary school for 300 pupils? It should be added that, according to the norms, the pupils should not have to travel more than 5 kms to get to school.

Answer: d: 300 = 4.6 pupils per sq. km.

2.598 x 52

(hexagonal catchment area)

If 300 puipils is the minimum size for a secondary school, no school can be opened in rural areas with less than 4.6 adolescents (aged 12 -15) per sq.km.

The foregoing formulae can also give an idea of the number of schools and classes needed in a given area.

**Example:** If it is a policy to have 30 pupils in a class, how many schools and classes should be foreseen in:

1. a hexagonal catchment area with a radius of 4 kms and an average density of 3 children aged 6 to 11 per sq.km.
2. an area with the same population density covering 250 sq.km. ?

**Answer:**

1. The extent of the catchment area will be:

2.598 x r2 = 2.598 x 16= 41.5 sq.kms.

The number of pupils =41.5 x 3= 125

The number of classes= 125/30 = 4(plus 5 pupils)

1. In an area of 250 sq.km, there will be a need to foresee 6 schools of 4 classes = 24 classes in all.

Note that such theoretical work can give only an approximate estimate of the number of classes and schools to start.

It assumes in fact:

1. an even distribution of the population;
2. the same easy possibilities of access from all parts of the catchment area;
3. Full enrolment of the school-age population, unless the enrolment rate and the concept of the population actually entering school are introduced.

The first two conditions are rarely found. Despite this, the estimates obtained can be useful, especially for planners working at the central or regional level. They should be accompanied by a very detailed analysis in the field. This is what we will look at in the next section.

Meanwhile, this theoretical approach is valuable in that it lays stress on the standard maximum distance that pupils can travel. This, of course, depends on the means of transport used, the terrain and also the age of the children concerned. It is generally accepted that in primary education, the children should be able to get to school in not more than some 45 minutes. This corresponds to some 3 kms on foot on level ground, less in mountainous areas, some 15 kms on a bicycle and about 30 kms in a car or a bus.

In secondary education, norms regarding distances vary more but are greater than those for primary education - some 5 to 7 kms on foot, 20 to 30 kms on a bicycle, and still more by bus. The maximum distance acceptable varies greatly from country to country. The lower the population density or the higher the minimum size of school, the greater the distance.

The legal and regulatory aspect concerns the requirement that all children living in a given geographic area should attend the school or schools in that area. It is in fact very difficult to plan the provision to be made in a given area if pupils are free to select whatever school they like whether inside or outside the area, or if the schools in which they enroll have no connection with their places of residence.

In practice, fixing catchment areas for schools in rural areas poses very few problems: most pupils enrol in the schools nearest their homes. In urban areas, the situation is much more difficult. Some schools enjoy great prestige and have pupils who come from all sections; those are generally from families in the more well-to-do social classes. Other pupils may attend schools close to where their parents work rather than near their homes. Consequently, there can be great confusion and overlap of catchment areas. One of the tasks of school mapping will be progressively to regularize such situations so as to make existing arrangements more rational.

Fixing catchment areas (sometimes called "zoning") for schools presumes that there is equality of teaching/learning conditions among the schools.

**2.3 Planning the location of schools**

There are no universally applicable techniques for planning the location of educational institutions. The method may vary according to the:

* 1. *Level of education being planned*: in the primary stage, the demographic factor is the determining variable. Priority will be given to placing a school in the immediate neighbourhood of the population. This consideration will not have so much weight for education after the compulsory stage.
  2. *Norms and standards adopted*. It is easier to organize the educational services if the standard school sizes are not too big. ;
  3. *Type of environment* : the problems to be solved are different in urban and in rural areas;
  4. *Form of demand evolution*: it is sometimes more difficult to plan the reorganization or re-structuring of a school network after a drop in enrolments than to plan for its rapid development.

You should choose the method which seems to you the best suited to the particular situation you are studying. In all cases, however, certain principles will apply.

* 1. Rational organization of the school map implies coordination of different educational networks. To draw up the map for a given educational level, you will have to take into account the location of educational institutions at the level immediately below. In light of the universalization goal of primary education in the region, your priority will be to begin by rationalizing the primary school map, then draw up that for the first cycle of secondary education, then the map of the second cycle, and so on.
  2. The organization of a network of institutions should satisfy certain conditions. It should:

1. ensure a suitable geographic distribution of educational supply and secure a balance in each geographic zone between such supply and demand.
2. Keep to the country’s norms and standards, especially in respect of the maximum and minimum sizes of schools;
3. be as cost-efficient as possible.

The greater the enrolment in a school, the higher will be the pupil teacher ratio and the facilities’ rate of utilization. On the other hand, it will probably be necessary to organize a system for collecting the pupils or to provide boarding facilities. A model could be constructed as an attempt to determine an “ ideal” school network. But problem would be to optimize a cost function (transportation or boarding costs) or an enrolment function (with regard to various educational objectives) under certain constraints (travel time and minimum school size). Constructing such a model, however, would encounter many obstacles and it is not certain that what might be best economically determined would be considered satisfactory from a social or political point of view.

It is suggested that you should work in a much more empirical fashion, building up your proposals by successive approximations and using a set of criteria selected according to the type of schools to be established.

Generally, the preparation of proposals is done in four stages:

**Stage 1:**

Estimate the numbers of pupils to be enrolled, village by village, in primary education or school by school of the level immediately below for other levels of education.

**Stage 2:**

Ascertain the capacities of existing schools and their catchment areas.

**Stage:3**

In the areas not yet served by the present educational network, identify the places where new schools could be built. Determine the catchment area of each new school and calculate its enrolment. Check as often as is necessary until the only villages left outside the school network are those with too low a potential school population to warrant the establishment of a school, or which are too far away from a neighbouring school,. For these villages, special solutions will have to be found.

**Stage 4:**

Estimate for each school the facilities and teacher requirements.

**Stage5:**

Compare the costs and advantages of different possible solutions. Let us examine each of these stages in detail.

*First stage: estimating the numbers of those to be enrolled*

This will be done village by village for primary education, by primary school, for lower secondary education, and so on.

Obviously, it is not a matter of making projections of the school- age population and of enrolment in the same detail as those we have done by homogenous zone for each village.

All the same, it is indispensable to have estimated of potential enrolment village by village.

The simplest course is to find a formula which enables the potential school enrolment on the part of a village to be linked with the latter’s total population. It may be assumed that the ratio identified will be the same for each of the villages in a zone as for the zone itself.

Example 1:

Let us assume that a zone has a total population in the base year t of 10,000 inhabitants. Let us also assume that in making estimates of demand we have estimated enrolment at 2000 for the year t + 5. If we calculate a ratio:

Enrolment in year t+5 in zone A = n 2000 = 20%

Total population in year t in zone A 10,000

And if we apply this ratio to the total population of each of the villages in the zone, we reach a rough estimate of the potential school- goers in each village in the year t + 5. In doing this, we assume that each village will have:

* 1. between the year t and the year t + 5 the same rate of population growth and the same age structure for the zone as a whole;
  2. the same enrolment rate as for the zone in the year t + 5. In most cases, these assumptions are not unrealistic. (there is, however, one exception: If,in the towns, demographic growth and age structure differ greatly from one quarter to another, separate estimates will need to be made quarter by quarter.)

To estimate the number of pupils entering secondary education, the same method can be used, estimates of those to be admitted to school being made village by village, Woreda by Woreda, or Kebele by Kebele.

Another method also can be used. There is a direct relation between enrolment in first grade of primary in the base year and the number entering secondary education x years later, x being the length in years of the primary course.

**Example 2**

Let us assume that in Zone A there are 400 pupils in first grade in the base year 1983 and that we have estimated at 300 the number of pupils who will enter secondary education six years later. If the length of primary education is six years, the ratio 300/400 = 0.75 expresses the approximate proportion of entrants to primary education in the base year who will have succeeded in gaining entry to secondary education six years later. We can use this same ratio to estimate the number of primary pupils from each school who will be able to enter secondary education. We are here assuming that each school will have the same rates for drop- out and for transition to secondary education as those for the whole zone.

*Second stage: determining the capacity of existing schools and defining their catchment areas*

1. A school’s capacity does not necessarily equal enrolment in the base year; it may be greater or less if the premises are under –utilized or overloaded. Capacity may be estimated on the basis of the area of the rooms used for teaching and of the regulations in force on the area required per pupil. In making this estimate, you should omit facilities which are in too poor a state to be repaired.

In secondary education, the normal length of time for which the premises may be used should be taken in to account. A school’s capacity will be calculated either by applying an estimated rate of utilization of 80 to 90% or by comparing it to the school standards which you have calculated beforehand. It may prove necessary to add a classroom, for example, to a specialized room.

This problem will occur especially when there is a change in the regulations on the length of time for which premises may be used- if policy is to resort no longer to double (or triple) shift working, or conversely, if double shift working is recommended where possible.

2. In defining existing schools’ catchment areas, one must take account of the farthest acceptable distance a child may walk or the longest journey time when transport is available. As we have seen above, the catchment area may take different shapes according to the nature of the school’s environment.

With the catchment area thus defined, it is easy to calculate future enrolments in existing schools by adding up the previously estimated enrolment from each village and hamlet included in the catchment area (or from the primary schools if it is a matter of estimating enrolment a secondary education )

In rural areas,defining catchment areas does nto usually cause any difficulty. When two schools are near each other and their theoretical catchment areas overlap, all one has to do, Provided each school has enough pupils, is to define the catchment area of each one in a way which will minimize the distances which children will have to go, and in case of need, take the schools’ capacity in to account.

If one of the schools is too small to allow good utilization of its teachers and if the condition of its premises is not satisfactory, closure could be suggested, and the neighbouring school alone can be used. Alternatively, if the premises are in good condition, the best course might be to merge the two schools and to arrange, for example, for children in grades 1,2 and 3 to go to school A and those in grades 4 to 6 to go to school B.

It is nor unusual to find in one zone a concentration of primary and even secondary schools less than 3kms apart from one anther while in a neightbourng, zone there are not enough schools or teachers. In the first zone, the communities are probably very active, they have established their own schools and prevailed up on the Ministry to send one or more teachers for each school while in the second zone, the communities are probably too poor or at any rate less influential. Closing some schools or merging them with others may be an indispensable condition for attaining a rational use of human and financial resources.

