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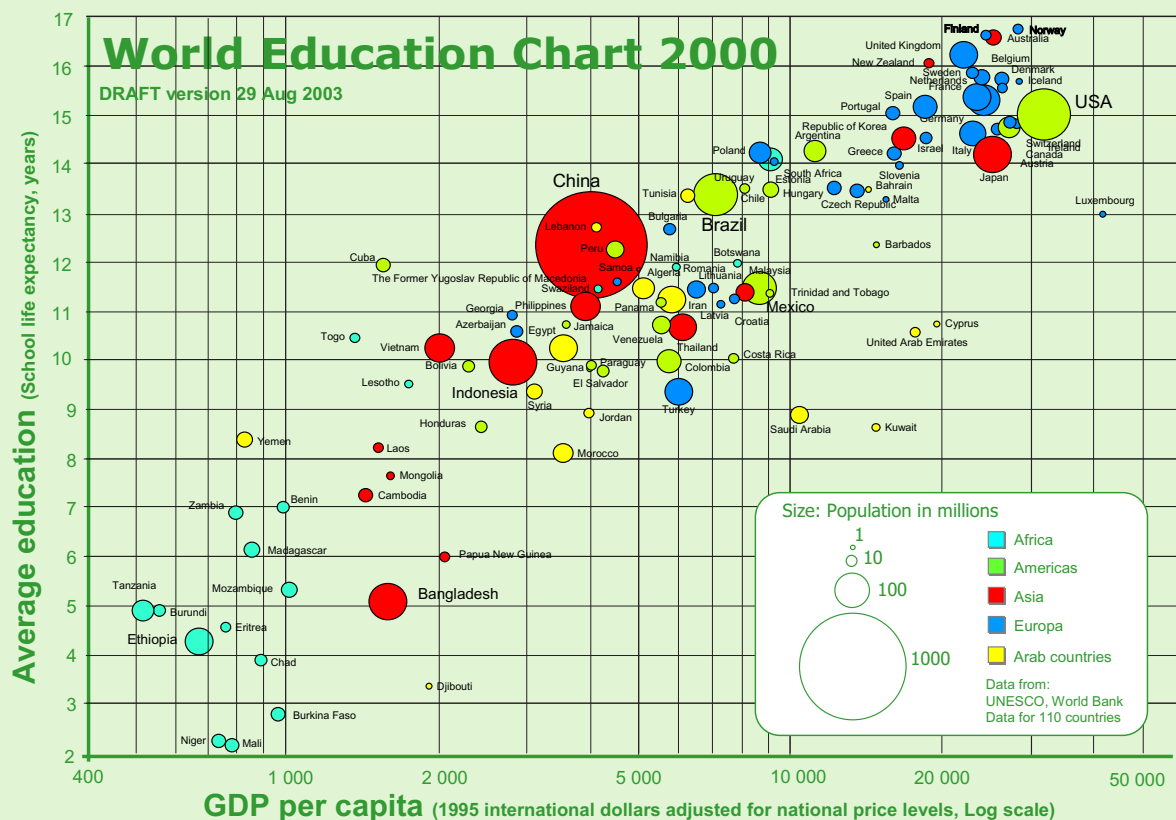
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Educational policy analysis



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Progress and result indicators and their relevance for educational policy analysis

Final Report

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Foreword

This report was commissioned to offer a better understanding of partner countries' conditions as they move from a projects-oriented approach to a sector oriented approach and to provide an historical evolution of educational indicators of progress and results.

The report has demonstrated how to use indicators to assess an education policy for the purpose of sector program support. More specifically it has reviewed the relevant statistics and indicators of progress in primary and secondary education in the following countries: Bolivia, Honduras, Burkina Faso, Ethiopia, Mozambique, Tanzania, Bangladesh and Cambodia.

The report highlights the importance and the lack of valid, reliable and comparative information that can offer insights into the development, functioning and performance of education systems. It is concluded that there is an urgent need to improve the quality and availability of a wide range of international data. For instance this report has not been able to provide time-trends for a wide variety of basic statistics on national education systems.

The Education Division are now happy to present the final report, which has been carried out by a team of two persons at the Institute of International Education (IIE) at University of Stockholm.

The views in the report are those of the authors and do not necessarily reflect the views of Sida.

Stockholm in July 2003

Ewa Werner-Dahlin
Head of Education Division

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1. Introduction

Background

The Swedish International Development Agency's DESO/Education Division's working group for education system aims to strengthen the analysis of the education system in Sida co-operation countries where Sweden gives support to education. Governments in all countries have to choose between a multitude of policy priorities, such as the level of public spending on education, teacher salaries, enrolment rates, completion rates, access to textbooks and school buildings, school construction, impact of HIV/Aids, etc. In order to ensure the quality of the support that DESO/UND processes the division needs to improve the knowledge of partner country policy priorities. It is therefore important to be able to analyze the data and get a clear view on the policy choice made.

As part of improving the analysis of education systems, this report provides a review of relevant statistics and indicators of progress in primary and secondary education. The review focuses on developing countries where Sida supports education sector development as a whole. The countries selected are Bolivia, Honduras, Burkina Faso, Ethiopia, Mozambique, Tanzania, Bangladesh and Cambodia.

Objectives

The objectives of the review are to i) assist Sida in reaching a better understanding of partner countries' conditions as they move from a project-oriented to a sector-oriented approach; and ii) collect and review relevant statistics and indicators of progress and results in primary and secondary education for the above mentioned countries using an international and comparative perspective.

Methods

There is a growing demand for valid, reliable and comparative information at the international level than can offer insights into the development, functioning and performance of education systems, and that can assist in the planning and management of educational services. Given the variation in the education systems of different countries, it is essential that international comparisons are based upon a common framework of standards which are agreed to prior to the data collection, and against

which the adequacy of the data collection procedures and the accuracy of the results can be validated.

Several prerequisites for obtaining the required comparative information apply. The first is that the populations and the variables to be measured are in fact comparable within a well-defined conceptual framework. Another condition is that the employed methods and procedures should allow for fair comparison. This is complicated by the fact that the educational policy priorities and the structures of the governance of education differ between countries (Schleicher 1994)¹.

Therefore the collection of the indicators has respected the general principles of the agreement reached by the EU donors working group in June 2002 (see Box 3 and Table 4). The focus has been on indicators being considered for use as part of the Fast Track Initiative (FTI)², such as retention rates in grades 4, 5 and 6 and primary completion rates, as well as the indicators that are currently proposed for use in the monitoring of the UN Millennium Development Goals (MDGs), e.g. net primary enrolment, primary survival rates until grade 5 and literacy rates for youth aged 15–24. Where possible the data have been gender aggregated.

The elaboration of this report has benefited from valuable inputs from staff in the field of data collection and analysis including at the UNESCO Institute of Statistics (Montréal), the World Bank (Washington, D.C.), the UNESCO International Institute for Educational Planning (Paris), A.D.E.A. (Paris), the UNDP (New York) and UNICEF (New York).

Limitations

Obtaining comparable information on education for the eight selected countries has not been an easy task. Indeed, the common framework of standards agreed upon prior to the collection of data only applied for the Fast-track countries, which excludes Bangladesh and Cambodia. Many of the data needed for the comparison were either not provided by these two countries or were of too poor reliability to be incorporated into the analysis. Moreover, because of the revision of the International Standard Classification of Education (ISCED) in 1997 and the reclassification of programs it implied, comparison of population-related indicators before and after 1997 is hindered. For practical and coherence reasons, the work-team has thus agreed on focusing on the data available since 1997.

One of the main consequences of this choice is the general scarcity of data, especially for Honduras. The country had a good record on data collection until 1997 but suffered a natural disaster in 1998 that hindered data collection for several years. Its data collection process was reactivated only very recently, and may take several more years to regain its reliability.

¹ Schleicher, A. (1994). International Standards for Educational Comparisons (Chapter 12). Tuijnman, A. & Neville Postlethwaite, T. (Eds.). *Monitoring the Standards of Education*. Oxford: Pergamon, pp.229–247.

² An Action Plan to accelerate progress towards EFA was developed by the World Bank and a group of bilateral partners in the context of a broader EFA process. The action plan was based on an analysis and case studies on the factors that lead to progress in achieving the UN Millennium Development Goals (MDGs) for education. The action plan was introduced at the international EFA meeting in Amsterdam in April 2002 and endorsed by the Development Committee and the G8. Based on the Action Plan, the Fast Track Initiative (FTI) was announced in June 2002.

Organization of the study

This paper starts with a definition of sector program supports and the implications of the move from project- to sector-oriented approaches for the monitoring of educational results and progress (Part II). The third part continues with a definition of indicators and indicator systems and presents the historical evolution of the internationally standardized indicators in the field of education (Part III). The conceptual framework of this report then opens the floor to the presentation of the eight countries' specific data, classified and analyzed in terms of the nature of their indicators (Part IV). Finally, the fifth part attempts to summarize the improvements in terms of measurement of the impact of HIV/AIDS on education and presents the data already available in the eight selected countries (Part V). Final recommendations close this report (Part VI).

2. Sector-oriented program supports

In its concern to enhance partnerships and improve the effectiveness of Swedish participation in international development cooperation, the Swedish Government has reinforced its commitment to a *sector wide approach* in the support to key development areas. It has instructed Sida to increase its efforts to participate in such processes, and to shift from project to program support, whenever possible. Simultaneously, thanks to the wider recognition at international level of the potential benefits of the sector wide approach and through the experiences gained at country level in a wide range of different contexts, both policy and practice have evolved. “These factors have all contributed to the need for a revised Swedish policy for support to sector programs (Sida 2000, p. 8).³”

Defining sector program support

As defined in *Sida's policy for sector programme support and provisional guidelines*, the *Sector Wide Approach* (SWAp) is the term used for current international thinking and practice regarding a form of long-term assistance to development at the sector level, embracing a sector policy and a sector expenditure program.

The sector wide approach aims to attain sector specific objectives and to ensure national ownership through partnership in development cooperation. The broad sector program approach is intended to reduce aid fragmentation and improve coordination, strengthen national institutional capacity, enhance effectiveness of public sector expenditure and promote institutional reform. Benefits include strengthening democratic practices through improved transparency in national budgets, enhancement of national coordination mechanisms and promotion of participatory practices in decision-making. “The focus of SWAp is on an intended direction of change rather than on an established format (Sida 2000, p. 9).”

Sector Program Support (SPS) is the term used by Sida to participate in and support the Sector Wide Approach process. Sida's policy for sector program support adheres to and embraces the SWAp principles. A Sector Program Support is a process-oriented form of support, based on a country's sector objectives, sector policy and sector strategy, which all

³ Sida (2000). *Sida's policy for sector programme support and provisional guidelines*. Stockholm: Sida: Swedish International Development Cooperation Agency, p.8.

parties have agreed to support. The support is given to a sector program, which focuses on the development of a sector (or a sub-sector), i.e. a subject area which has a specific institutional and financial framework. The sector program should cover all contributions, regardless of their form, both external contributions and the financing provided by the partner country for investments and operating costs in the sector. The concept “Sector Wide Approach (SWAp)” is now used internationally for what Sida calls sector program support.

The sector program provides a framework for genuine partnership in which the “ownership” of the recipient is in focus. External donors are regarded as parties with a legitimate interest, whose influence is mainly exercised in the policy dialogue, and in negotiations on the formulation of the strategy and the allocations of resources. The degree to which ownership can be achieved is dependent to a great extent on how the various parties can coordinate their contributions to the process (Sida 2000, p.20). But why is it so important to move from a project- to a sector-oriented approach? What are the comparative advantages of sector program support?

An advantage of sector programs is that they reduce the administrative burden on the partner country in comparison with fragmented project support. Moreover, many of the coordination and control problems, previously the responsibility of the party concerned in the partner country, become common problems for all involved.

Cooperation in sector programs is expected to have a long-term perspective and be linked to the country’s development objectives. This facilitates a greater degree of ownership compared to project support. The dialogue between the partner in cooperation and the financiers is also facilitated since the donors coordinate their contributions to a much greater extent than in project support. The holistic perspective of sector program support also facilitates more rationale and long-term planning and use of resources. The difference between sector program support and sector support is, in particular, that the former emphasizes the overall holistic perspective, while the latter still has its emphasis on project level, with several interlinked projects within a sector.

Implications of the move from project- to sector-oriented support

The transition from project support to sector program support has institutional and organizational consequences for all participants. It focuses on the country’s capacity to plan and implement sector programs, it impacts the rules for cooperation and coordination between the parties, and it places new requirements on the rules and organization of external parties. The institutional and organizational framework in the countries themselves and of the external financiers, as well as cooperation between them, needs to be developed as part of the process.

For instance, the capacity of the country to implement a sector policy and a sector strategy must be analyzed and assessed. As a rule this analysis is also made in project support. The difference in relation to project support is that the assessment of capacity in the country must include other units and organizations than the line ministry concerned.

Moreover, there is a clear political dimension to the possibilities available to a country of implementing sector program support, and the possibilities available to the external financiers of providing sector program support. It is therefore important that the political conditions are examined.

The first aspect which should be examined is the political commitment in the country to give priority to the sector and its development. Linked to this is the capacity to steer the process towards political objectives. “All experience gained hitherto shows that political intentions are of decisive importance for the success of sector programs” (Sida 2000, p. 39). It is also important that policies and plans have full political support in the country. External financiers can assess this through stakeholder analysis and various forms of participatory methods. Finally, the transition from project support to external support means that direct links between Swedish contributions and individual activities disappears.

Conducting a risk assessment is thus one of Sida’s most important tasks prior to reaching a decision on sector program support. The logical stages in a risk analysis are given in the LFA guidelines (see *Sida’s Policy for Sector Programme Support and Provisional Guidelines*, appendix 2, p. 61). Briefly, the analysis consists of the following stages:

- In the case of an existing problem, an assessment is made to determine its importance for the goal fulfillment of the program.
- If it is a question of a risk which could occur in the future, an assessment is made of the probability of the risk actually occurring.
- An assessment is then made to determine if the problem/risk can be overcome by inputs outside the program.
- If not, an assessment is made to build risk management into the process.
- If not, a decision is made to actively monitor which can result in not providing support if there are serious problems or risks.

From these official statements and definitions, this report presents the specific conditions of Sida partner countries in the field of education as they move from a project-oriented to a sector-oriented approach through the analysis of core indicators of progress and results. But before presenting these indicators we explore what is meant by indicators and indicator systems.

3. Educational indicators and indicator systems

Defining educational indicators and indicator systems

Statistical indicators are used to monitor complex conditions that we may judge imprecisely or miss altogether in day-to-day observations. Governments recognize the value of statistics to provide current information, analyze trends and forecast impending changes. Consequently, it is not surprising that policymakers and researchers want better statistical indicators for education. “The overriding purpose of indicators is to characterize the nature of a system through its components – how they are related and how they change over time. This information can then be used to judge progress toward some goal or standard, against some past benchmark, or by comparison with data from some other institution or country” (Shavelson, 1991)⁴.

Indicators

The term indicator was defined above as a statistic. After reviewing the literature on social indicators, Jaeger⁵ (1978) concluded that indicators are “anything but clear and consistent. Review of a dozen definitions has produced much that is contradictory and little that is concise and illuminating” (p. 285). He recommended that all variables that (1) represent the aggregate status or change in status of any group of persons, objects, institutions, or elements under study; and (2) are essential to a report of status or change of status of the entities under study or to an understanding of the condition of the entities under study, should be termed indicators. “I would not require that reports of status or change in status be in quantitative form, for narrative is often a better aid to comprehension and understanding of phenomena than is a numeric report” (pp. 285–287).

Jaeger’s recommendation to leave the definition of an indicator open and to determine the status of potential indicators on pragmatic rather than strict definitional grounds is a wise one.

An education system can be conceived as having underlying properties that are not directly or perfectly measurable. For example, we can talk about the quality of the teaching force but also recognize that there

⁴ Shavelson, R. (1991). What are educational indicators and indicator systems? Source: ERIC Clearinghouse on Tests Measurement and Evaluation Washington DC. Internet address: <http://ericae.net/db/edo/ED338701.htm>

⁵ Jaeger, R. (1978). About educational indicators. In L.S. Shulman (Ed.) *Review of Research in Education*, Vol. 6, pp.276–315.

is no direct way to measure it. At best, several statistics can be combined into an indicator that approximates teacher quality. An indicator of teacher quality might be some aggregate of years of academic training in the discipline taught; possession (or lack of) a credential in the subject matter taught; measured subject-matter knowledge; measured pedagogical knowledge; or measured ability to teach subject-matter knowledge to students of a given age, background, prior knowledge.

Education indicators are statistics that reflect important aspects of the education system, but not all statistics about education are indicators. Statistics qualify as indicators only if they serve as benchmarks. That is, they must tell a great deal about the entire system by reporting the condition of a few particularly significant features of it. For example, the number of students enrolled in schools is an important fact, but it does little to tell us how well the education system is functioning. However, data on the proportion of secondary students who have successfully completed advanced study in mathematics can provide considerable insight into the health of the system, and can be appropriately considered an indicator.

We propose the following working definition:

An *indicator* is a measure of performance or goal achievement. If performance or the goal is a broad concept, the indicator may only give a partial picture of performance or goal achievement. For instance, "literacy rate" is an indicator giving information about the proportion of the adult population able to read and write. In one way or another, this proportion can be measured. It can be measured geographically, for different social strata, and by means of a number of statistical instruments or tools. A *monitoring mechanism* is an arrangement for systematically observing the development of performance or goal achievement, usually by observing and analysing indicators. (Schmidt 2003, p.2)⁶

Indicator system

Another central concept in the discussion of indicators is that of the indicator system. Whether indicators are single or composite statistics, a single indicator can rarely provide useful information about such a complex phenomenon as schooling. Indicator systems are usually designed to generate more accurate information about conditions but an indicator system is more than just a collection of indicator statistics. Ideally, a system of indicators measures distinct components of the system and also provides information about how the individual components work together to produce the overall effect. In other words, the whole of the information provided by a system of indicators is greater than the sum of its parts.

National indicators should be conceived of as something more comprehensive than a time series of educational outcomes (e.g., achievement, participation). Simply monitoring outcome does not explain observed trends. For example, trends might be explained by demographic changes, by educational improvements or by some combination of these. Moreover, education policy indirectly influences outcomes by actions such as

⁶ Schmidt, M. (2003). *Results Indicators*. Stockholm: Sida.

increasing standards for teacher certification or for high school graduation. The direct effects of these policies is reflected in changes in teachers' qualifications (e.g., an increase in teachers with bachelors' degrees in the disciplines they teach, rather than degrees in education), in better matches between teachers' subject-matter and pedagogical training and their teaching assignments, and in the number of academic courses students take in high school.

National indicators must represent, at least roughly, the important components of an education system. In addition to monitoring outcomes, indicators should reflect the characteristics of students and communities served by schools, the financial and human resources (especially teachers) available to the schools, and other educational inputs. Moreover, they should reflect the adequacy of the curriculum and instruction received by students, the nature of the school as an organization in pursuit of educational excellence and equity, and other educational processes. Finally, indicators must be related to one another so that their relationships, and changes in these relationships, can be ascertained to suggest possible explanations for observed changes in outcomes (Shavelson, 1991).

Reasonable expectations for an indicator system

A good education indicator system is expected to provide accurate and precise information to illuminate the condition of education and contribute to its improvement. Indicators are thus expected to assist policymakers as they formulate schooling goals and translate those goals into actions.

Whenever social indicators have been heralded as a stimulus for reform, their promise has quickly given way to realism. Promises of policy applications have often been overly optimistic. Indicator systems are, for example, unable to provide sufficiently detailed and accurate information to evaluate government programs. These events lead to more realistic assessments of what indicators can and cannot do. The literature on social indicators appears to agree that indicators *cannot*:

- *Set goals and priorities.* The public establishes educational goals and priorities through government. Information generated by an indicator system can inform those objectives, but it is just one factor among many shaping decisions about policy preferences and priorities.
- *Evaluate programs.* Social indicators cannot substitute for well-designed, in-depth evaluations of social programs. Indicators do not provide the level of rigor or detail necessary.
- *Develop a balance sheet.* Social indicators lack the common referent available to economic indicators. Evoking an economic analogy and proposing a parallel development for social indicators is misleading because education cannot put each of its constructs on a common dollar metric as can be done for instance, for Gross Domestic Product (GDP). According to Rivlin:⁷ "No amount of disaggregation of inputs...will provide a basis for answering the how-are-we-doing question in the education sector. As long as cost is used as a proxy for

⁷ Rivlin, A.M. (1973). Measuring performance in education. In Moss, M. (Ed.). *Studies in income and wealth*. New York: Columbia University Press, pp. 411–437.

value there is no way to compare inputs with outputs or to see whether a given amount of education is being produced with fewer resources” (Rivlin, 1973, p.419). Rivlin also noted that because students help produce education, it is difficult to disentangle the quality of the output from the quality of student input.

The expectations for social indicators are now quite modest: to describe and state problems more clearly; to signal new problems more quickly; and to obtain clues about promising educational programs. The following statements illustrate the realistic tone currently taken by the social indicator movement:

- We will be able to describe the state of the society and its dynamics and thus greatly improve our ability to state problems in a productive fashion, obtain clues as to promising lines of endeavor and ask good questions.
- The fruit of these social indicator efforts will be more of a contribution to policy-makers’ cognition than to their decisions. Decisions emerge from a mosaic of inputs, valuational and political, as well as technical components (Sheldon and Parke, 1975, p.698)⁸.