The situation of each school with an enrolment below the minimum standard should be carefully examined. Closure or re- grouping could be suggested if it is near enough to another school, with due regard to the terrain and the road network. As communities are quite tightly attached to their schools, it is usually preferable to suggest a merger rather than a straight forward closure of a school.

In an urban area,defining catchment areas can be a real headache, given the mutual proximity of schools and their concentration in certain quarters. This state of affairs is in fact often due to a town’s historical development, but it is due also to the high cost of land which results in the state or the municipalities not always building schools where they should but where they can.

In defining catchment areas, due account must be taken of the potential school population in the various quarters and the capacity of each school. In some cases, it is impossible to determine separate catchment areas for all schools. There, then has to be a grouping of schools drawing upon the same catchment area.

Finally, it should be noted that in large towns or in the capital cities, quarters are often characterized by a social class or by a dominant ethnic group. The well- to – do and middle classes often live in sharply –defined areas at varying distances from the shanty-towns and immigrant quarters. The defining of catchment areas may favour- or avoid – social or ethnic mixing, so there may here be policy decisions to be taken.

They may not be the case in Ethiopian At the end of this second stage, you will have, for each of the region’s zones, lists of schools to be closed, to be kept as such, extended or reconstructed and, lastly, of villages not yet reached by the existing school net work.

*Third stage: establishment of new schools*

1. In primary education, you are advised to:

i) Separate out:

a) high density areas in which there could be complete coverage by well-equipped schools,

b) areas of moderate population density which could have complete schools, provided that a school could serve several neighbouring villages;

c) sparsely – populated areas for which special arrangements need to be made, such as one- teacher schools, boarding, bi- annual intake, school transport, or satellite schools linked with central schools.

ii) Identify the most important villages which have no schools as yet and which should have priority in the building of new schools. Villages considered the most important would be:

a) those with the largest populations, or which are regional development poles. For the latter, exact data need to be gathered on short and middle- term development plans for the region, on road- building programmes and opening up of lands; on projects for cooperatives and health centers, and on development prospects for agriculture, industry, mining and tourism.

b) those best served by the road network or at crossroads.

c) sub –regional hubs: these one can identify by weighing the distance separating several localities against the number or potential pupils to be reached in each locality.

You should take due account of the ease of communication and of the terrain in estimating the traveling time needed and choosing the central village where the school will be established.

iii) Define the catchment areas of each of the new schools, grouping and re-grouping villages until you arrive at satisfactory sizes for the schools. Again you must take account of the maximum travel time or the maximum traveling distance acceptable for pupils.

iv) Identify the villages which will not be served by any of the schools, existing or proposed, and repeat the process described above until the only villages left out of the network of schools are those with a potential school population too low to justify starting a complete school. For these villages, ad hoc arrangements, such as the following must be made:

a) one –teacher schools, in which the teacher is in charge of all grades at the same time. We have seen that this practice is not always accepted. It is criticized on the grounds that it does not provide good educational conditions. To this might be added that if the teacher is absent, the school is completely closed. Nevertheless, if the teacher is good and has been trained to teach in such conditions, the practice can be pedagogically workable;

b) a two- or three –teacher school : when it is possible, this arrangement is preferable to a one- teacher school.

c) a satellite school, offering only the first three or four grades of the primary course. This needs to be attached to a central school which provides the remaining grades of the course. Experience shows that if the central school is not located within a reasonable distance (at most 4 or 5 kms) from the satellite schools, pupils leave in large numbers after the third or fourth grade;

d) school transport: collecting pupils, either by using existing public transport or by arranging special round, enables under attended and over –costly schools to be avoided or closed. It also enables schools to be established big enough to have a complete range of equipment and good pedagogical organization. However, this is not always the ideal solution since it needs a roads infra-structure which permits of it, and journeys too long in distance or time for young pupils risk having negative effects on the laters’ ability to listen or learn.

All told, it is not certain that transport is always a better arrangement, either for results or for costs , than the one teacher school.

1. Boarding, formal or informal; the pupils move from their homes to live formally in a hostel or informally in the neigbourhoood of the school—with relatives for example. Given its cost, formal boarding is usually out of the question for primary education, except perhaps for nomads.

v) Establish schools of adequate size, while seeking to keep to a minimum the costs of school transport and of boarding.

1. In the towns, whatever the level of education, there is a tendency to expand existing schools to take in additional pupils. According to circumstances, this may mean putting up additional buildings on the site available- sometimes sports fields – or of increasing shift-working. In some towns, the primary or secondary schools work three or four shifts. There are, however, limits to the expansion of existing schools and regulations on maximum size need to be observed.

For the establishment of new schools, you are recommended to work in close cooperation with the town-planning services. They will be in a position to inform on:

* 1. prospects for the development of the various town quarters, and on the population growth and age-structure foreseen;
  2. available sites owned by the State or the municipality;
  3. possibilities of purchasing new sites.

In the old quarters, your room for manoeuvre in siting new schools will be limited. It is precisely for this reason that it is very important that the Ministry of Education should, in cooperation with the town planning services, provide in advance for sites to be reserved for schools in new urban areas being developed.

*Forth stage: estimating needs for school premises and teachers*

When estimates have been made, for the target year, of the number of pupils to be a bit complex provided for in each school, it is very easy, if one knows the regulations on the minimum, standard and maximum numbers of pupils per class, to calculate the number of classes.

In the first cycle of primary education,the numbers of teachers and classrooms needed are usually the same as the number of classes. There may, however, be exceptions if:

1. school principals do not teach;
2. specialist teachers have to be foreseen;
3. teachers have other responsibilities, such as participating in literacy and post-literacy programmes;
4. there is part-time teaching in some grades.

*Fife stage: comparison costs and effectiveness of different proposals*

To choose among alternative courses of action and to have criteria for deciding, it is usual to undertake a cost/benefit analysis or, when monetary appraisal of benefits is not possible, a cost/effectiveness analysis.

It is really only this last form of analysis which fits actual situations, and it can be a valuable means of rationalizing decisions.

When proposals for re-organizing the school network have to be compared, analysis is often limited to what can be quantified, such as needs for teachers, buildings and equipment, the distances traveled by pupils, needs for transport, and capital and recurrent costs.

These estimates should, however, be supplemented by qualitative appraisal of the effects of each of the solutions proposed on for example,

1. difficulties of recruiting and of sending teachers to rural areas;
2. enrolment of girls;
3. equality of opportunity;
4. school environment;
5. possibilities of using school facilities for community activities;
6. economic development of certain areas or, conversely, rural population decline;
7. reactions of local people.

The main aim of this analysis will be to bring to light and set before the decision makers the main advantages and disadvantages of the courses of action proposed.

These conclusions should be accompanied by recommendations on complementary measures to be taken, in line with the results of the diagnosis made.

Possible example:

1. change the school calendar;
2. secure better distribution of school materials;
3. modify, as needed, teaching loads, teacher-recruitment procedures or teacher-training;
4. modify school curricula;
5. arrange food distribution or other programmes to encourage school attendance.

If school mapping is not accompanied by such measures to ensure an improvement in the quality of education it will be merely one more techno- critic tool for rationalizing the use of resources.

In any case, the school map produced should not be regarded as final until it has been considered by the various groups concerned – the central administration, local authorities, teachers and parents of pupils.

**UNIT THREE**

**PREPARATION OF UPE PLAN AT THE WEREDA LEVEL**

**✈ Overview**

Planners have found that the adage “two heads are better than one”, or more practically, “several heads are better than one” is well founded. The group as a whole encompasses at least as much (and usually more) information than any single member. Educational planning requires accurate information, careful consideration, and involvement beyond a single decision–maker. Group decisions are necessary because the scope of planning problems is often such that no individual has sufficient expertise and knowledge to effect an appropriate solution. Through participation, group members can gain greater understanding of decisions and commit their support to plans. Educational plans are developed through the active participation of stakeholders.

This unit deals with the processes involved in designing UPE plan at the Wereda level.

# ☺ Unit objectives

After working on this unit you will be able to:

1. analyze the status of primary education development in your Wereda;
2. conduct an appropriate stakeholder analaysis to identify those interests to be taken into account in your Wereda UPE plan;
3. identify the strengths , weaknesses, opportunities and threats of primary education system in your Wereda
4. set the vision, mission, objectives and targets for the development of the primary education system in your Wereda; and
5. prepare UPE plan for your Wereda;

**3.1. The Wereda UPE plan workshop**

One of the characteristics of the Woreda UPE planning process is the positive involvement of stakeholders concerning primary education in the Wereda. The plan is not done by the person or office in charge education alone, but by all stakeholders including representatives of the Wereda people, Wereda officials, school principals, teachers and others. A workshop needs to be held for those stakeholders to discuss and work on the plan together.

Ideally the Woreda Education Office will coordinate and facilitate discussions while participants may elect any suitable person to chair the workshop. Each participant has an equal right to speak out his/her opinions, ad the participants usually take part in group activities including group discussions and presentation in order to effectively and efficiently utilize the limited time.

The nature of the Wereda UPE planning process clearly requires the positive cooperation of the participants. Participants should take a leading role in making the Wereda UPE plan, while the facilitator must remain neutral, should not voice his/her opinion and only facilitate the discussion and procedure in order for the participants to prepare the education plan smoothly.

If discussion of a certain topic becomes prolonged and if the facilitator thinks that the discussion is irrelevant to or going far beyond the topic, then the facilitator can interrupt the discussion and direct the participants to the next step.

**3.2. How to begin the Wereda UPE plan: The national and regional targets**

From now on the participants of the workshop will prepare the Wereda UPE plan. In the first place, it is important to know the targets of primary education at the national level as well as those at the regional level. The national targets (which are set out below)are defined in the third Education Sector Development Program (ESDP III), and the regional targets are set out towards the beginning of this training manual.

**National targets regarding access, equity, quality and efficiency**

**of primary education set out in ESDP III.**

1. **ACCESS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Access Indicators** | 1997 E.C. | Target set for 1998 E.C | Target set for 1999 E.C. | Target set for 2000 E.C. | Target set for 2001 E.C. | Target set for 2002 E.C. |
| * Grade 1 Net Intake Rate by gender   + Male | 61.1 | 81.0 | 96.0 | 96.0 | 96.0 | 96.0 |
| * + Female | 58.8 | 79.0 | 96.0 | 96.0 | 96.0 | 96.0 |
| * Net enrolment rate at primary (1-4) |  |  |  |  |  |  |
| Girls’ NER | 54.6 | 59.7 | 64.7 | 69.8 | 74.8 | 79.8 |
| Boys’ NER | 59.5 | 64.0 | 68.5 | 73.0 | 77.5 | 82.0 |
| * Net enrolment rate at second cycle of primary (5-8) |  |  |  |  |  |  |
| Girls’ NER | 32.5 | 40.0 | 47.5 | 55.0 | 62.5 | 70.0 |
| Boys’ NER | 41.2 | 47.7 | 54.2 | 60.8 | 67.3 | 73.9 |
| * Gross enrolment rate at first cycle of primary (1-4) |  |  |  |  |  |  |
| Girls’ GER | 92.8 | 107.1 | 123.9 | 134.5 | 135.7 | 131.0 |
| Boys’ GER | 107.2 | 116.4 | 130.2 | 137.5 | 136.6 | 130.9 |
| * Gross enrolment rate at second cycle of primary (5-8)   Girls’ GER | 41.2 | 46.1 | 50.4 | 59.0 | 73.5 | 90.0 |
| Boys’ GER | 60.3 | 60.9 | 62.3 | 68.6 | 80.8 | 94.7 |

**B. EQUITY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Equity Indicators | 1997 E.C | Target set for 1998 E.C | Target set for 1999 E.C. | Target set for 2000 E.C. | Target set for 2001 E.C. | Target set for 2002 E.C. |
| * Net enrollment Share of girls in primary school enrolment (1-8) | 45.7 | 46.8 | 47.7 | 48.5 | 48.9 | 49.3 |
| * Gross enrollment Share of girls in primary school enrolment (1-8) | 43.5 | 45.2 | 46.4 | 47.35 | 48 | 48.6 |

**C. QUALITY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Quality Indicators | 1997 E.C | Target set for 1998 E.C | Target set for 1999 E.C. | Target set for 2000 E.C. | Target set for 2001 E.C. | Target set for 2002 E.C  . |
| * Share of lower Primary (1-4) teachers who are qualified | 99 | 98.3 | 99.2 | 99.8 | 99.8 | 99.8 |
| * Share of upper Primary (5-8) teachers who are qualified | 80 | 89.6 | 98 | 99 | 99 | 99.3 |
| * Primary school student/textbook ratio | 2:1 | 1:1 | 1:1 | 1:1 | 1:1 | 1:1 |
| * Student teacher ratio * Grades 1-4 | 72 | 68 | 63 | 59 | 55 | 50 |
| * Grades 5-8 | 56 | 54 | 52 | 49 | 47 | 45 |

**D. EFFICIENCY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Efficiency Indicators | 1997 E.C | Target set for 1998 E.C | Target set for 1999 E.C. | Target set for 2000 E.C. | Target set for 2001 E.C. | Target set for 2002 E.C. |
| * Primary (1-4) student/section ratio | 70 | 66 | 62 | 58 | 54 | 50 |
| * Primary (5-8) student/section ratio | 68 | 64 | 61 | 57 | 54 | 50 |
| * Grade 1 dropout rate (base year is 1996 E.C.) | 12.8 | 9.6 | 7.2 | 5.4 | 4.0 | 3.0 |
| * Average primary school dropout for girls (base year is 1996 E.C.) | 9.0 | 7.0 | 5.0 | 4.0 | 3.0 | 3.0 |
| * Average grade 4 to 8 repetition rate (base year is 1996 E.C.) | 4.0 | 3.0 | 3.0 | 2.0 | 2.0 | 2.0 |
| * Average grade 4 to 8 repetition rate for girls (base year is 1996 E.C.) | 4.0 | 4.0 | 3.0 | 3.0 | 2.0 | 2.0 |
| * Primary School completion rate   + Grade 5   + Grade 8 | 57.0  34.0 | 62.0  38.0 | 65.0  44.0 | 70.0  48.0 | 80.0  50.0 | 85.0  55.0 |

**Steps in designing a Wereda level UPE plan**

**Step 1. Situational analysis**

You need to describe here the current status of primary education in your Wereda in terms of access, equity, efficiency, and quality using the appropriate indicators for each of these. Besides, you need to analyze the results including the gap between the Wereda status and the regional target.

Two additional tasks at this step of planning are:

* To analyze the stakeholders of the Wereda’s primary education system so as to identify their roles and potentials for improving primary education ;and
* To analyze the existing conditions from the aspects of strengths, weaknesses, opportunities and threats of primary education development in the Wereda.

*1.1. Stakeholder analysis*

Stakeholder analysis is a process of systematically gathering and analyzing qualitative information to determine whose interests should be taken into account when developing and/or implementing a plan, policy or program.

The participants will try to identify all stakeholders (individuals, groups, organizations and institutions) likely to be affected by the implementation of Woreda UPE plan. The participants will also analyze their roles and potentials fro improving primary education. The stakeholders would include schools, communities, the Wereda council, the regional government, funding agencies, NGOs etc.

**How to conduct stakeholder analysis**

1. List, on the stakeholder analysis sheet all individuals, groups, organiz-

ations, and institutions related to the primary education in the Wereda.

1. The facilitator will let the participants speak out and discuss on what

they listed.

1. Sort the listed stakeholders by category by using a visual means such

As a flip chart and a blackboard. The following are examples of the

categories:

* *Beneficiaries:* stakeholders likely to benefit from the implementation of

the Wereda UPE plan.

* *Decision makers:* stakeholders who are authorities and can make a decision
* *Implementing agencies:* Stakeholder who may take part in implementing the

WoredaUPE plan

* *Funding agencies:* stakeholders who may bear expenses.
* *Negatively affected people:* Stakeholders likely to be negatively affected by

the Woreda UPE plan

* *Supporting groups:* Stakeholders likely to cooperate in the implementation

of the Wereda UPE plan

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**STAKEHOLDER ANALYSIS FORM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BENEFICIARIES** | **DECISION MAKERS** | **IMPLEMENTING AGENCIES** | **NEGATIVELY AFFECTED PEOPLE** | **SUPPORTING GGROOUPS** |
|  |  |  |  |  |

*1.2. SWOT analysis*

After recognizing stakeholders and the current status of the Wereda primary education system, the participants will try to identify the Wereda’s internal strengths and weaknesses, and to examine external factors which create opportunities and pose threats to primary education development. This analysis is called “SWOT analysis”, and will help the participants to focus on the key issues in preparing the Wereda UPE plan.

The following chart is an example that gives the participants an idea on how to develop a SWOT framework.

Example: SWOT Framework for Woreda UPE plan

**Name of Woreda:** xxx Woreda in Amhara National Regional State

|  |  |
| --- | --- |
| Strengths | * In our wereda, parents are more willing to send their children to schools * Schools in our wereda have got enough classrooms * Our Wereda Education Office has got computers |
| Weaknesses | * Most of the schools in our Woreda don’t have enough teachers * Most of the schools in our wereda don’ have enough text books |
| Opportunities | * Many villages in our Wereda have many forests which provide timbers for making school furniture * Many villages in our wereda have free spaces around schools |
| Threats | * Many parents believe that corporal punishment is necessary fro good education * Some villages in our wereda are not willing to send female children to schools |

**How to conduct SWOT analysis:**

1. The participants are divided into 4 groups by categories (Strengths, Weaknesses, Opportunities, and Threats). Some pieces of flip chart will be provided for each group.
2. Each group chooses a leader and discusses on a concerned area. Each group will prepare a list of the assigned area on a flip chart.
3. The participants are back to plenary discussion and a representative of each group will summarize the result of discussion using flip chart.
4. The facilitator will let the participants speak out and discuss.

**A format for SWOT analysis of primary education development in your Wereda**

|  |  |
| --- | --- |
| **Strengths** | **.**  **.**  **.**  **.**  **.**  **.**  **.** |
| **Weaknesses** | **.**  .  .  .  . |
| **Opportunities** | **.**  .  .  .  . |
| **Threats** | **.**  .  .  .  . |

**Step 2. Programme formulation**

*2.1 Setting Wereda’s own educational development vision*

So far, you have identified the goals for primary education development for the region, and conducted situation analysis. Now you will enter the next step, programme formulation. Before stepping into the main part of programme formulation, the participants need to set the district’s own educational development vision.

**?** What is a vision?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vision is an image of the future. The vision statement should be clear and realistic and it should show the direction of the plan.

**?** Why is vision needed?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vision is needed because it is difficult to select and prioritize objectives without a vision. The vision will show where the Wereda’s primary education is heading for.

To set the vision you should refer to the primary education development goals of the region, and the findings from the situation analysis.

*2.2. Setting the Wereda’s own educational development mission*

**?** What is a “mission”?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mission is a very broad and general statement about the basic purpose of an institution. The mission statement should clearly specify the basic functions of Wereda Education Office (WEO) in terms of primary education development during the plan period.

The five essential questions for mission formulation are:

1. What function (s) does the WEO perform?
2. For whom does the WEO perform this function?
3. Where does the WEO operate?
4. How does the WEO go about filling this function?
5. Why does this WEO exist?

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*2.3. Setting values*

**?** What do you think are values?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Values are principles or ideals that guide people’s behaviour. They define the philosophy of operation and the organizational culture being practiced by an organization.

Examples of values include:

* accountability
* Efficiency,
* Improved service delivery, etc.

*2.4. Setting objectives*

Objectives are set through a process known as “objective analysis “. Objective analysis is the process of identifying the desirable situation that would be attained once problems have been solved, and clarifying the means-end relationship required to attain the situation.

*Tentative objective list*

When setting objectives, the participants should ask how to achieve the vision starting form he current status. The participants should also take the primary education development proprieties of the region into account. In the previous steps the participants have set the district’s vision for primary education development for the Wereda, and through the situational analysis they have grasped the Wereda’s current status regarding primary education. Based on the district’s current situation, the participants will now make a list of tentative objectives which are to achieve the vision. The following table is an example of Tentative Objectives List.

**Example: Tenative objectives list**

**Vision:** All school age children in the Wereda will be provided with equal opportunities for quality primary education.

|  |  |
| --- | --- |
| **Tentative objectives** | **Means** |
| 1. All school age children in the Wereda will attend school | * Rehabilitation of existing schools * Construction of new classrooms * Sensitization of villagers |
| 2. Quality of teaching and learning will be improved | * Procurement and distribution of adequate number of textbooks and other teaching learning materials * In-service training for newly recruited schools * Ensuring regular school inspections |
| 3.Management capacity of school principals will be improved | * Management training for school principals |

*2.5. Resource identification*

To design a realistic Wereda UPE plan, it is important to identify resources available for the implementation of the plan. The available resources include existing and potential resources from different sources (regional government, Wereda Council, NGOs, etc.)