Evolution of indicator systems From Jomtien to Dakar

In March 1990, the international community put education on the global agenda during the World Conference on Education for All (EFA) in Jomtien, Thailand when governments set themselves the challenge of achieving universal primary education by 2000. Ten years later, the international community came together again at the World Education Forum in Dakar, Senegal, to examine the results of the decade in the most in-depth evaluation of basic education ever undertaken on a global scale. The EFA 2000 Assessment took stock of the status of education in approximately 180 countries and evaluated the progress achieved during the 1990s. Its purpose was to generate vital information on all types of programs, activities and services that aim to meet the basic learning needs of children, youth and adults.

The EFA assessment pinpointed the shortcomings in many countries in achieving the goal of universal primary education. During the Forum, governments reiterated their commitment to ensure that universal access to quality basic education is achieved and sustained by 2015. The United Nations Organization for Education, Sciences and Culture (UNESCO) was mandated to take the lead role in orchestrating global efforts to achieve EFA by 2015.

The vital role of statistics in EFA monitoring

The EFA Year 2000 Assessment was instrumental in drawing attention to the vital role of statistics in EFA monitoring and education policy making and to the fact that data were not always available, or in formats to be of use to policy-makers. Even when they were available, governments did

⁸ Sheldon, E.B. & Parke, R. (1975). Social indicators. *Science*, 188, pp. 693–699.

not always take them into consideration in their educational decision-making. Regular monitoring of the state of education in the world will be an essential part of the follow-up to Dakar. For this reason, the UNESCO Institute of Statistics (UIS) has created the EFA Observatory, in order to monitor and report on progress achieved in education on a national, regional and global level.

”Regular assessment must be focused on helping governments develop, review and amend national policies as necessary to ensure that EFA goals are achieved in all countries and as soon as possible,” says Denise Lievesley, Director of the UIS. At the occasion of the World Education Forum on Education for All held in Dakar in April 2000, the international community endorsed a Framework for Action to achieve six education goals, including the achievement of universal primary education by 2015 and the elimination of gender disparities in primary and secondary education by 2015⁹. The international community also pledged in Dakar that no country with a credible plan to achieve these goals would be thwarted by a lack of resources.

The EFA 2000 Assessment exercise was carried out in the second half of the 1990s. For various reasons the EFA education unit of UNESCO and other EFA partner agencies (World Bank, UNDP, and UNICEF) recommended that the assessment should be conducted independently of the regular annual surveys carried out by the UNESCO statistical services. This recommendation was partly a response to the criticisms of UNESCO statistics at the Mid-term EFA Evaluation, in particular the fact that the statistics presented by the UNESCO Yearbook were several years out of date, and there were many countries for which little or no information was available¹⁰.

It was hoped that by doing the exercise independently, by mobilizing resources of partner agencies at the country level and by raising the political profile of the exercise, it could be carried out more rapidly and effectively. Moreover, national statistical services were required to provide, not only raw data, but also the 18 indicators¹¹, thus diverging from established practice which is to request only raw data from national correspondents, leaving UNESCO to standardize the indicators after a number of checks on data quality. The UIS only became involved in the assessment exercise to a significant degree in 1999.

To summarize, the strategy to request indicators together with raw data has both positive and negative points. On the positive side, providing indicators in addition to raw data enables national statisticians to see the end product of the demanding work of data collection. The indicators may allow statisticians to verify the validity of the data, perhaps better than the raw data themselves. For certain indicators which are disaggregated at the regional or local level¹² it is easier to carry out the calculations at the country level rather than at the international level. Another positive aspect is the fact that in order to be able to calculate the indicators, national educational statisticians must develop strong relation-

9 See Table 4, p.16.

10 EFA Observatory. (2001). Report on the meeting and proposals for the future development of EFA indicators. Paris: UNESCO.

11 The list of the 18 indicators has been established after various consultations between all partner agencies, the UNESCO Education sector, the Division of Statistics and other UNESCO institutes, in an effort to accommodate the numerous requests of partner agencies, the need to measure the Jomtien goals and targets, and the concern to limit the number of indicators. The list of the 18 indicators in relation to the Jomtien goals is given in Table 1.

12 All indicator countries were also requested to provide data by administrative subdivision as well as for urban and rural areas.

ships with their counterparts in other sectors of government (Statistics Bureau on population data, Ministry of Finance for finance data, etc.), and with agencies outside government.

On the negative side, a number of countries provide indicators directly instead of raw data making it more difficult for the UIS to evaluate the consistency and quality of the statistics. For example, a dubious value of an enrolment ratio might be due to the value of the numerator (enrolment) or to the denominator (population of a specific age group). Further, a problem in the denominator may be a general problem with the population figure itself or may derive from the choice of the wrong reference age group. This particular problem does not occur in the regular statistical work of UNESCO as the indicators of access and participation are computed on the basis of the population data, assessed biennially by the UN Population Division. However, there may be other drawbacks such as a lack of correspondence between UN and national population data, resulting in differing indicators of access and participation. Most of these differences are identified through close co-operation between the UIS and the UN Population Division and can often be resolved¹³. The same type of problem occurs with educational finance indicators which are calculated in relation to the countries' GNP, which the UIS obtains from the World Bank.

Another problem resulted from the practice of the EFA assessment to request data normally the responsibility of a different agency. For example, countries were asked to provide literacy indicators. Some country respondents, generally from the Ministry of Education, did not understand why this was required from them since the usual procedure is to obtain this indicator from the Statistics Bureau, which collects it through national household surveys or population censuses (the latter conducted every five or ten years *at best*). Normally, the UN Statistics Division collects the results of the various national population censuses and transfers the part related to literacy to the UIS for further elaboration and dissemination. The UIS is responsible for transforming these into literacy rates. Finally, despite the fact that a description of the methodology with appropriate templates was provided to national services to enable them to calculate indicators, some countries found it difficult to apply certain calculations because of a lack of experience in this work. This was particularly the case for the computation of efficiency indicators using the Reconstructed Cohort Method.

From Dakar to the Fast-Track Initiative

The 18 indicators for the EFA Assessment had been established to measure the progress towards the goals and targets set out in the *Jomtien Framework for Action to Meet Basic Learning Needs*. As shown in Table 1 below, the new goals and targets established in Dakar re-affirm and integrate most Jomtien goals although they extend several goals and thus require new indicators. In particular they focus on the reduction of inequality in access and participation, especially gender inequity. They also present some additional issues such as the improvement of educational quality, which, to be adequately monitored, may require both the refinement of the existing indicators and the addition of new ones.

¹³ See further discussion on population data in Section 4, on countries' specific data.

Table 1. EFA core indicators

Indicator 1	Gross enrolment in early childhood development programs, including public, private and community programs, as a percentage of the official age-group concerned, if any, otherwise the age-group 3 to 5.
Indicator 2	Percentage of new entrants to primary grade 1 who have attended some form of organized early childhood development program.
Indicator 3	Apparent (gross) intake rate: new entrants in primary grade 1 as a percentage of the population of official entry age.
Indicator 4	Net Intake rate: new entrants to primary grade 1 who are of the official primary school-entrance age as a percentage of the corresponding population.
Indicator 5	Gross Enrolment ratio
Indicator 6	Net enrolment ratio
Indicator 7	Public current expenditure on primary education as (a) percentage of GNP and (b) per pupil, as a percentage of GNP per capita.
Indicator 8	Public expenditure on primary education as a percentage of total public expenditure on education.
Indicator 9	Percentage of primary school teachers having the required academic qualifications.
Indicator 10	Percentage of primary school teachers who are certified (or trained) to teach according to national standards.
Indicator 11	Pupil-teacher ratio (PTR)
Indicator 12	The repetition rate is the number of repeaters in a given grade in a given school year expressed as a percentage of enrolment in that grade the previous school year.
Indicator 13	The survival rate to grade 5 is the percentage of a cohort who enrolled in the first grade of primary education in a given school-year and who eventually reach grade 5.
Indicator 14	The coefficient of efficiency is the optimum number of pupil-years needed for a cohort to complete the primary cycle, expressed as a percentage of the number of pupil-years actually spent by the cohort.
Indicator 15	Percentage of pupils having reached at least Grade 4 of primary schooling who have mastered a set of nationally defined basic learning competencies.
Indicator 16	Literacy rate of 15-24 year olds
Indicator 17	Adult literacy rate is the percentage of the population aged 15+ that is literate.
Indicator 18	Literacy Gender Parity Index

At the United Nations Millennium Summit in September 2000, 189 Member States adopted the Millennium Declaration and pledged to reach the achievement of universal primary education (Goal 2) and gender equality in education (Goal 3) by 2015 as two of its eight Millennium Development Goals (MDGs). This represents an unprecedented consensus by world leaders on the major global challenges of the 21st century as well as a common commitment to meet these challenges. MDGs, and indicators, are outlined in Tables 2 and 3, below.

Table 2. Millennium Development Goals (MDGs)

1.	Eradicate extreme poverty and hunger.
2.	Achieve universal primary education.
3.	Promote gender equality and empower women.
4.	Reduce child mortality.
5.	Improve maternal health.
6.	Combat HIV/AIDS, malaria, and other diseases.
7.	Ensure environmental sustainability.
8.	Develop a global partnership for development.
<i>Note: Education for All goals are shown in bold.</i>	

Table 3. Indicators of MDGs 2 and 3

Goals and Targets		Indicators
Goal 2	Achieve universal primary education	
	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	Net enrollment ratio in primary education Proportion of pupils starting grade 1 who reach grade 5 Literacy rate of 15- to 24-year-olds
Goal 3	Promote gender equality and empower women	
	Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015	Ratio of girls to boys in primary, secondary, and tertiary education Ratio of literate females to males among 15- to 24-year-olds Share of women in wage employment in the non-agricultural sector. Proportion of seats held by women in national parliament ⇒ See Literacy Gender Parity Index.

Source: 2002 *World Development Indicators*.

At the summit at Genoa in 2001, G8 leaders established a Task Force to recommend how these eight goals could best be achieved. Later that year the Development Committee called on the World Bank to prepare an Action Plan to accelerate progress towards the achievement of the MDGs for education. The Fast-Track Initiative (FTI) is a central element of the Action Plan, which was developed within the context of the broader EFA process and based on comprehensive analysis and case studies of the factors that lead to progress in achieving the education MDGs. The Action Plan concluded that:

- Universal primary completion (UPC), as a measure of the quality of the education and learning outcomes, should be the goal of the international community;
- At current rates of progress, over eight countries will not achieve UPC by 2015;
- Countries at risk of not achieving UPC have a significant gap; and
- Acceleration progress, which requires i) political commitment and leadership on the part of developing country governments; ii) sound national education plans, assessed in relation to a set of policy benchmarks, or indicative framework, backed by adequate domestic resources; iii) a new partnership between developing countries and donors, as agreed in Monterrey, based on mutual accountability and responsibilities; and iv) a commitment to increased long term, effective and flexible support from donors.

The Action Plan proposed that a “fast-track” process be initiated for a limited number of countries having sound education policies, but not on track to achieve UPC, and require incremental support from donors. In April 2002, the Development Committee strongly endorsed the Action Plan, which was followed by the elaboration of the FTI by the World Bank, in partnership with recipient countries, donors and other international organizations. The goal of the FTI is to accelerate progress towards the achievement of UPC through a combination of stronger

national policies, improved capacity and incremental financial resources, both domestically and from the donor community.

An initial list of countries eligible to seek support under the FTI was announced in June 2002. Two transparent criteria were used in the selection process. Countries were required to have:

- a full PRSP in place by August 2002, indicating that the country's education sector strategy is nested in its broader development strategy; and
- a sector-wide plan for education agreed with donors, indicating that education policies and implementation strategies have already been carefully appraised and broadly consulted.

Eighteen countries met these criteria: Albania, Bolivia, Burkina Faso, Ethiopia, Gambia, Ghana, Guinea, Guyana, Honduras, Mauritania, Mozambique, Nicaragua, Niger, Tanzania, Uganda, Vietnam, Yemen and Zambia. In addition, five countries with the largest numbers of children out of school were also identified: Bangladesh, the Democratic Republic of Congo, India, Nigeria and Pakistan. The World Bank pledged to increase its support for these countries so that they can become eligible for Fast-track support as soon as possible.

Table 4. Characteristics of EFA Fast-Track Countries

Country	GNP/Capita	Children Out of School (000)	Gross Enrollment Ratio	Completion Rate	UPC by 2015?
Countries invited for consideration of financing support					
Vietnam	410	497	114	...	Achieved
The Gambia	330	83	81	70	On Track
Nicaragua	420	219	105	65	On Track
Uganda	280	529	74	61	On Track
Albania	1,230	27	...	89	Off Track
Bolivia	940	697	118	77	Off Track
Burkina Faso	210	1,259	42	25	Off Track
Ethiopia	100	7,757	63	24	Off Track
Ghana	290	705	73	64	Off Track
Guinea	400	866	59	35	Off Track
Guyana	840	15	102	86	Off Track
Honduras	890	159	106	67	Off Track
Mauritania	350	149	166	46	Off Track
Mozambique	210	1,414	71	36	Off Track
Niger	170	1,197	31	20	Off Track
Tanzania	280	1,249	65	59	Off Track
Yemen	460	1,508	78	40	Off Track
Zambia	320	228	86	80	Off Track
Subtotal		18,557			
Countries invited for enhanced analytic and capacity-building support					
Bangladesh	370	3,532	96	70	On Track
India	460	35,060	100	76	Off Track
Pakistan	420	5,650	71	59	Off Track
D.R. Congo	n.a.	2,957	46	40	Seriously Off Track
Nigeria	290	9,439	81	67	Seriously Off Track
Subtotal		56,639			
Global Total		113,000			

Source: World Bank. (2002). Working Paper "Development Effectiveness and Scaling Up: The Case Studies – Education for All", p.24.

Sida has a partnership with seven of these 23 (18 + 5) countries: Bolivia, Burkina Faso, Ethiopia, Honduras, Mozambique, Tanzania and Bangladesh. This report focuses on an analysis of the indicators available for the evaluation of the achievement of the UPC in these 7 countries. Cambodia will be included in this study as an important country-partner of Sida and a potential Fast-track country of the next round.

The success of the FTI is a shared responsibility that begins with the commitment of developing countries to primary education. The challenge to donors, such as Sida, is to support these national efforts in a sustained and effective manner. As important as the FTI is to achieving the MDGs for education, it can also serve the international community in more far-reaching ways. The lessons learned from the FTI may provide a model for partnerships in achieving other MDGs and advancing efforts to make development assistance more effective.

Latest updating of the Action Plan for Fast-Track to EFA

In view of the above limitations of the existing EFA individual indicators, the working group of the European Union donors on education indicators, convened an education expert meeting in June 2002, has reached an agreement on the following general principles:

1. Harmonization of education indicators;
2. A restricted number of collectable core education indicators;
3. Focus on outcomes, without neglecting input;
4. Coherence with EFA monitoring system;
5. Country owned indicators;
6. Indicators of a SWAp; and
7. Indicators for vocational training, secondary education and tertiary education.

The preliminary list of core education indicators, outlined in Table 5 below, was proposed for the European Union donors' policy dialogue. The list focuses on primary education, which is the sub-sector focused on in the international agreements (MDGs and EFA)¹⁴. The list is to be seen as a first step in a process. Specific indicators for the other sub-sectors need to be developed jointly. Table 6 starting on the following page summarizes Dakar goals, core indicators and proposals for further development.

¹⁴ The preliminary list includes all indicators inside the Action Plan for Fast Track to EFA. The list also includes most of the core indicators for the Dakar goals, recognizing the need to include the rest of the EFA indicators once they are fully defined, agreed upon and calculable.

Table 5. Preliminary Core Indicators in primary education

Education financing	Domestic resources <ul style="list-style-type: none"> - Government spending on education as a percentage of GDP - Government spending on education as a percentage of total public expenditure - Public expenditure on primary education as a percentage of total public expenditure on education
Primary education	Efficiency of the primary education system <ol style="list-style-type: none"> 1. Non-salary recurrent spending as a percentage of recurrent spending in primary education 2. Average primary teacher salary as a percentage of GDP per capita 3. Gross enrolment rate in primary education (disaggregated by gender and rural areas) 4. Grade 1 intake rate (disaggregated by gender and rural areas) 5. Average repetition rates (disaggregated by gender and rural areas) 6. Primary completion rate (disaggregated by gender and rural areas) Quality of the education delivered <ol style="list-style-type: none"> 7. Pupil – teacher ratios (disaggregated to rural areas) 8. Pupil – textbook ratios¹⁵ (disaggregated to rural areas) 9. Primary teachers with equivalent education degree as a percentage of total teacher population¹⁶ Learning outcomes <ol style="list-style-type: none"> 10. Adult literacy rate (disaggregated by gender and rural areas) More work needed: <ul style="list-style-type: none"> - Indicators on learning outcomes (including non-formal education) - Indicators on life skills - Indicators on early childhood development - Need to develop specific indicators for secondary school, vocational training and tertiary education

Table 6. Dakar goals, core indicators and proposals for further development

Dakar Objectives	Existing indicators	Short term improvements	Medium term improvements	EU donor improvement suggestions
1) Expand and improve comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.	Indicator 1: Gross enrolment in early childhood development programs, including public, private, and community programs, expressed as a percentage of the official age-group concerned, if any, otherwise those aged 3 to 5.	Percentage of public & private enrolment Teacher/pupil ratio	Improve data coverage on target group and of all programs	
	Indicator 2: Percentage of new entrants to primary grade 1 who have attended some form of organized early childhood development program.			
2) Ensure that by 2015 all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and are able to complete education that is free, compulsory and of good quality.	Indicator 3: Apparent (gross) intake rate: new entrants in primary grade 1 as a percentage of the population of official entry age.	Percentage of new entrants by type of school (public & private)		Grade 1 intake rate (disaggregated by gender and rural areas)

¹⁵ This indicator does not form part of EFA indicators nor the FTI indicators. It is proposed for discussion to reinforce the focus on quality.

¹⁶ This is a modified proposal comparable to EFA indicators 9 and 10. It could be further discussed in co-operation with the UNESCO monitoring team and the UIS.

	Indicator 4: Net Intake rate: new entrants to primary grade 1 who are of the official primary school-entrance age as a percentage of the corresponding population.	% of new entrants by type of school (public & private) % of over-age, normal and under-age new entrants		Grade 1 intake rate (disaggregated by gender and rural areas)
	Indicator 5: Gross Enrolment ratio.	GER by specific grades, by gender		Gross enrolment rate in primary education (disaggregated by gender and rural areas)
	Indicator 6: Net enrolment ratio.	NER by specific grades, by gender, enrolment in percentage by type of school (public & private) Percentage of over-age, normal and under-age enrolled students.	Out-of-school children by age, by gender, and by other characteristics (e.g. social class, income group, urban & rural, etc.)	
	Indicator 7: Public current expenditure on primary education (a) as a percentage of GNP, (b) per pupil, as a percentage of GNP per capita			Government spending on education as a percentage of GDP Government spending on education as a percentage of total public expenditure Public expenditure on primary education as a percentage of total public expenditure on education
	Indicator 8: Public expenditure on primary education as a percentage of total public expenditure on education	Expenditure on teachers salary as percentage of public current expenditure	Expenditure by family and by private sector Expenditure on didactic inputs (books, etc.)	Non-salary recurrent spending as a percentage of recurrent spending in primary education Average primary teacher salary as a percentage of GDP per capita
	<u>Indicator 9</u> : Percentage of primary school teachers having the required academic qualifications	To be dropped (difficult to compare cross-nationally) Proportion of female teachers	Absenteeism amongst children and staff	Primary teachers with equivalent secondary education degree as a percentage of total teacher population ¹⁷
	<u>Indicator 10</u> : Percentage of primary school teachers who are certified (or trained) to teach according to national standards	(Definition 'certified' to must be changed)		

¹⁷ This is a modified proposal comparing to the EFA indicators 9 and 10. It could be further discussed in co-operation with UNESCO monitoring team and UIS.

	<u>Indicator 10:</u> Percentage of primary school teachers who are certified (or trained) to teach according to national standards	(Definition 'certified' to must be changed)		
	<u>Indicator 11:</u> Pupil-teacher ratio (PTR)	Class (pedagogic group) per teacher ratio	Books/pupil ratio	Pupil-teacher ratio (disaggregated to rural areas) Pupil-textbooks ratios ¹⁸ (disaggregated to rural areas)
	<u>Indicator 12:</u> The repetition rate is the number of repeaters in a given grade in a given school year expressed as a percentage of enrolment in that grade the previous school year.	By type of school		Average repetition rates (disaggregated by gender and rural areas)
	<u>Indicator 13:</u> The survival rate to grade 5 is the percentage of a cohort of pupils who enrolled in the first grade of primary education in a given school-year and who eventually reach grade 5	Survival rate by grade and type of school Transition rate to secondary school by gender and type of school Primary completion rate		Primary completion rate (disaggregated by gender and rural areas)
	<u>Indicator 14:</u> The coefficient of efficiency is the optimum number of pupil-years needed for a cohort to complete the primary cycle, expressed as a % of the number of pupil-years actually spent by the cohort.	To be dropped		
3) Ensure that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs	<u>Indicator 16:</u> Literacy rate of 15-24 year olds.		Achievement of life skills	
4) Achieve a 50 percent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults	<u>Indicator 17:</u> Adult literacy rate, is the percentage of the population aged 15+ that is literate.		Achievement of literacy skills	Adult literacy rate (disaggregated by gender and rural areas)
	<u>Indicator 18:</u> Literacy Gender Parity Index.			

¹⁸ This indicator does not form part of EFA indicators nor the Fast Track indicators. It is proposed by the EU donors group for discussion to reinforce the focus on quality.

5) Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality		Gender parity index F/M in gross and net Intake rate, gross and net enrolment rate, repetition, survival rates, transition rate to secondary		
6) Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills	<u>Indicator 15</u> : Percentage of pupils having reached at least Grade 4 of primary schooling who have mastered as set of nationally defined basic learning competencies.		Identify cost-effective methodology for surveys	

Source: UNESCO Institute for Statistics. (2001). Report on the meeting and proposals for the future development of EFA indicators, pp.31-32. Except for the last column on EU donors improvements suggestions, from EU Member States Education Expert Meeting (June 2002).

4. Country specific data

After this historical overview of existing and forthcoming education indicators of progress and results, the focus shifts to indicators specifically relevant for the assessment of sector program support, such as those required by the Education for All Fast Track Initiative¹⁹. Among the eight countries of our panel, the EFA-FTI Proposal has been submitted by only four countries (Burkina Faso, Ethiopia, Mozambique and Honduras), two have been invited to submit but have still not provided any proposal (Tanzania and Bolivia) and two should participate in the next round (Bangladesh and Cambodia). It is therefore impossible to provide data for all the required indicators for all the eight countries. Consequently, we concentrate on the most significant indicators only and present the available country data for each of them. An analysis of the relevance and difficulties of these indicators leads to general conclusions regarding the results announced by each country.

As a donor organization, Sida is fully engaged in the Fast Track Initiative Action Plan. As other sector program support initiatives, the assessment of EFA-FTI proposals includes:

- (a) Evidence of country ownership;
- (b) Key sector issues, constraints, and strategies to achieve the expected results;
- (c) Costs and finance;
- (d) Risks and capacity; and
- (e) Indicators and monitoring.

The assessment of each of these five steps can be organized according to the European Commission's guidelines released in March/October 2002 for the use of indicators, i.e. using the following classification (Schmidt 2003):

input → *output* → *outcome* → *impact*

For clarity reasons, this paper follows that classification for the presentation of the selected significant indicators of progress and result.

¹⁹ See World Bank (2002). *Guidelines for the Assessment of Education for All Fast Track Initiative Proposals*. Web page: <http://www1.worldbank.org/hdnetwork/efa>

Input indicators

Input indicators measure the financial, administrative and regulatory resources (often called “process”) provided by the government and donors. They are part of the first assessment phase of the possibilities for a donor agency of providing a sector program support. In the case of Sida, the assessment of country strategies and country plans includes an examination of the general conditions related to the partner country’s general development policy. In this connection an assessment is normally also made of macro-economic trends such as external debt, aid dependency and financial resources.

Financial resources (Indicators 7a, 7b and 8)²⁰

Relevance: Indicators 7a and 7b relate to virtually all the Dakar goals as many countries need additional resources to achieve the targets.

By relating the financial inputs of the countries to their overall financial circumstances, these indicators facilitate international comparisons mitigating some of the problems of international comparability that would result if total spending and even spending per pupil were converted into a common currency by applying exchange rates. Expenditure per pupil expressed in national currency is only meaningful when compared to expenditure per student at other levels of education *within* the country. As with all indicators however the level of spending per pupil must be interpreted with care since a high level may be attributable to many causes. In particular the per pupil expenditure as a percentage of GNP per capita should be viewed in conjunction with enrolment ratios. Indicator 8 demonstrates the level of priority given to primary education (relative to other levels of education) in national education policies and resource allocation. It should be interpreted in conjunction with other indicators, such as expenditure per pupil and enrolment ratios.

Difficulties: While there are no major conceptual problems with these indicators, in practice there are many difficulties relating to the collection of financial data. Expenditure data are often only available several years after the reference year, so educational statisticians are tempted to give budget allocations instead of actual expenditure, which may result in quite different figures. This also results in differences between education statistics and national accounts. Regarding indicators 7b and 8, countries often find it difficult to provide expenditure data by level of education. Calculation of private expenditure may involve special surveys and public expenditure often includes only that of the Ministry of Education. Thus the educational statistician can encounter difficulties in identifying all the authorities who provide education, and in matching this with the financial sources to obtain reliable data. The treatment of many categories of expenditure needs further clarification. These include transfers between different levels of government, from other sectors, loans, scholarships, etc.

Other possible indicators likely to be obtainable from existing data sources:

In theory many other indicators could be obtained including, for example, the share of expenditure for teachers’ emoluments and for other

²⁰ **Indicator 7a:** Public current expenditure on primary education as a percentage of GNP.

Indicator 7b: Public current expenditure on primary education per pupil, as a percentage of GNP per capita.

Indicator 8: Public expenditure on primary education as a percentage of total public expenditure on education.

purposes; the percentage of private expenditure per teacher as percentage of GNP per capita; percentage of expenditure from foreign sources, etc. In practice the quality of data, even for the global finance indicators, suffers particularly the lack of information of sophisticated indicators. Table 7 below highlights the limitations of available data, both in terms of coverage and reliability.

Table 7. Education finance

	Public current expenditure on primary education as % of GNP	Public current expenditure per pupil on primary education as % of GNP per capita	Public current expenditure on primary education as % of current expenditure on education	Total public expenditure as % of GNP	Total public expenditure on education as % of total government expenditure	Public current expenditure on education as % of total expenditure on education
Country	1999/2000	1999/2000	1999/2000	1999/2000	1999/2000	1999/2000
Burkina Faso	...	...	...	...	...	...
Ethiopia	...	...	...	...	...	...
Mozambique	...	...	...	...	...	...
Tanzania	...	...	...	...	...	...
Bolivia	1,99	11,1	40,8	5,8	...	84,3
Honduras	...	...	...	...	...	...
Bangladesh	0,61	4,4	41,4	2,3	...	62,6
Cambodia	...	...	...	1,1	8,7	...

Source: EFA Global Monitoring Report 2002, UIS.

* = National estimation, ** = UIS estimation, ... = missing data

Good public expenditure information that can be matched to particular levels of education is a sine qua non for financial projections. In principle, such information is not difficult to obtain, since all governments need it for their own internal accounting and auditing purposes. Significant efforts to improve and increase the coverage of internationally gathered information on public spending on education are needed. The evidence suggests that, if anything, the quality of available data covering these variables has deteriorated in recent years. Yet, thanks to the Fast Track Initiative some countries have started to improve the quality and quantity of their data collection. A good example of an expanded assessment of a country's education finance is provided in Table 8 compiling the EFA-FTI Proposals of four of the eight countries of our panel.

Table 8. The indicative framework parameters and FTI proposal targets

Parameters	Indicative Framework	2001 (base year)				2015 target			
		Burkina Faso	Ethiopia	Mozambique	Honduras	Burkina Faso	Ethiopia	Mozambique	Honduras
Domestic generated revenues as % of GDP	14-18%	20.2%		14%	18.1%	22.0%		15%	18%
Domestic spending on education as % of revenues	20%	15.7%	NA	21%	22.8%	20.6%	19.0%	21%	22%
Public recurrent spending on primary education as % of total recurrent spending on education	42-64%	53.6%	NA	51.8%	51.62%	54.2%	65%	53.5%	51%
Recurrent spending on items other than teacher remuneration as % of total recurrent spending on primary education	33%	10.0%		25%	10.56%	28.6%		29.5%	32%
Teacher salaries as a multiple of per capita GDP	3.5	7.7				7.3			

Source: World Bank Country EFA-FTI Proposals (2003). <http://www1.worldbank.org/hdnetwork/efa>

Other potential indicators that would require development work: Household expenditures on education, teachers' salaries by qualifications and experience.

External debt and Aid dependency²¹

Relevance: Although foreign aid is important in promoting development, it is most effective when coupled with sound policies and high-quality public institutions. Improvements in the quality of life – higher incomes, poverty reduction, improvements in education and health, and environmentally sustainable development – require a broad development strategy that puts in place growth-enhancing, market-oriented policies (a stable macro-economic environment, effective law and order, trade liberalization) and the provision of basic public services not supplied by private markets.

Ratios of aid to gross national income (GNI), gross capital formation, imports, and public spending provide a measure of the recipient country's dependency on aid. But care must be taken in drawing policy conclusions. For foreign policy reasons some countries have traditionally received large amounts of aid. Thus aid dependency ratios may reveal as much about the donors' interests as they do about the recipients' needs. Ratios in Sub-Saharan Africa are generally much higher than those in other regions, and they increased in the 1980s. These high ratios are due only in part to aid flows. Many African countries saw severe erosion in their terms of trade in the 1980s, which, along with weak policies, contributed to falling incomes, imports, and investment. Thus the increase in aid dependency ratios reflects events affecting both the numerator and the denominator.

²¹ *Total external debt:* debt owed to non-residents payable in foreign currency, goods or services. It is the sum of public, publicly guaranteed, and private non-guaranteed long-term debt, use of International Monetary Fund (IMF) credit, and short-term debt (includes all debt having an original maturity of one year or less and interest in arrears on long-term debt).

Aid dependency ratio: calculated using values in USD converted at official exchange rates.

Difficulties: This indicator does not distinguish among different types of aid (program, project, or food aid; emergency assistance; post-conflict peace-keeping assistance; or technical cooperation), each of which may have a very different effect on the economy. Moreover, because the indicator relies on information from donors, it is not consistent with information recorded by recipients in the balance of payments, which often excludes all or some technical assistance – particularly payments to expatriates made directly by the donor. Finally, the nominal values used here tend to overstate the amount of resources transferred.

Table 9. External debt and aid dependency

Country	Total external debt (\$ millions) ¹		Aid dependency ratios ²							
			Aid as % of GNI		Aid as % of gross capital formation		Aid as % of imports of goods and services		Aid as % of central government expenditure	
	1990	2000	1995	2000	1995	2000	1995	2000	1995	2000
Burkina Faso	834	1,332	22,6	15,5	87,3	55,6	71	49,1	..	..
Ethiopia	8,63	5,481	15,4	10,9	93	76,6	65,1	34	..	..
Mozambique	4,65	7,135	49,9	24,9	201,6	69,3	84,8	49,7	..	..
Tanzania	6,454	7,445	17,1	11,6	84,4	65,3	38,5	48,6	..	..
Bolivia	4,275	5,762	11,1	5,9	70,5	31,6	39,7	19,5	50,7	23,9
Honduras	3,718	5,487	11	7,8	32,5	21,6	19,2	12,9	..	..
Bangladesh	12,439	15,609	3,4	2,5	17,8	10,8	19,1	12,5	..	21,4
Cambodia	1,854	2,357	19,1	12,6	86,8	83,5	38,6	21,5	..	..

Source: 1. World Bank (2002). 2. Data on financial flows: Development Assistance Committee (DAC); Data on population, GNI, gross capital formation, imports of goods and services, and central government expenditure: World Bank and IMF databases. (2002).

Output indicators

Output indicators measure the immediate and concrete consequences of the measures taken and resources used.