Now the participants will prepare a resource identification sheet in this step. Following is a format and the example of the resource identification sheet.

The participants will write down all the resources that can be mobilized for the duration of the Wereda UPE plan. The main sources include the government, NGOs, etc. when an accurate estimation is difficult, the amount mobilized in the past few years should be reviewed as they may give some indication. It is important to have the estimated total resources available in mind when preparing the plan.

**RESOURCE IDENTIFICATION SHEET**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | Source of Budget | Annual Budget Requirement | | | |
| **1999E.C** | **2000E.C** | **2001E.C** | **2002E.C** |
| 1 | Government |  |  |  |  |
|  | * 1. Construction of   classrooms |  |  |  |  |
|  | * 1. Construction of new   schools |  |  |  |  |
|  | 1.3 |  |  |  |  |
|  | 1.4 |  |  |  |  |
| **2** | NGOs |  |  |  |  |
| **3.** | Community contribution |  |  |  |  |
| TOTAL | |  |  |  |  |

**TENTATIVE OBJECTIVES LIST**

|  |  |
| --- | --- |
| **Tentative objectives** | **Means** |
| **1.** |  |
| **2.** |  |
| **3.** |  |
| **4.** |  |
| **5.** |  |
| **6.** |  |
| **7.** |  |
| **8.** |  |
| **9.** |  |
| **10.** |  |
| **11.** |  |
| **12.** |  |

*2.6. Prioritizing Objectives*

Based on the tentative objectives list that the participants made and identification of resources in the previous step, his is the time to prioritize and select objectives. The prioritized objectives should be described in sentences and should illustrate the state of the achievement of each. The prioritized objectives should be arranged and numbered following the order of priority. The way t identify the order of priority is shown in the box below.

How to prioritize the tentative objectives

1. Review the tentative objectives on the list
2. Remove objectives considered difficult to achieve under district authority
3. Select the criteria and procedure for prioritizing the objectives,

Example of criteria:

**Effectiveness:** How much can the objectives contribute to achieving the Woreda education development vision?

**Cost-benefit:** Can the cost or inputs be efficiently converted to achieving the objective?

**Local needs:** How much may the objective is satisfying the need of local residents?

**Sustainability:** Can the objective be sustained without special assistance?

1. Compare and examine each objective according to the prioritization criteria

Example:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Objectives  criterion | More students  Will get text  books | Usable schools  facilities  increase | Parents will  send their  children | ………. | ……… | …….. |
| Effectiveness | Very high-5 | High-4 | Very llow-1 | …… | …… | ….. |
| Cost benefit | High-4 | High-4 | Medium-3 | ……. | …… | …… |
| Needs of residents | High-4 | Medisum-3 | Very high-5 | …… | ……. | ……. |
| Sustainability | High-4 | High-4 | Very high-5 | …… | ……. | …….. |
| Total (rank) | 17(1) | 15(2) | 14(30 | …… | ….. | ……. |

\*Priority grading: e.g. very high-5, high-4, medium-3, and very low-1

\*\*In this case the objective “more students will get textbooks” will be raked No.1 due to the highest score in “Total”.

1. Place the objective s in the order of priority
2. Select objectives which will be included in the Wereda UPE plan.

**PRIORITIZED OBJECTIVE LIST**

|  |  |
| --- | --- |
| Priority No. | Objectives |
| Priority No.1 |  |
| Priority No.2 |  |
| Priority No.3 |  |
| Priority No.4 |  |
| Priority No.5 |  |
| Priority No.6 |  |
| Priority No.7 |  |

*2.7. Setting targets*

The participants will set clear targets for each objective using verifiable indicator. “Verifiable” means any one can check and come to the same result. Such indicators will allow you to measure the success or progress of objectives. The verifiable indicators will also serve as monitoring and evaluation criteria in the future.

In order to set clear targets and identify activities and resources required, the participants need to know the number of pupils in the Woreda for the coming years.

There are different ways of projecting the number of pupils. The following are two simple formulas to project the number of pupils after Y years (Py)

|  |  |  |
| --- | --- | --- |
|  | Available | Formula |
| 1. | Number of pupils at present  (Po) | Py = P0 x (1+ r) y |
|  | Population growth rate (r) |  |
| 2. | Number of pupils at present  (Po) | Py= P0/ GER0 x (1+ r) y x GERy |
|  | GER at present (GER0) |  |
|  | GER after y years (GERy) |  |

**Example 1:**

If a Wereda has 32,000 pupils at present (1999E.C.) and the population growth rate is 2.4%, what is the projected number of pupils in 2000, 2001and 2003?

|  |  |
| --- | --- |
| **Year** | **Number of pupils** |
| 1999E.C. | 32, 000 |
| 2000 | 32,000 x 1.024= 32,768 |
| 2001 | 32, 000 x (1.024)2= 33, 554 or 32,768 x1.024=33,554 |
| 2002 | 32, 000 x (1.024)3 =34, 360 or 33, 554 x 1.024=34, 360 |

**Example 2:**

If a Wereda has 32, 000 pupils at present (1999E.C.), GER at present is 76%, population growth rate is 2.4%, and expected GER in 2000, 20001, and 2003 are 78, 80%, and 82%%respectively, what is the projected number of pupils in 2000, 2001 and 2003?

|  |  |
| --- | --- |
| **Year** | **Number of pupils** |
| 1999 E.C. | 32, 000 |
| 2000 E.C. | 32,000/ 0.76 x 1.024 x 0.78= 33, 630 |
| 2001 E.C. | 32, 000/0.76 x (1.024)2 x 0.8= 35, 320 |
| 2002 E.C. | 32, 000/ 0.76 x (1.024)3 x 0.82= 36, 203 |

The second formula will give more accurate projection if a reliable GER is available. If the accuracy of GER is in doubt, it is safer to use the first formula.

The participants will calculate a projected number of pupils in the Wereda.

|  |  |
| --- | --- |
| Year | Number of pupils |
| 1999 E.C. |  |
| 2000 E.C. |  |
| 2001 E.C. |  |
| 2002 E.C. |  |
|  |  |
|  |  |
|  |  |

The table below shows the format and an example of indicator sheet together with projected number of pupils. Indicators should be chosen carefully so that they can measure the degree of achievement of the objective and they are easy to obtain. More than one indicator may be set for each objective.

The participants will select indicators which will measure the achievement of each objective, and write down the current status found in the school mapping report, and decide the targets for the next three years. In the example above, the national targets are not always used as the plan target. The district should decide the target which is realistic and feasible based on the current status of the district and the resources available for the implementation of the plan.

**Example: Indicator sheet**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Verifiable indicators | | | | |  | |
|  |  |  |  | Yearly target | | | |
| Objectives | Type of data | Current status | End of 2000 | End of 2001 | End of 2002 | | …… |
| Enrollment projection | Enrollment | 32,000 | 32,768 | 33,554, | 34,360 | | ….. |
| **Objective 1:**  All school age children in the Wereda will attend school | NER | 56% | 58% | 65% | 70% | | …… |
| **Objective 2:**  Quality of education will improve | Pupil/teacher ratio | 78/1 | 74/1 | 68/1 | 64/1 | | … |
|  | Number of teachers | 410 | 432 | 471 | 500 | | … |
|  | Transition rate | 10% | 15% | 20% | 25% | | … |
|  | Grade 8 National Exam pass rate | 15% | 20% | 25% | 30% | | … |

*2.8. Setting activities*

Activities are specific actions needed to achieve the objectives by effective use of the resources. For example, in order to achieve an objective of expanding enrollment and access, different actions need to be taken such as increasing school facilities by rehabilitating and constructing classrooms, recruiting and deploying teachers to where they are most needed by securing teacher accommodations, organizing sensitization meetings to convince parents with importance of sending children to school, etc. These actions are activities.

As we have identify resources required and cost each activity in the next step, activities should be written as concrete as possible. For example, “construct new classrooms”, “procure text books” or “organize meetings” does not give enough information to identify resources requirement. On the other hand, “construct 350 classrooms”, “procure 5400 math textbooks for grade 4” or “organize 3 meetings a year at Woreda level” will give you basis for determining the resources required and calculating the cost.

Activities should be listed in a time when they should be carried out in sequence> otherwise, they should be listed in priority order.

The participants will discuss and summarize the activities for each objective in the following format.

**Table for objectives and activities**

Vision:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
|  | Objectives | Activities |
| 1. | Usable school facilities will increase | 1.1.Rehabilitate 120 existing  classrooms  1.2. Construct 350 new classrooms  1.3 Purchase 3,500 desks  1.4.Construct 630 pit latrines |
| 2. |  |  |
| 3. |  |  |

*2.9. Identifying resources and calculating cost*

All the resources needed for each activity should be identified. The term “resources” used here is different from “resources” in monetary terms. Such resources include the personnel, materials, equipment, labour, etc. required for the activity. Once required resources are identified, cost for each activity should be calculated based on these resources.

Before calculating the cost, each Wereda should fill in the unit cost of required items for the activity by referring to the estimation provided by the Regional Education Bureau, for example.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Activity** | **Resources required** | **Cost calculation** |
| 1.1 | Rehabilitate 120 existing classrooms | materials, labour carpenter |  |
| 1.2 | Construct 30 new classrooms | materials, labour, contractor |  |
| 1.3 | Construct 630 pit latrines materials, labour | materials, labour, contractor |  |
| 1.4 | Purchase 5,000 desks | materials, labour, contractor |  |

The participants will prepare the list of unit cost using the following format. The list should include all the items required for activities.

**List of unit cost**

|  |  |
| --- | --- |
| **Items** | **Unit price ( in Birr)** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

The participants will now prepare the resources requirement list. The activities from the Table for Objectives and Activities should be written down under “Activity”, then all the (human and physical) resources required should be listed under “ resources required”. Finally, the cost of implementing each activity should be calculated using the list of unit cost.