Human resources (Indicators 9 and 10)²²

Relevance: Well-trained and qualified teachers are essential to implement the Dakar recommendations of providing primary education of good quality. During the series of regional workshops²³ organized by the UIS working conditions of teachers in relation to their qualifications, experience and workload, was highlighted as an issue in need of further study.

Difficulties: A number of respondents did not understand the difference between the two indicators. It is possible that the way they are defined gives rise to this confusion. In fact the two indicators measure different aspects of teachers' qualifications, with the first indicating the

²² **Indicator 9:** Percentage of primary school teachers having the required academic qualifications.

Indicator 10: Percentage of primary school teachers who are certified (or trained) to teach according to national standards.

²³ Since the World Education Forum in Senegal, the UNESCO Institute for Statistics launched several rounds of education surveys in order to try bridge any gap between the EFA assessment and future regular monitoring. Regional workshops have been held since then in order to establish strong working relationships with the statisticians who have responsibility for collecting the data within countries. These workshops have provided the opportunity to consult with data producers across the world about the ways in which the indicators developed for the EFA assessment have been efficient, and to consider improvements that might be made to them.

general level of education of the teaching staff, and the second focusing on their pedagogical training. Another order of difficulty is the comparability of levels of qualifications and training across countries.

Other possible indicators likely to be obtainable from existing data sources:

The proportion of female teachers.

Other potential indicators that would require development work: Various new indicators of teaching status and conditions are possible. Some of them were proposed in a OECD/ UNESCO WEI (World Education Indicators) Report on the working conditions of teachers²⁴.

Quality of education (Indicator 11)²⁵

Relevance: The pupil/teacher ratio is generally considered an indicator of educational quality, as called for in the Dakar goals. It could also be included in the previous section as an indicator of the availability of human resources. The pupil/teacher ratio is an essential element for planning the development of the educational system.

Pupil/teacher ratios alone are too crude a measure to indicate the quality of teaching and learning. They do not account for differences in teachers' academic qualifications, pedagogical training, experience, teaching methods, teaching time, teaching materials and classroom conditions – all factors that affect the quality of teaching and learning.

Difficulties: While there are no fundamental difficulties in calculating pupil/teacher ratios, in practice problems are encountered in some countries. Using present data collection instruments, it is not possible to ascertain whether all those counted as 'teachers' really have teaching functions. The indicator could be defined by expressing the number of teachers in terms of 'full-time equivalents' (FTE) instead of headcounts so as to take into account the practice of part-time teaching in certain countries, and multiple-shifts in others, which may impact the cross-national comparability of pupil/teacher ratios. Problems of data collection described by national statisticians include over-reporting of the number of teachers or pupils by the schools, for financial reasons.

There may be difficulties in getting valid measures of these ratios if the education system in a country does not correspond to ISCED²⁶, for instance when first and second cycles of basic education (ISCED levels 1 and 2) occur in the same school and are thus reported together. In these cases it is usually easier to subdivide pupils between the ISCED levels than the teachers.

Other possible indicators likely to be obtainable from existing data sources: pupil/teacher ratio calculated on the basis of numbers of teachers (and pupils) expressed in FTE; pupil/teacher ratio separately for public and private education. Other existing indicators which may be considered also as

²⁴ UNESCO-UIS/OECD. (2001). *Teachers for Tomorrow's School*. Paris: UNESCO.

²⁵ **Indicator 11:** Pupil/teacher ratio.

²⁶ ISCED: International Standard Classification of Education. The first ISCED was developed by UNESCO during the 1970s. The present 'revised' version, known as ISCED-1997, was adopted in November 1997. ISCED97 is a framework for the compilation and presentation of internationally comparable statistics and indicators on education. It is a multi-purpose system, designed for education policy analysis and decision-making, whatever the structure of the national education system and whatever the stage of economic development of a country. It can be utilized for statistics on many different aspects of education such as pupil enrolment, human and financial resources invested in education or the educational attainment of the population. The basic concepts and definitions of ISCED97 have been designed to be universally valid and invariant to the particular circumstances of a national education system. For more information on ISCED, see http://www.uis.unesco.org/en/act/act_p/isced.html

indicators of quality include EFA indicators 9 and 10 on teachers' qualifications and the percentage of repeaters by grade.

Other potential indicators that would require development work: Other indicators of the quality of education should be developed, regarding both educational inputs (such as availability of personnel other than teachers, conditions of schools and classrooms, availability of manuals and other pedagogical material) and outputs (including well designed measures of learning outcomes).

Pupil/teacher ratios by region and/or by urban and rural areas would add considerably to the analysis of the educational system since they may differ markedly by population density and by the difficulty of teacher recruitment in remote areas. The ratios need to be combined with better data on teaching hours and shift systems. Broad education human resource issues are outlined in Table 10.

Table 10. Human resources

Country	PRE-PRIMARY EDUCATION				PRIMARY EDUCATION				LOWER SECONDARY EDUCATION			
	Trained teachers (%) 1999/2000		Pupil/teacher ratio	Female teachers (%)	Trained teachers (%) 1999/2000		Pupil/teacher ratio	Female teachers (%)	Trained teachers (%) 1999/2000		Pupil/teacher ratio	Female teachers (%)
	Total	Female	1999/00	1999/00	Total	Female	1999/00	1999/00	Total	Female	1999/00	1999/00
Burkina Faso	40	87	...	...	49	24,5	...	...	33	16,6
Ethiopia	61,2	62	35	93,2	...	...	...	...	...	...	...	...
Mozambique	65	67,9	61	25,3	...	86,2	32	18,4
Tanzania	100	100	40	45,3	90,5	...	18	27,7
Bolivia	42	93,1	...	...	25	61,1	...	...	24	61,6
Honduras
Bangladesh	19,3	...	...	30	16,4
Cambodia	28	99,3	...	...	50	38,5	...	...	17	28

Source: EFA Global Monitoring Report 2002, UIS.

* = National estimation, ** = UIS estimation, ... = missing data.

Outcome indicators

Outcome indicators measure the results at the level of beneficiaries (e.g., early childhood development and education, indicators of access, indicators of participation, indicators of efficiency, learning achievements and equity).

Early Childhood Development and Education (Indicators 1 and 2)²⁷

Relevance: The two indicators relate closely to the first Dakar goal although they don't describe it completely. Expansion of early childhood care and development (ECCD) activities was also the first goal in the Jomtien Framework for Action. Since then the awareness of its importance has grown significantly and ECCD programs are now mentioned

²⁷ **Indicator 1:** Gross enrolment in early childhood development programs, including public, private, and community programs, expressed as a percentage of the official age-group concerned, if any, otherwise the age-group 3 to 5.

Indicator 2: Percentage of new entrants to primary grade 1 who have attended some form of organized early childhood development program.

as one of the priority issues in most national plans. However, the issues involved in developing and providing such services, especially in least developed countries where resources are scarce, are the subject of debate.

Difficulties: The majority of countries report problems calculating these indicators. The pre-primary education component is easier to report, although in many countries there are problems collecting these data due to the fact that there is a wide range of different types of organizers of pre-primary education (various ministries, private institutions, NGOs, and parental initiatives). The category 'Early childhood development and education' is not only more difficult to define theoretically, but also more problematic to survey at the national level. The present indicator definition sets the lower age limit at 3 to simplify data collection, although the goal mentions 'Early childhood care and education' which may be provided for younger children. National statisticians regard a clear delimitation of the area for data collection as essential.

Other possible indicators likely to be obtained from existing data sources: Net enrolment ratios, pupil/teacher ratios (for pre-primary education), and percent private enrolment. But there are issues of data quality with these indicators.

Table 11. Early Childhood Care and Education

Country	GROSS ENROLMENT RATIO (GER) IN ECCE					NEW ENTRANTS TO PRIMARY EDUCATION				
	1999/2000		GPI			1998/1999		1999/2000		
	T	M	F	F/M	T	M	F	T	M	F
Burkina Faso	1,6**	1,6**	1,6**	1,02	2,8	2,5	3,2	...	...	...
Ethiopia	1,7	1,8	1,7	0,93	...	...	...	...	...	...
Mozambique	...	...	...	...	...	...	...	...	...	...
Tanzania	...	...	...	...	...	...	...	...	...	...
Bolivia	45,3**	45,0**	45,7**	1,02	...	...	...	49,5	49,5	49,4
Honduras	...	...	...	...	...	...	...	...	...	...
Bangladesh	23,8**	22,4**	25,2**	1,13	...	...	...	...	...	...
Cambodia	5,6	5,4	5,7	1,05	8,0	7,9	8,2	...	...	...

Source: EFA Global Monitoring Report 2002, UIS.

* = National estimation, ** = UIS estimation, ... = missing data

Indicators of Access (Indicators 3 and 4)²⁸

Relevance: The two indicators above refer to the second Dakar goal. In theory they are good indicators of access to school. In practice even at this stage of schooling there may be significant differences between the number of children formally enrolled and those who actually attend school. The two indicators are useful to predict future trends of primary school enrolment. They are also useful for the analysis of gender disparities in education.

²⁸ **Indicator 3:** Apparent (gross) intake rate: new entrants in primary grade 1 as a percentage of the population of official entry age.

Indicator 4: Net Intake rate: new entrants to primary grade 1 who are of the official primary school-entrance age as a percentage of the corresponding population.

Difficulties: there are no problems from a theoretical point of view. In practice difficulties are found in some countries, which cannot produce the Net intake rate due to lack of data on enrolment by age. In some cases there is also a lack of correspondence between population and education data²⁹. The response rate is quite high for the AIR, lower for the NIR. It should also be mentioned that in some cases schools may exaggerate enrolment figures in order to obtain increased finances, leading to overestimated intake rate.

Other possible indicators likely to be obtainable from existing data sources: Percentage of new entrants who are under- or over-age in relation to the official age.

Other potential indicators that would require development work: Geographical, urban/rural disparities.

Indicators of participation (Indicators 5 and 6)³⁰

Relevance: Enrolment ratios are also relevant for the second Dakar goal. They are the most frequently used indicators of educational development, although it is necessary to consider them in conjunction with other educational indicators. There is a debate on the relative advantages of using the NER or the GER in the analysis of the educational system. In fact, both are meaningful in different ways and complement each other. In interpreting these indicators one should not forget that enrolment might be quite different from actual attendance. Ideally enrolment data from administrative records should be periodically compared with attendance data gathered through household surveys.

Difficulties: The indicators are theoretically well defined. However, there are often problems with the actual data availability and quality, especially regarding enrolment by age. The quality of enrolment data may also be doubtful for a variety of reasons: over-reporting of enrolment by schools for financial reasons (already mentioned), difficulties of surveying all schools (especially in remote or conflict areas or those from the private sector).

Population data problems: For all indicators calculated as a ratio of the population, there may be problems of consistency between enrolment and population data. This can result in a NER higher than 100%, which is theoretically impossible. Another related problem is the large difference for certain countries between national and UN population estimates, resulting in quite different enrolment ratios. The UIS generally uses the UN population data for its indicators. On the occasion of the EFA Assessment exercise countries were exceptionally requested to calculate their own indicators and to supply the corresponding population data. These data allowed the UIS to identify the problem more precisely³¹. The UN Population Division and the UIS will continue to exchange information on this subject to try and resolve inconsistencies. The situation is more complicated when calculating more geographically disaggregated data. In many countries this is not feasible and data are available only at the national level.

²⁹ See discussion on population data under Indicators of Participation (section 4.3.3.).

³⁰ **Indicator 5:** Gross enrolment ratio.

Indicator 6: Net enrolment ratio.

³¹ See the UIS' *Education indicators based on UN and national population data: a comparative analysis*, 21st Session of the Subcommittee on Demographic Estimates and Projections, Geneva, June 2000.

Other possible indicators likely to be obtainable from existing data sources: GER and NER at specific grades; Gender Parity Indices; percentage distribution of under-age, normal, and over-age enrolment, school life expectancy, school survival expectancy.

Table 12. Net enrolment ratio at primary and secondary level by country and by gender for the school years 1998/1999, 1999/2000 and 2000/2001.

COUNTRY	YEAR	Net enrolment ratio (%) Primary						Net enrolment ratio (%) Secondary					
		Total		Male		Female		Total		Male		Female	
Bangladesh	1998/1999	89,97	**	91,04	**	88,84	**	39,16		39,95		38,31	
Bangladesh	1999/2000	89,40		89,34		89,47		41,77		41,57		41,98	
Bangladesh	2000/2001	88,90		88,14		89,70		42,69		41,70		43,74	
Bolivia	1998/1999	97,62	**	97,84	**	97,39	**	54,85		56,82		52,82	
Bolivia	1999/2000	97,91	**	98,03	**	97,79	**	...		...		...
Bolivia	2000/2001	96,92	**	96,79	**	97,06	**	68,13	**	68,88	**	67,36	**
Ethiopia	1998/1999	38,12		45,12		31,09		11,98	**	14,03	**	9,94	**
Ethiopia	1999/2000	42,76		49,34		36,16		...		...		...
Ethiopia	2000/2001	46,72		52,76		40,66		12,71		15,31		10,10	
Honduras	1998/1999	...		...		...		...		...		...
Honduras	1999/2000	...		...		...		...		...		...
Honduras	2000/2001	87,62		86,84		88,43		...		...		...
Cambodia	1998/1999	83,50	**	89,48	**	77,36	**	14,92	**	19,25	**	10,49	**
Cambodia	1999/2000	88,57		93,94		83,05		15,60		19,88		11,22	
Cambodia	2000/2001	95,40		100,36		90,31		16,67	**	20,91	**	12,33	**
Mozambique	1998/1999	45,67		50,35		41,01		7,83	**	9,15	**	6,52	**
Mozambique	1999/2000	50,11		54,67		45,57		8,25		9,74		6,76	
Mozambique	2000/2001	54,40		58,72		50,10		6,67		7,66		5,69	
Tanzania	1998/1999	46,14		45,33		46,97		3,67	**	4,21	**	3,14	**
Tanzania	1999/2000	46,70		45,83		47,57		4,76	**	4,89	**	4,63	**
Tanzania	2000/2001	46,70	**	45,83	**	47,57	**	4,38	**	4,40	**	4,36	**
Burkina Faso	1998/1999	33,74		40,14		27,29		8,24		10,43		6,06	
Burkina Faso	1999/2000	34,63		40,89		28,31		8,33	**	10,08	**	6,57	**
Burkina Faso	2000/2001	35,54		41,63		29,39		7,97	**	9,67	**	6,27	**

Source: UIS, January 2003

* = National estimation, ** = UIS estimation, ... = missing data

Indicators of efficiency (Indicators 12, 13 and 14)³²

The three indicators are all based on the Reconstructed Cohort Method, which uses data on enrolment for two consecutive years and data on repeaters for the second year.

Relevance: The repetition rate by grade and the survival rate to grade 5 measure different aspects of the efficiency of the school system while the coefficient of efficiency is a summary measure. Although efficiency is not mentioned explicitly in the Dakar goals, the optimal use of resources is necessary to achieve the goals, especially in countries where human and

³² **Indicator 12:** The repetition rate is the number of repeaters in a given grade in a given school year expressed as a percentage of enrolment in that grade the previous school year.

Indicator 13: The survival rate to grade 5 is the percentage of a cohort of pupils who enrolled in the first grade of primary education in a given school-year and who eventually reach grade 5.

Indicator 14: The coefficient of efficiency is the optimum number of pupil-years needed for a cohort to complete the primary cycle, expressed as a percentage of the number of pupil-years actually spent by the cohort.

financial resources are inadequate. Completion of primary education, which is linked to survival rate, is specifically referred to in the second and fifth goals.

Difficulties: The various hypotheses on which the Reconstructed Cohort Method is based (homogeneous behavior, number of repetitions allowed, closed system, etc.) make the model inappropriate in certain countries, especially where there is significant migration. In addition, it is known that data on repeaters are often under-reported in countries where the declared policy (i.e. the policy in theory rather than in practice) is one of 'automatic promotion' or where pupils are officially permitted to repeat only once. Although the template, which included the relevant calculations, was provided to countries as part of the EFA assessment some countries found problems in applying the model. In some cases the relevant data are available from existing data sources, which seems to indicate that the difficulty was more with the application of the model than with the availability of the basic data.

Other possible indicators likely to be obtainable from existing data sources: Percentage of repeaters by grade (percentage of pupils enrolled in a given grade who are repeaters); drop-out rates (which are easy to obtain as they are just the complement of the survival rates but which may be politically more powerful); an indicator of wastage (which is the complement of the coefficient of efficiency); breakdown by public/private education; Gender parity indices for repetition and survival rates; and transition rates from primary to secondary education.

Other potential indicators that would require development work: Completion of primary education or promotion rates (from the results of examinations); and some financial measures of efficiency, such as costs of wastage.

Table 13. Internal efficiency: repetition rates in primary education, 1999/2000

Country	Grade 1			Grade 2			Grade 3			Grade 4			Grade 5			Grade 6		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Burkina Faso	11,7	11,8	11,6	12,6	12,7	12,4	16,6	17	16,1	15,2	15,2	15,3	16,3	15,4	17,7	35,1	34,5	36,1
Ethiopia	9,1	8,7	9,8	5,1	4,8	5,6	4,7	4,1	5,5	5,6	4,8	7	...	...	...	...	...	...
Mozambique	25,4	25,2	25,7	24,5	24,2	24,9	24,4	23,6	25,5	20,2	19,3	21,5	18,8	18,3	19,7	...	...	...
Tanzania	3,2	3,2	3,2	2,1	2,1	2,1	1,4	1,4	1,4	12,4	12,3	12,5	3,2	0,1	0,1	0	0	0
Bolivia	3	3	2,9	2,3	2,3	2,3	2,3	2,4	2,2	2,3	2,3	2,2	1,9	2	1,8	2,9	3,3	2,5
Honduras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bangladesh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cambodia	37	38,1	35,8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Source: EFA Global Monitoring Report 2002, UIS.

* = National estimation, ** = UIS estimation, ... = missing data

Table 14. Survival rate at grade 4 & 5 by country and gender for 98/99, 99/00 and 00/01.

COUNTRY	SCHOOL YEAR	Survival Rate to Grade 4 (percent of cohort reaching gr. 4)						Survival Rate to Grade 5 (percent of cohort reaching gr.5)						Primary school	
		Total		Male		Female		Total		Male		Female		Entry age	Duration
Bangladesh	1998/1999	71,53	**	67,83	**	75,83	**							6	5
Bangladesh	1999/2000	71,90		68,18		76,00								6	5
Bolivia	1998/1999	84,67	**	84,74	**	84,60	**	82,08	**	82,83	**	81,29	**	6	6
Bolivia	1999/2000	85,22	**	85,95	**	84,45	**	83,01	**	84,47	**	81,50	**	6	6
Ethiopia	1998/1999	56,87		56,25		58,04		51,43		50,52		53,18		7	6
Ethiopia	1999/2000	72,60		81,06		59,85		66,64		74,30		55,08		7	6
Honduras	1998/1999			...		...		...		...		...		7	6
Honduras	1999/2000	...		...		...		...		...		...		7	6
Cambodia	1998/1999	66,78	**	68,52	**	64,87	**	56,57	**	58,59	**	54,33	**	6	6
Cambodia	1999/2000	71,39		71,15		71,66		62,81		62,89		62,71		6	6
Mozambique	1998/1999	57,44		60,90		53,06								6	5
Mozambique	1999/2000	58,23		61,97		53,68								6	5
Tanzania	1998/1999	86,50		85,63		87,38		80,89		78,60		83,27		7	7
Tanzania	1999/2000	...		...		...		...		...		...		7	7
Burkina Faso	1998/1999	76,55		75,59		78,01		68,26		66,88		70,38		7	6
Burkina Faso	1999/2000	77,34		76,22		78,97		69,09		67,60		71,32		7	6

Source: UIS, January 2003.

* = National estimation, ** = UIS estimation, ... = missing data

Learning achievements (Indicator 15)³³

Relevance: Indicators of learning achievement are necessary to assess the sixth goal. There has been an increasing demand from both international institutions and national authorities to develop more appropriate methodologies to assess learning achievement.

Difficulties: Defining internationally comparable indicators of learning achievement is a complex task. Statisticians in some countries have questioned what the definition of 'learning competencies' in Indicator 15 is. The data source for this indicator in the EFA 2000 Assessment was usually the UNESCO/UNICEF Monitoring Learning Achievement Project which has not been conducted in all countries and is too costly to repeat frequently in those countries where it is conducted. Clearly, this indicator cannot be asked systematically of all countries through a world survey. Such indicators depend on thorough, well-planned and sound methodological work before the surveys are conducted.

Other potential indicators that would require development work: Some simple indicators of achievement could be obtained through examination results at the end of the first education cycle but these would not be comparable cross-nationally.

Different methods of assessment of learning achievements have been developed recently and various projects have been launched, including the UNESCO/UNICEF MLA project mentioned above as well as the PASEC program (Programme d'Analyse des Systèmes éducatifs des pays

³³ **Indicator 15:** Percentage of pupils having reached at least grade 4 of primary schooling who master as set of nationally defined basic learning competencies.

de la CONFEMEN), the LABORATORIO project of OREALC/ UNESCO, the IIEP Southern African Consortium for Monitoring Educational Quality (SACMEQ) project and the OECD Program for International Student Assessment (PISA).

Impact indicators

Impact indicators measure the consequences of the outcomes. For example, equity, literacy rates, unemployment rates.