**Resources Requirement List**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Activity** | **Resources required** | **Cost calculation** |
| 1.1. |  |  |  |
| 1.2 |  |  |  |
| 1.3 |  |  |  |
| 2.1 |  |  |  |
| 2.2 |  |  |  |
| 2.3 |  |  |  |

**Step 3. Plan of operation**

Through the steps taken in the Program Formulation, objectives are selected and prioritized, targets are set, activities and resources are defined. Now, the participants will prepare the plan of operation (PO) which summarizes how and when to implement the plan. Its main components include *Objectives, Targets, Activities, Implementing Agency, Resources Required, Cost and Time Schedule.*

The first and the third columns are objectives which you have already summarized in the Table for objectives and activities. The second column is target, which the participants have listed in the indicator sheet. The fourth column is for the Implementing agency. The participants will identify who should be responsible for the implementation of each activity. The fifth column, resources required is for both human and physical resources needed for the implementation of each activity. You have already calculated the cost for each activity in the resource requirement list. In this column only the cost without calculation is written down. The time schedule should indicate the time of implementation of each activity.

**Example: Plan of operation**

**Name of Wereda:** XXXXXX **Plan period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Vision:** All school age children in our Wereda will have an equal opportunity for quality primary education

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **Time schedule** | | |  |
| **Objectives** | **Target** | **Activities** | **Implementing agency** | **Resources required** | **Cost**  **( in Birr)** | **2000** | **2001** | **2002** | **….** |
| **Objective 1.**  All school age children in our Wereda will attend school | NER 100% by end of the plan period | * 1. Organize 3 sensitization meetings a year in each school   2. …… | KELTB PTA, School principal |  |  |  |  |  |  |
| **Objective 2.**  Usable school facilities will increase | Pupil/classroom ratio of 60:1 by end of the plan period  Pupil/toilet ratio of 25:1(boys), and 20:1 (girls ) by the end of the plan period | 2.1 Rehabilitate 120 existing classrooms | WEO, | Materials, labour, contractor |  |  |  |  |  |
| 2.2 Construct 350 new classroom | WEO, | Materials, labour, contractor |  |  |  |  |  |
|  | 2.3.Construct 630 pit latrines | WEO, | Materials, labour, contractor |  |  |  |  |  |
| **Objective 3** |  |  |  |  |  |  |  |  |  |
| **Objective 4** |  |  |  |  |  |  |  |  |  |

\*KEATB= Kebele Educational Leadership and Training Board

**Total cost: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Step 4. Annual Action plan**

From the plan of operation for the coming three years prepared in the previous step, the annual action plan will be derived. Annual action plan is amore detailed plan for one year. Only the activities planned in the target year should be described in concrete terms in the annual action plan. For example, your plan is

to “construct 350 new classrooms” in the 10 plan period. If you are to build 35 classrooms each year, the annual action plan should state” construct 35 new classrooms”.

The resources required in the year should be described with its source and these resources should be proportionate to the three year plan. On this annual action plan, the schedule of the activity for each quarter in the target year is described.

An example of the annual action plan is shown in the next page so that the participants will see how it looks like and be able to prepare their own annual action plan.

**Example: Annual action plan**

**Name of Wereda** : xxxxxxxxxx Wereda

Plan period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Quarters 1999 E.C. | | | |  |
| Activities | Implementing agency | Resources required | Cost  (in Birr) | Source | Q 1 | Q 2 | Q 3 | Q 4 | ….. |
| 1.1. Organize three sensitization meetings in each school for importance of sending children to school | KELTB | KELTB members Kebele chair man, school principal, |  |  |  |  |  |  |  |
| 2.1 Rehabilitate 20 existing classrooms in the target schools | WEO | Materials, labour, |  |  |  |  |  |  |  |
| 2.2. Construct 35 new classrooms | WEO | Materials, labour, |  |  |  |  |  |  |  |
| 2.3 Construct 110 pit latrines | WEO | Materials, labour, |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Step 5. Assumptions and Risks**

Under assumptions indicate the positive things that will contribute to the success of the strategic plan

**Example**

* Parents will continue sending their children to schools
* Support from NGOs will be gained

Then you should indicate the risks (***what might go wrong with your plan***) and ways how to overcome these risks.

**Step 6. Monitoring plan**

Monitoring is to examine the degree of programme implementation and to fine tune the plan if necessary. The achievement level of the objectives is reviewed in the monitoring process. To conduct monitoring effectively, there has to be a “monitoring plan”. An example of the monitoring plan is shown in the next page

The monitoring plan should indicate the objectives whose achievement must be monitored using the target expressed by verifiable indicators including the type of data to be used in measuring such achievement. Those are already identified in the previous step. The participants should first copy the objectives and indicators from indicator sheet.

In addition to this, the person in charge of collecting information, methods and frequency of reporting, and the person to confirm the report should be decided.

**Example: Monitoring plan**

**Name of Wereda:** xxxxxx Wereda

**Plan period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Verifiable indicators | | | | | |  |  |  |
|  |  |  | Yearly target | | | |  |  |  |
| **Objectives** | **Type of data** | **Current status** | **End of**  **2000** | **End of**  **2001** | **End of**  **2002** | **……** | **Person**  **in charge of**  **collecting data** | **Method**  **and frequency of reporting** | **Person confirming**  **the report** |
| **Objective 1.**  All school age children in our Wereda will attend school | NER | 56% | 58% | 65% | 70% | ….. | WEO | Monitoring report quarterly | WEO Head |
| **Objective 2.**  Usable school facilities will increase | Pupil/classroom ratio | 80:1 | 78:1 | 76:1 | 74:1 | … | WEO | Monitoring report quarterly | WEO Head |
|  | Number of usable classrooms | … | … | … | … | .. | WEO | Monitoring report quarterly | WEO Head |
|  | Pupil/toilet ratio | Boys 140:1 | 120:1 | 80:1 | 70:1 | … | WEO | Monitoring report quarterly | WEO Head |
|  |  | Girls 90:1 | 70:1 | 60:1 | 50:1 | … | WEO | Monitoring report quarterly | WEO Head` |
| **Objective 3.** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Step 9: Reporting**

After completing all the steps and stages in the workshop, the responsible Woreda officers will put all the outcomes and results in a form of a draft Wereda UPE plan. Once the plan is drafted it should be reviewed thoroughly by the Wereda officers, and submitted to Wereda Council, Zone Education Department and to the Regional Education Bureau.

We suggest the following format for the Wereda UPE plan report

**Executive Summary**

Explain briefly about the planning process and summarize the situation analysis,

vision, mission, values, objectives, and the total cost for implementing the Wereda

UPE plan.

1. **Current status of primary education in the Wereda**
   1. **Findings from stakeholders**

Briefly summarize the stakeholders with their expectations

* 1. **Strengths, weaknesses, opportunities, and threats of primary education in**

**the Wereda**

Summarize the strengths, weaknesses, opportunities, and threats of the

primary education in the Wereda

1. **Wereda UPE plan**
   1. **Vision**

Write the vision statement and explain how the vision was set.

* 1. **Mission**

Write the mission statement and how it was set.

* 1. **Values**

Write the values identified in the workshop and how they are set.

* 1. **Objectives**

Attach the prioritized objective list and explain why these were selected and prioritized.

* 1. **Targets**

Attach the indicator sheet

* 1. **Activities and resources required**

Attach the resource identification sheet, list of unit cost and resource requirement list.

* 1. **Plan of operation**

Attach the plan of operation (no explanation is necessary)

* 1. **Annual action plan**

Attach the annual action plan (no explanation is necessary)

**2.9. Monitoring plan**

Attach the monitoring plan (no explanation is necessary)

**Appendix**

Any documents effective to support the contents f the report

**2.9. Monitoring plan**

Attach the monitoring plan (no explanation is necessary)

**Appendix**

Any documents effective to support the contents f the report

**Format for the Wereda UPE plan report**

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**AMHARA NATIONAL REGIONAL STATE EDUCATION BUREAU**

**SCHOOL MAPPING AND MICRO PLANNING**

**PROJECT**

**PRIMARY SCHOOL QUESTIONNAIRE**

**PURPOSE:**

The purpose of this questionnaire is to collect detailed data to show existing primary educational provision in the the Amhara National Regional State and prepare education development plan focused at Woreda level.

This questionnaire is intended to be completed by the principal of the school, or responsible person he /she delegates. Since data collected from this questionnaire will serve as a basis for educational development in the region for the next ten years, utmost care needs to be given when completing it . It is important to refer to the most recent data of the school when filling the questionnaire.

Thank you !

**SECTION ONE: GENERAL DESCRIPTION OF THE SCHOOL**

* 1. Name of school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Code of school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. If there was change of name, what is the former name of the school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. Year of establishment of the school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. Location of school:

Zone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wereda:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kebele:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P.O.Box:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E-mail:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.6. Is the school located in a rural area or in an urban area? (Circle one)

Rural Urban

If the school is located in a rural area, indicate name of the rural Kebele below:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If the school is located in an urban area, indicate name of town below:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION TWO: SUMMARY DATA**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Total number of students (regular and evening) | | | Number of repeaters | | | Number of readmitted  students | | | Number of sections |
| M | F | Total | M | F | Total | M | F | Total |
| Grade 1 |  |  |  |  |  |  |  |  |  |  |
| Grade 2 |  |  |  |  |  |  |  |  |  |  |
| Grade 3 |  |  |  |  |  |  |  |  |  |  |
| Grade 4 |  |  |  |  |  |  |  |  |  |  |
| Grade 5 |  |  |  |  |  |  |  |  |  |  |
| Grade 6 |  |  |  |  |  |  |  |  |  |  |
| Grade 7 |  |  |  |  |  |  |  |  |  |  |
| Grade 8 |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | M | F | Total |
| Total number of teachers |  |  |  |

|  |  |
| --- | --- |
| Total number of classrooms |  |

**SECTION THREE: CONDITION OF SCHOOL FACILITIES AND BUILDINGS**

3.1. Original purpose for which the school was constructed (circle one)

A. Constructed as a school

B. Constructed for other purposes and used for /adapted to use for school use

3.2. Indicate the availability of the following facilities in the school (tick in the appropriate box and indicate the number)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes | No | Number |
| Classroom |  |  |  |
| Library |  |  |  |
| Office |  |  |  |
| Pedagogical center |  |  |  |
| Auditorium |  |  |  |
| Store |  |  |  |
| Other ( specify) |  |  |  |

3.3. Condition of buildings

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Indicate Building  Number here (1, 2, 3, …) | Completion year of  the building | Number  of classrooms in the  building | Construction material of  the walls | | | | Condition of  wall | | Type of  roofing | | | Condition  of  roofing | | | Type of  floor | | | Condition  of  floor | | | Rooms without doors and  windows | | Source of finance for  construction | | | | | |
| Stone, bricks,… | Wood | Mud blockets | Other | Good | Not good | Corrugated iron | Grass | Other | Good | Not good | Cement | | Soil | Other | Good | Not good | window doors | | Gate doors | Government | Community | NGO | Development  partners | other |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |

**SECTION FOUR: DATA ON TEACHERS AND ADMINISTRATIVE STAFF (**write the number in the relevant boxes**)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sex** | | **Marital**  **status** | | **Nationality** | | **Responsibility** | | **Condition of employment** | |
| Male | Female | Married | Unmarried | Ethiopians | Expatriates | Teachers | Admin.  staff | Permanent | contract |
|  |  |  |  |  |  |  |  |  |  |

Indicate the number of teachers in your school possessing each of the qualifications, and specializations.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teachers’ Qualification** | | | | | | | | | | | | | **Teacher**  **professional**  **training** | | | **Training on**  **special**  **education** | |
| Below  Grade  10 | Grade  10 | Grade  11 | Grade  12 | 1 year  HE | 2 year  HE | 3 year  HE | Diploma | BA, BSc,  or BEd | MA, MSC | PhD | Certificate | other | BEd | MEd | Other | Yes | No |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Indicate the number of teachers in your school earning the monthly salaries shown below

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Below  300 | 300-399 | 400-499 | 500-599 | 600-699 | 700-799 | 800-799 | 800-899 | 900-999 | 1000-1099 | 1100-1199 | 1200-1299 | 1300-1399 | 1400-1499 | 1500 and  above |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**SECTION FIVE: NUMBER OF TEACHERS WHO LEFT THE SCHOOL LAST YEAR**

(Indicate the number of teachers who left the school last year due to the following reasons)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Transfer | Death | Sickness | Pension | Resignation | Training | Other |
| Male |  |  |  |  |  |  |  |
| Female |  |  |  |  |  |  |  |

**SECTION SIX: NUMBER OF STUDENTS BY GRADE (EVENINING)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | **Grade 1** | | **Grade 2** | | **Grade 3** | | **Grade 4** | | **Grades 1-4**  **(Total)** | | |
| Number of  sections |  | |  | |  | |  | |  | | |
| Number of  evening  students  by age | M | F | M | F | M | F | M | F | M | F | Total |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 6years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11years |  |  |  |  |  |  |  |  |  |  |  |
| 12 years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**NUMBER OF STUDENTS BY GRADE (EVENINING) ccontd.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | **Grade 5** | | **Grade 6** | | **Grade 7** | | **Grade 8** | | **Grades 5-8**  **(Total)** | | |
| Number of  sections |  | |  | |  | |  | |  | | |
| Number of  evening  students  by age | M | F | M | F | M | F | Total | M | F | M | F |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 6years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11years |  |  |  |  |  |  |  |  |  |  |  |
| 12 years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF STUDENTS BY GRADE (REGULAR)(** in all languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grades 1-4 (total) | | |
| Number of sections |  | |  | |  | |  | |  | | |
| Whole day/ single shift |  | |  | |  | |  | |  | | |
| Double shift |  | |  | |  | |  | |  | | |
| Both single and double |  | |  | |  | |  | |  | | |
| Total number of  regular  students  by age( including  repeaters, and  those readmitted) | M | F | M | F | M | F | M | F | M | F | Total |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11 years |  |  |  |  |  |  |  |  |  |  |  |
| 12years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF STUDENTS BY GRADE (REGULAR) (** in all languages of instruction**)CONTD.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 5 | | Grade 6 | | Grade 7 | | Grade 8 | | Grades 5-8 (total) | | |
| Number of sections |  | |  | |  | |  | |  | | |
| Whole day/single shift |  | |  | |  | |  | |  | | |
| Double shift |  | |  | |  | |  | |  | | |
| Both single and double |  | |  | |  | |  | |  | | |
| Total number of regular  students by age( including  repeaters,  and those readmitted) | M | F | M | F | M | F | M | F | M | F | Total |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11 years |  |  |  |  |  |  |  |  |  |  |  |
| 12years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF REPEATERS, READMITTED STUDENTS, AND SPECIAL EDUCATION STUDENTS (REGULAR) (** in all languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GRADE LEVEL | GRADE 1 | | GRADE 2 | | GRADE 3 | | GRADE 4 | | GRADES 1-4  (TOTAL) | | |
|  | M | F | M | F | M | F | M | F |  |  |  |
| Number of repeaters |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Readmitted st. |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Spec. edu. Stud. |  |  |  |  |  |  |  |  |  |  |  |
| Blind |  |  |  |  |  |  |  |  |  |  |  |
| Handicapped |  |  |  |  |  |  |  |  |  |  |  |
| Deaf |  |  |  |  |  |  |  |  |  |  |  |
| Mentally retarded |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |
| Number of  orphans |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF REPEATERS, READMITTED STUDENTS, AND SPECIAL EDUCATION STUDENTS (REGULAR) (** in all languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GRADE LEVEL | GRADE 5 | | GRADE 6 | | GRADE 7 | | GRADE 8 | | GRADES 5-8  (TOTAL) | | |
|  | M | F | M | F | M | F | M | F |  |  |  |
| Number of repeaters |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Readmitted st. |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Spec. edu. Stud. |  |  |  |  |  |  |  |  |  |  |  |
| Blind |  |  |  |  |  |  |  |  |  |  |  |
| Handicapped |  |  |  |  |  |  |  |  |  |  |  |
| Deaf |  |  |  |  |  |  |  |  |  |  |  |
| Mentally retarded |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |
| Number of  orphans |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF STUDENTS BY GRADE (REGULAR) (** in other languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grades 1-4 (total) | | |
| Number of sections |  | |  | |  | |  | |  | | |
| Whole day/single shift |  | |  | |  | |  | |  | | |
| Double shift |  | |  | |  | |  | |  | | |
| Both single and double |  | |  | |  | |  | |  | | |
| Total number of  regular students  by age( including  repeaters, and  those readmitted) | M | F | M | F | M | F | M | F | M | F | Total |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11 years |  |  |  |  |  |  |  |  |  |  |  |
| 12years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF STUDENTS BY GRADE (REGULAR) (** in other languages of instruction**) CONTD.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 5 | | Grade 6 | | Grade 7 | | Grade 8 | | Grades 5-8 (total) | | |
| Number of sections |  | |  | |  | |  | |  | | |
| Whole day/single shift |  | |  | |  | |  | |  | | |
| Double shift |  | |  | |  | |  | |  | | |
| Both single and double |  | |  | |  | |  | |  | | |
| Total number of  regular students  by age( including  repeaters, and  those readmitted) | M | F | M | F | M | F | M | F | M | F | Total |
| Below  6 years |  |  |  |  |  |  |  |  |  |  |  |
| 7 years |  |  |  |  |  |  |  |  |  |  |  |
| 8 years |  |  |  |  |  |  |  |  |  |  |  |
| 9 years |  |  |  |  |  |  |  |  |  |  |  |
| 10 years |  |  |  |  |  |  |  |  |  |  |  |
| 11 years |  |  |  |  |  |  |  |  |  |  |  |
| 12years |  |  |  |  |  |  |  |  |  |  |  |
| 13 years |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Above 16 years |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF REPEATERS, READMITTED STUDENTS, AND SPECIAL EDUCATION STUDENTS (REGULAR) (** in other languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GRADE LEVEL | GRADE 1 | | GRADE 2 | | GRADE 3 | | GRADE 4 | | GRADES 1-4  (TOTAL) | | |
|  | M | F | M | F | M | F | M | F |  |  |  |
| Number of repeaters |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Readmitted st. |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Spec. edu. Stud. |  |  |  |  |  |  |  |  |  |  |  |
| Blind |  |  |  |  |  |  |  |  |  |  |  |
| Handicapped |  |  |  |  |  |  |  |  |  |  |  |
| Deaf |  |  |  |  |  |  |  |  |  |  |  |
| Mentally retarded |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |
| Number of  orphans |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF REPEATERS, READMITTED STUDENTS, AND SPECIAL EDUCATION STUDENTS (REGULAR) (** in other languages of instruction**)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GRADE LEVEL | GRADE 5 | | GRADE 6 | | GRADE 7 | | GRADE 8 | | GRADES 5-8  (TOTAL) | | |
|  | M | F | M | F | M | F | M | F |  |  |  |
| Number of repeaters |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Readmitted st. |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Spec. edu. Stud. |  |  |  |  |  |  |  |  |  |  |  |
| Blind |  |  |  |  |  |  |  |  |  |  |  |
| Handicapped |  |  |  |  |  |  |  |  |  |  |  |
| Deaf |  |  |  |  |  |  |  |  |  |  |  |
| Mentally retarded |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |
| Number of  orphans |  |  |  |  |  |  |  |  |  |  |  |

**SECTION EIGHT: TEXTBOOKS**

8.1. Teacher guides: (indicate the number of teacher guides for each grade available in store and with teachers)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | |
|  | With  teachers | in store | With  teachers | in store | With  teachers | in store | With  teachers | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English |  |  |  |  |  |  |  |  |
| Environmental science |  |  |  |  |  |  |  |  |
| Basic science |  |  |  |  |  |  |  |  |
| Esthetics |  |  |  |  |  |  |  |  |
| Maths |  |  |  |  |  |  |  |  |
| Social science |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |

8.1. Teacher guides: (indicate the number of teacher guides for each grade available in store and with teachers)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 5 | | Grade 6 | | Grade 7 | | Grade 8 | |
|  | With  teachers | in store | With  teachers | in store | With  teachers | in store | With  teachers | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English |  |  |  |  |  |  |  |  |
| Environmental science |  |  |  |  |  |  |  |  |
| Basic science |  |  |  |  |  |  |  |  |
| Esthetics |  |  |  |  |  |  |  |  |
| Maths |  |  |  |  |  |  |  |  |
| Social science |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |

8.2. Students text books: (indicate the number of students text books for each grade available in store and with students)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | |
|  | With  teachers | in store | With  teachers | in store | With  teachers | in store | With  teachers | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English |  |  |  |  |  |  |  |  |
| Environmental science |  |  |  |  |  |  |  |  |
| Basic science |  |  |  |  |  |  |  |  |
| Esthetics |  |  |  |  |  |  |  |  |
| Maths |  |  |  |  |  |  |  |  |
| Social science |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |

8.2. Students text books: (indicate the number of students text books for each grade available in store and with students)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | |
|  | With  teachers | in store | With  teachers | in store | With  teachers | in store | With  teachers | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English |  |  |  |  |  |  |  |  |
| Environmental science |  |  |  |  |  |  |  |  |
| Basic science |  |  |  |  |  |  |  |  |
| Esthetics |  |  |  |  |  |  |  |  |
| Maths |  |  |  |  |  |  |  |  |
| Social science |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |

**SECTION NINE: EQUIPMENT AND FURNITURE**

9.1. Teaching equipment and furniture

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Teacher table | Teacher chair | Chalkboard | shelves | Cupboard | Computer | Calculator | Duplicating  machine |
| **TOTAL** |  |  |  |  |  |  |  |  |

9.2. Number of student desks

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | number of  student desks | of these | 1seat desk | 2 seat desk | 3 seat desk | \_\_ seat desk | Number of additional  desks needed |
| **Total** |  |  |  |  |  |  |

**SECTION TEN: GENERAL INFORMATIONM ABOUT THE SCHOOL**

10.1 Distance of school in Kms.

From Woreda: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

From Bahir Dar:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

From Zone town: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.2. Does the school offer self contained teaching in grades 1-4(circle one)?

A. Yes

B. No

10.3. If the school is feeder school, what is the distance from thew school to the

receiving school?\_\_\_\_\_\_\_\_\_\_\_\_ kms.

10.4. Type of school

1. Satellite
2. Cluster center

If the school is a cluster center, how many satellite schools does it have?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.5. Does the school have special education classes?

A. Yes

B. No

10.6. Ownership of the school (circle one)

1. Government
2. Foreign community
3. Public/indigenous
4. Private
5. Mission
6. Church
7. Mosque
8. Other

10.7 Water supply (circle one)

A. Available

B. Not available

10.8. If available, what type?

1. pipe water
2. well
3. spring
4. other (specify): ------------------------

10.9 Number of toilets: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Of these, how many are

1. for male students only:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,
2. for female students only:\_\_\_\_\_\_\_\_\_\_;
3. for teachers and administrative staff:\_\_\_\_\_\_\_\_\_
4. for both male female students:\_\_\_\_\_\_\_\_\_\_\_,
5. for students and teachers:\_\_\_\_\_\_\_\_\_\_\_\_\_

10.10. Electric service (circle one)

A. Available

B. Not available

If electricity is available, indicate source: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If electricity is from generator, is the generator working? A. Yes B. No

10.11. First aid service

A. Available

B. Not available

If not available, distance of school to the nearest health institution in   
 Kms:\_\_\_\_\_\_\_\_

10.12. Does the school have legal ownership document?

A. Yes

B. No

10.13. Area of school compound in sq. meters:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.14. Does the school have a play ground:

A. Yes

B. No.

10.15. Does the school have sports materials?

A. Yes

B. No.

10.16. Does the school have garden?

A. Yes

B. No.

10.17. Does the school have anti HIV/AIDS club?

A. Yes

B. No.

10.18. Does education radio broadcast reach the school?

A. yes

B. No

If yes, number of radio sets:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Of these, number working\_\_\_\_\_\_\_\_\_\_,

not working\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION 11: FINANCIAL INFORMATION OF LAST YEAR**

11.1 Annual sources of income

|  |  |  |
| --- | --- | --- |
| Source of income | Birr | Cents |
| 1. Government |  |  |
| * Block grant |  |  |
| * Salary |  |  |
| * Other |  |  |
| 2. Students fees |  |  |
| 3. Internal income |  |  |
| 4. Community participation |  |  |
| * Cash |  |  |
| * Labour |  |  |
| * Materails |  |  |
| 5. Other |  |  |
| Total income |  |  |

11.2. Annual expenditure

|  |  |  |
| --- | --- | --- |
| **Expenditure items** | **Birr** | **Cents** |
| Teachers’ salary |  |  |
| Administrative staff salary |  |  |
| Recurrent budget |  |  |
| Durable materials |  |  |
| Teaching materials |  |  |
| Building construction and maintenance |  |  |
| other |  |  |
| Total expenditure |  |  |

**AMHARA NATIONAL REGIONAL STATE EDUCATION BUREAU**

**SCHOOL MAPPING AND MICRO PLANNING**

**PROJECT**

**SECONDARY SCHOOL QUESTIONNAIRE**

**PURPOSE:**

The purpose of this questionnaire is to collect detailed data to show existing primary educational provision in the Amhara National Regional State and prepare education development plan focused at Woreda level.

This questionnaire is intended to be completed by the principal of the school, or responsible person he /she delegates. Since data collected from this questionnaire will serve as a basis for educational development in the region for the next ten years, utmost care needs to be given when completing it. It is important to refer to the most recent data of the school when filling the questionnaire.

Thank you !

**SECTION ONE: GENERAL DESCRIPTION OF THE SCHOOL**

* 1. Name of school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Code of school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. If there was change of name, what is the former name of the school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. Year of establishment of the school:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. Location of school:

Zone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wereda:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kebele:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P.O.Box:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E-mail:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.6. Is the school located in a rural area or in an urban area? (Circle one)

Rural Urban

If the school is located in a rural area, indicate name of the rural Kebele below:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If the school is located in an urban area, indicate name of town below:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION TWO: SUMMARY DATA**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Total number of students (regular and evening) | | | number of REPEATERS | | | number of READMITTED STUDENTS | | | Number of sections |
| M | F | Total | M | F | Total | M | F | Total |
| Grade 9 |  |  |  |  |  |  |  |  |  |  |
| Grade 10 |  |  |  |  |  |  |  |  |  |  |
| Grade 11 |  |  |  |  |  |  |  |  |  |  |
| Grade 12 NS\* |  |  |  |  |  |  |  |  |  |  |
| Grade 12 SS\*\* |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |

\* NS= natural science \*\*SS= social science

|  |  |  |  |
| --- | --- | --- | --- |
|  | M | F | Total |
| Total number of teachers |  |  |  |

|  |  |
| --- | --- |
| Total number of classrooms |  |

**SECTION THREE: CONDITION OF SCHOOL FACILITIES AND BUILDINGS**

3.1. Original purpose for which the school was constructed (circle one)

A. Constructed as a school

B. Constructed for other purposes and used for /adapted to use for school use

3.2. Indicate the availability of the following facilities in the school (tick in the appropriate box and indicate the number)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes | No | Number |
| Classroom |  |  |  |
| Library |  |  |  |
| Pedagogical center |  |  |  |
| Teachers’ lounge |  |  |  |
| Store |  |  |  |
| Chemistry laboratory |  |  |  |
| Biology laboratory |  |  |  |
| Physics laboratory |  |  |  |
| Chemistry and biology laboratory |  |  |  |
| Biology and physics laboratory |  |  |  |
| Physics and chemistry laboratory |  |  |  |
| Biology , physics and chemistry laboratory |  |  |  |
| Internet lab. |  |  |  |
| Other (specify) |  |  |  |

3.3. Condition of buildings

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Indicate Building  Number here (1, 2, 3, …) | Completion year of  the building | Number  of classrooms in the  building | Construction  material of  the walls | | | | Condition of  wall | | Type of  roofing | | | Condition  of  roofing | | | Type of  floor | | | Condition  of  floor | | | Rooms without  doors and  windows | | Source of finance  for  construction | | | | | |
| Stone, bricks,… | Wood | Mud blockets | Other | Good | Not good | Corrugated iron | Grass | Other | Good | Not good | Cement | | Soil | Other | Good | Not good | window doors | | Gate doors | Government | Community | NGO | Development  partners | other |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  |

**SECTION FOUR: DATA ON TEACHERS AND ADMINISTRATIVE STAFF (**write the number in the relevant boxes**)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sex** | | **Marital**  **status** | | **Nationality** | | **Responsibility** | | **Condition of employment** | |
| Male | Female | Married | Unmarried | Ethiopians | Expatriates | Teachers | Admin.  staff | Permanent | contract |
|  |  |  |  |  |  |  |  |  |  |

Indicate the number of teachers in your school possessing each of the qualifications, and specializations.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teachers’ Qualification** | | | | | | | | | | | | | **Teacher**  **professional**  **training** | | | **Training on**  **special**  **education** | |
| Below  Grade  10 | Grade  10 | Grade  11 | Grade  12 | 1 year  HE | 2 year  HE | 3 year  HE | Diploma | BA, BSc,  or BEd | MA, MSC | PhD | Certificate | other | BEd | MEd | Other | Yes | No |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Indicate the number of teachers in your school earning the monthly salaries shown below

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Below  300 | 300-399 | 400-499 | 500-599 | 600-699 | 700-799 | 800-799 | 800-899 | 900-999 | 1000-1099 | 1100-1199 | 1200-1299 | 1300-1399 | 1400-1499 | 1500 and  above |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**SECTION FIVE: NUMBER OF TEACHERS WHO LEFT THE SCHOOL LAST YEAR**

(Indicate the number of teachers who left the school last year due to the following reasons)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Transfer | Death | Sickness | Pension | Resignation | Training | Other |
| Male |  |  |  |  |  |  |  |
| Female |  |  |  |  |  |  |  |

**SECTION SIX: NUMBER OF STUDENTS BY GRADE (EVENINING)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 9 | | Grade 10 | | Grades 9-10  ( Total) | | | Grade 11 | | Grade 11 | | Grade 12 | | Grade 12 | | grades 9-12  (totAl) | | |
| Stream | General | | General | | NS | | SS | | NS | | SS | |
| Number of  sections |  | |  | |  | |  | |  | |  | |
| Number of  evening  students  by age | M | F | M | F | M | F | Total | M | F | M | F | M | F | M | F | M | F | Total |
| Below  13 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Above20 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**SECTION SEVEN: NUMBER OF STUDENTS BY GRADE (REGULAR)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade  Level | Grade 9 | | Grade 10 | | Grades 9-10  ( Total) | | | Grade 11 | | Grade 11 | | Grade 12 | | Grade 12 | | grades 9-12  (totAl) | | |
| Stream | General | | General | | NS | | SS | | NS | | SS | |
| Number of  sections |  | |  | |  | |  | |  | |  | |
| Whole day/  one shift |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Double shift |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total number of  regular  students  by age( including  repeaters, and  those readmitted) | M | F | M | F | M | F | Total | M | F | M | F | M | F | M | F | M | F | Total |
| Below  13 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Above20 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of repeaters |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Readmitted st. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of  Spec. edu. Stud. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Blind |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Handicapped |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Deaf |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mentally retarded |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of  orphans |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**SECTION EIGHT: TEXTBOOKS**

8.1. Teacher guides: (indicate the number of teacher guides for each grade available in store and with teachers)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 9 | | Grade 10 | | Grade 11 | | Grade 12 | |
|  | With  teachers | in store | With  teachers | in store | With  teachers | in store | With  teachers | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Basic technical drawing |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English/ Part 1 |  |  |  |  |  |  |  |  |
| English/ Part 2 |  |  |  |  |  |  |  |  |
| Ethiopian economy |  |  |  |  |  |  |  |  |
| General business |  |  |  |  |  |  |  |  |
| General economics |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Computer science/IT |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Physics |  |  |  |  |  |  |  |  |

8.2. Students text books: (indicate the number of students text books for each grade available in store and with students)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grade 9 | | Grade 10 | | Grade 11 | | Grade 12 | |
|  | With  students | in store | With  students | in store | With  students | in store | With  students | in store |
| Amharic |  |  |  |  |  |  |  |  |
| Basic technical drawing |  |  |  |  |  |  |  |  |
| Biology |  |  |  |  |  |  |  |  |
| Chemistry |  |  |  |  |  |  |  |  |
| Civics |  |  |  |  |  |  |  |  |
| English/ Part 1 |  |  |  |  |  |  |  |  |
| English/ Part 2 |  |  |  |  |  |  |  |  |
| Ethiopian economy |  |  |  |  |  |  |  |  |
| General business |  |  |  |  |  |  |  |  |
| General economics |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| Geography |  |  |  |  |  |  |  |  |
| History |  |  |  |  |  |  |  |  |
| Computer science/IT |  |  |  |  |  |  |  |  |
| Local language |  |  |  |  |  |  |  |  |
| Mathematics |  |  |  |  |  |  |  |  |
| Physical education |  |  |  |  |  |  |  |  |
| Physics |  |  |  |  |  |  |  |  |

**SECTION NINE: EQUIPMENT AND FURNITURE**

9.1. Teaching equipment and furniture

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Teacher table | Teacher chair | Chalkboard | Shelves | Cupboard | Computer | Typewriter | Duplicating  machine |
| **TOTAL** |  |  |  |  |  |  |  |  |

9.2. Number of student desks

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Number of  student desks | Of these | 1seat desk | 2 seat desk | 3 seat desk | 4 seat desk | Number of additional  desks needed |
| **TOTAL** |  |  |  |  |  |  |

**SECTION TEN: GENERAL INFORMATIONM ABOUT THE SCHOOL**

10.1 Distance of school in Kms.

From Woreda: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

From Bahir Dar:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

From Zone town: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.2. Ownership of the school (circle one)

1. Government
2. Foreign community
3. Public/indigenous
4. Private
5. Mission
6. Church
7. Mosque
8. Other

10.3 Water supply (circle one)

A. Available

B. Not available

10.4. If available, what type?

1. pipe water
2. well
3. spring
4. other (specify): ------------------------

10.5 Number of toilets: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Of these, how many are

1. for male students only:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,
2. for female students only:\_\_\_\_\_\_\_\_\_\_;
3. for teachers and administrative staff:\_\_\_\_\_\_\_\_\_
4. for both male female students:\_\_\_\_\_\_\_\_\_\_\_,
5. for students and teachers:\_\_\_\_\_\_\_\_\_\_\_\_\_

10.6. Electric service (circle one)

A. Available

B. Not available

If electricity is available, indicate source: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If electricity is from generator, is the generator working? A. Yes B. No

10.7. Number of plasma screens working:\_\_\_\_\_\_\_\_\_, not working:---------------------

10.8. Satellite dish

A. Available

B. Not available

If available, is it working? A. Yes B. No

10.9. Computers

A. Available

B. Not available

If available, number of computers working:\_\_\_\_\_\_\_\_\_\_, not working:\_\_\_\_\_\_\_

Of those computers working, how many are used for administrative work?\_\_\_\_\_\_\_\_,

how many are used for teaching:\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and how many area used for

internet labs?\_\_\_\_\_\_\_\_\_\_

10.10. First aid service

A. Available

B. Not available

If not available, distance of school to the nearest health institution in   
 Kms:\_\_\_\_\_\_\_\_

10.11. Does the school have legal ownership document ?

A. Yes

B. No

10.12. Area of school compound in sq. meters:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.13. Does the school have a play ground:

A. Yes

B. No.

10.14. Does the school have sports materials?

A. Yes

B. No.

10.15. Does the school have garden?

A. Yes

B. No.

10.16. Does the school have anti HIV/AIDS club?

A. Yes

B. No.

**SECTION 11: ABOUT THE SCHOOL’S LAST YEAR FINANCIAL INFORMATION**

11.1 Annual sources of income

|  |  |  |
| --- | --- | --- |
| Source of income | Birr | Cents |
| 1. Government |  |  |
| * Block grant |  |  |
| * Salary |  |  |
| * Other |  |  |
| 2. Students fees |  |  |
| 3. Internal income |  |  |
| 4. Community participation |  |  |
| * Cash |  |  |
| * Labour |  |  |
| * Materails |  |  |
| 5. Other |  |  |
| Total income |  |  |

11.2. Annual expenditure

|  |  |  |
| --- | --- | --- |
| **Expenditure items** | **Birr** | **Cents** |
| Teachers’ salary |  |  |
| Administrative staff salary |  |  |
| Recurrent budget |  |  |
| Durable materials |  |  |
| Teaching materials |  |  |
| Building construction and maintenance |  |  |
| Other |  |  |
| Total expenditure |  |  |

**AMHARA NATIONAL REGIONAL STATE EDUCATION BUREAU**

**SCHOOL MAPPING AND MICRO PLANNING**

**PROJECT**

**HOUSEHOLD QUESTIONNAIRE**

**PURPOSE:**

The purpose of this questionnaire is to collect data on the education situation and needs of household members in Amhara National Regional State which will serve as a basis for educational development in the region for the next ten years.

Since data collected from this questionnaire will serve as a basis for educational development in the region, utmost care needs to be given when completing it.

Thank you !

1. Woreda : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Kebele: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Gott : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Village: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Number of household members
   1. Male adults:---------------------- 1.3. Male Children:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Female adults:\_\_\_\_\_\_\_\_\_\_\_\_\_ 1.4. Female Children:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Annual Household income ( in Birr): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Education level of parents (tick in the appropriate box):

|  |  |  |
| --- | --- | --- |
| **Education level** | **Mother** | **Father** |
| 3.1. Illiterate |  |  |
| 3.2. Able to read and write |  |  |
| 3.3. Grade 4 completed |  |  |
| 3.4. Grade 8 completed |  |  |
| 3.5. Grade 10 completed |  |  |
| 3.6. Grade 12 complete |  |  |
| 3.7. College Diploma |  |  |
| 3.8. First degree |  |  |
| 3.9. Masters or above |  |  |

4. Children in the household

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Age | | | | | | | | | | | | | | | | | | | | |
|  | < 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Male children |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female children |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

5. Is there any member of this household currently going to school? ( circle one):

Yes No

6. Is there any member of this household who dropped out from school? ( circle one):

Yes No

7. How many of the children of this household have dropped out of school?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. What are the reasons for dropping out?

8.1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Which of the following are the reasons for children from your household to drop out of school?

|  |  |  |
| --- | --- | --- |
| **Reasons** | **Yes** | **No** |
| 9.1 Home-school distance |  |  |
| 9.2 Risk of abduction |  |  |
| 9.3 Poor health |  |  |
| 9.4 Early marriage |  |  |
| 9.5 River cannot be crossed |  |  |
| 9.6 Lack of family support |  |  |
| 9.7 Lack of resources to cover school expenses |  |  |
| 9.8. Needed for helping family |  |  |
| 9.9.inadequate clothing |  |  |
| 9.10. other (specify) |  |  |

10. How far is the distance from your home to

10.1 first cycle primary school \_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

10.2. second cycle primary school \_\_\_\_\_\_\_\_\_\_\_\_kms.

10.3. general secondary school\_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

10.4. preparatory school\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

11. Which of the following are used by children of this household to travel to the nearest school? ( circle one):

11.1 Walking

11.2 Riding animals

11.3 Animal powered wheel based transport

11.4 Motor vehicle

11.5 Others (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Indicate the travel time (according to the major mode of travel mentioned above):

Hour: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Minutes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. For how many days during the last academic year did each of the children on average stay away from school because of the following reasons?

|  |  |  |
| --- | --- | --- |
| **Reasons** | **Boys** | **Girls** |
| 13.1. to work in the farms during plowing/planning |  |  |
| 13.2. to work in the farms during the harvesting season |  |  |
| 13.4. to work in the farms during the harvesting season |  |  |
| 13.5. when crossing river becomes a problem |  |  |
| 13.6. sickness/hunger |  |  |
| 13.7. other reasons (specify) |  |  |

14. What major problems did your children have during the last academic year in attending school?

14.1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14.2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14.3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. What do you think should be done to alleviate the problems you mentioned above?

15.1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15.2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15.3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**AMHARA NATIONAL REGIONAL STATE EDUCATION BUREAU**

**SCHOOL MAPPING AND MICRO PLANNING PROJECT**

**KEBELE QUESTIONNAIRE**

**PURPOSE:**

The purpose of this questionnaire is to collect data on the education situation and needs of the Kebeles in Amhara National Regional State which will serve as a basis for educational development in the region for the next ten years.

Since data collected from this questionnaire will serve as a basis for educational development in the region, utmost care needs to be given when completing it.

Thank you !

1. Woreda : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Kebele: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Gott : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Village: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How far is the distance from the Kebele to the nearest

1.1 first cycle primary school \_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

1.2. second cycle primary school \_\_\_\_\_\_\_\_\_\_\_\_kms.

1.3. general secondary school\_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

1.4. preparatory school\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_kms.

2. Where is the school mostly used by the Kebele’s children located?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. On average, how far is the school located from the remote villages in the Kebele?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Kms.

1. What is the most common mode of transport the Kebeles’ children use to come to school? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the travel time for primary school children from the remote villages in the Kebele to their school? Hour:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Minutes:\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the travel time for secondary school children from the remote villages in the Kebele to their school? Hour:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Minutes:\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What major educational problems do the Kebele children have?

7.1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What do you think should be done to alleviate the problems mentioned above?

7.1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_