Equity

Relevance: Equity is a transversal dimension qualifying most Dakar goals. Although gender equity is the aspect which is most clearly spelt out, some of the goals affirm the need to ensure equitable access and participation of other groups, particularly of vulnerable and disadvantaged children, children in difficult circumstances and ethnic minorities as well as adults. The importance of target groups may vary from one country, or region, to another. While discrimination against girls and young women is still strong in many countries of West and Central Africa and in Southern Asia, in other countries, or regions, gender disparities have been eliminated or are at the disadvantage of boys. The economic and social disparities across societies and the exclusion of specific groups such as ethnic minorities, nomadic peoples or migrant populations, remain crucial issues.

Difficulties: Indicators of gender equity are relatively simple to calculate. Since most of the indicators of access, participation and efficiency described above are available by gender, Gender Parity Indices (female/male ratio) should be calculated for most of them³⁴.

Measuring other aspects of equity may be a more complex undertaking³⁵. However, the World Bank project on equity assessment using the Demographic and Health surveys (DHS) has given rise to the publication of interesting analyses. They show for instance the combined effects of gender and household wealth, or gender and urban/rural location, on the levels of disparities in enrolments and progression through primary education³⁶.

Other potential indicators that would require development work: Geographical and urban/rural breakdowns; measures of participation, access and achievement by socio-economic categories and by specific target groups such as ethnic minorities; financial allocations by geographical or socio-economic sectors. The regular utilization of outcomes of surveys other than population censuses could be encouraged. Methodological work on the definition of internationally comparable socio-economic classes or other target groups is essential if the data are to be cross-nationally comparable.

³⁴ For a discussion on indicators of gender disparities see: UNESCO Division of Statistics. 'Gender-sensitive Education statistics and indicators: A practical guide'. Paris. 1997. Web: <http://www.uis.unesco.org/uisen/pub/pub0.htm>

³⁵ See: Cavicchioni, V. and Motivans, A. (2001). Monitoring educational disparities in less developed countries. In *In Pursuit of Equity in Education*. Kluwer Academic Publishers. Dordrecht, The Netherlands.

³⁶ See: Filmer, D. (1999). The Structure of Social Disparities in Education: Gender and Wealth. World Bank Gender and Development Working Paper No.5 May 1999.

*Literacy (Indicators 16, 17 and 18)*³⁷

Relevance: ‘Achieving a 50 percent improvement in levels of adult literacy by 2015, especially for women, ...’ is a specific aim set out in the fourth goal of the Dakar Framework for Action. Achieving this goal may prove difficult for some of the least developed countries, hence the urgency for countries to increase access to quality education and to provide learning facilities for illiterate adults. The literacy rate for the 15–24 age group can also be considered as a summary indicator of learning achievement as it reflects the outcome of the basic education process.

The need to monitor the progress of literacy through more frequent and better assessment of literacy skills than decennial censuses (which is the method used in many countries) is also evident. Literacy rates and numbers of illiterates should be considered together when analyzing the progress of literacy: a decrease in the illiteracy rates does not necessarily imply a decrease in the number of illiterates or vice versa.

Difficulties: There are two orders of difficulties: the main methodological difficulties relate to the need to define literacy in a way that is both relevant to the local context and internationally comparable. The validity and comparability of the measurement itself can be improved, but will be much more costly to collect. The use of the percentage of the population having attained a specific grade of primary education, as a measure of literacy, is an often used but inadequate proxy indicator. Another order of difficulty is the frequency with which these indicators are obtained. They are collected generally through the national population censuses, rarely conducted more often than every ten years and sometimes much less frequently. Household surveys or ad hoc literacy assessments are also carried out, in an increasing number of countries, but on an irregular basis.

Other potential indicators that would require development work: Geographical and urban/rural breakdown, etc. The regular utilization of surveys other than population censuses could be promoted and the methods and outcomes of other projects on literacy assessment could also be taken into account.

³⁷ **Indicator 16:** Literacy rate of 15–24 year olds.

Indicator 17: Adult literacy rate, is the percentage of the population aged 15+ that is literate.

Indicator 18: Literacy Gender Parity Index.

Table 15. Illiteracy among those aged 15-24 (by country and gender) 1970-2015

COUNTRY	YEAR	ILLITERACY RATE (%)			ILLITERACY POPULATION (000)			TOTAL POPULATION (000)		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
BANGLADESH	1970	68,8	56,7	81,3	8 176	3 510	4 628	11 882	6 188	5 694
BANGLADESH	1980	64,3	55,3	74,1	11 231	5 065	6 156	17 473	9 165	8 308
BANGLADESH	1990	58,0	49,3	66,8	13 098	5 791	7 250	22 598	11 746	10 852
BANGLADESH	1995	54,9	46,4	63,7	13 718	6 005	7 678	24 998	12 942	12 056
BANGLADESH	2000	51,6	43,3	60,3	14 441	6 267	8 168	28 000	14 457	13 542
BANGLADESH	2005	48,5	40,6	56,9	15 231	6 566	8 657	31 394	16 182	15 212
BANGLADESH	2010	45,4	37,8	53,3	15 361	6 586	8 764	33 841	17 410	16 431
BANGLADESH	2015	41,9	34,9	49,2	14 781	6 338	8 451	35 300	18 138	17 162
BOLIVIA	1970	23,6	12,8	34,2	189	51	138	800	396	404
BOLIVIA	1980	13,8	6,9	20,6	143	35	108	1 032	511	522
BOLIVIA	1990	7,4	3,8	11,0	97	25	72	1 303	648	654
BOLIVIA	1995	5,6	2,8	8,4	83	21	62	1 479	740	739
BOLIVIA	2000	4,2	2,0	6,4	68	16	51	1 625	818	807
BOLIVIA	2005	3,0	1,4	4,6	54	13	41	1 804	913	892
BOLIVIA	2010	2,0	0,9	3,2	41	10	32	2 028	1 030	998
BOLIVIA	2015	1,3	0,6	2,1	29	7	23	2 236	1 138	1 098
BURKINA FASO	1970	88,3	80,8	95,6	861	392	469	975	485	490
BURKINA FASO	1980	82,5	73,1	92,0	1 039	450	592	1 260	616	644
BURKINA FASO	1990	75,1	64,3	86,0	1 355	573	786	1 804	891	914
BURKINA FASO	1995	70,5	59,4	81,8	1 492	618	878	2 114	1 041	1 074
BURKINA FASO	2000	65,4	54,2	76,7	1 568	639	935	2 399	1 179	1 219
BURKINA FASO	2005	59,7	49,0	70,7	1 700	696	1 006	2 845	1 422	1 424
BURKINA FASO	2010	53,8	43,8	63,8	1 751	716	1 037	3 258	1 633	1 625
BURKINA FASO	2015	47,5	38,8	56,4	1 780	729	1 051	3 743	1 879	1 864
CAMBODIA	1970	38,4	22,1	54,9	504	146	357	1 313	662	651
CAMBODIA	1980	33,2	20,8	44,0	472	138	334	1 423	664	759
CAMBODIA	1990	26,5	18,5	34,4	477	165	312	1 801	893	908
CAMBODIA	1995	24,2	17,8	30,7	421	155	266	1 739	871	867
CAMBODIA	2000	20,9	16,1	25,7	510	198	311	2 445	1 231	1 214
CAMBODIA	2005	18,1	14,5	21,8	611	248	363	3 369	1 704	1 665
CAMBODIA	2010	15,7	13,1	18,4	561	237	324	3 569	1 806	1 762
CAMBODIA	2015	13,6	11,9	15,3	524	232	292	3 865	1 957	1 907
ETHIOPIA	1970	79,0	70,0	87,9	4 347	1 920	2 427	5 504	2 741	2 762
ETHIOPIA	1980	67,8	58,1	78,1	4 562	1 941	2 644	6 730	3 343	3 387
ETHIOPIA	1990	57,0	48,5	65,9	5 185	2 195	3 010	9 095	4 531	4 564
ETHIOPIA	1995	51,0	43,6	58,8	5 388	2 297	3 110	10 558	5 269	5 288
ETHIOPIA	2000	45,0	38,8	51,3	5 408	2 333	3 081	12 016	6 006	6 010
ETHIOPIA	2005	39,0	34,2	43,7	5 491	2 411	3 078	14 085	7 048	7 037
ETHIOPIA	2010	33,4	30,0	36,7	5 485	2 473	3 010	16 432	8 231	8 201
ETHIOPIA	2015	28,1	26,2	30,1	5 266	2 454	2 811	18 713	9 381	9 331
HONDURAS	1970	35,3	34,1	36,5	169	82	87	480	242	238
HONDURAS	1980	26,9	27,1	26,7	191	97	94	709	357	352
HONDURAS	1990	20,3	21,5	19,2	201	107	93	987	499	488
HONDURAS	1995	17,5	18,8	16,1	200	109	91	1 145	580	565
HONDURAS	2000	14,9	16,5	13,4	200	112	88	1 336	678	658
HONDURAS	2005	12,7	14,4	11,0	193	111	82	1 517	771	746
HONDURAS	2010	10,8	12,5	9,0	182	107	75	1 690	859	830
HONDURAS	2015	9,1	10,8	7,4	166	100	66	1 821	927	894
MOZAMBIQUE	1970	72,5	56,4	88,2	1 210	466	744	1 669	825	844
MOZAMBIQUE	1980	62,0	43,5	80,2	1 347	469	878	2 174	1 079	1 095
MOZAMBIQUE	1990	51,2	33,9	68,3	1 340	442	898	2 617	1 303	1 314

MOZAMBIQUE	1995	45,3	29,2	61,3	1 440	462	976	3 177	1 584	1 593
MOZAMBIQUE	2000	39,4	24,9	53,8	1 422	448	971	3 605	1 799	1 806
MOZAMBIQUE	2005	33,7	21,2	46,2	1 363	427	935	4 041	2 018	2 023
MOZAMBIQUE	2010	28,4	17,9	38,8	1 302	410	892	4 585	2 287	2 298
MOZAMBIQUE	2015	23,6	15,2	32,0	1 221	392	831	5 172	2 576	2 596
TANZANIA	1970	46,3	28,2	64,0	1 191	358	833	2 571	1 270	1 301
TANZANIA	1980	30,6	18,0	43,0	1 089	318	771	3 557	1 762	1 795
TANZANIA	1990	16,9	10,8	22,8	883	276	607	5 236	2 572	2 664
TANZANIA	1995	12,9	8,6	17,1	810	267	544	6 284	3 107	3 177
TANZANIA	2000	9,5	6,8	12,1	684	245	439	7 237	3 614	3 623
TANZANIA	2005	6,9	5,4	8,4	575	225	350	8 349	4 181	4 168
TANZANIA	2010	5,0	4,3	5,7	471	204	267	9 418	4 721	4 697
TANZANIA	2015	3,6	3,5	3,8	382	185	197	10 505	5 271	5 234

Source: UIS, January 2003.

* = National estimation, ** = UIS estimation, ... = missing data

Interpretation of data for sector program supports

In view of the above it appears obvious that there is an urgent need to improve the quality and availability of a wide range of international data. For instance this report has not been able to provide time-trends for a wide variety of basic statistics on national education systems. This is partly because of the revisions to classification systems in education statistics mentioned in the introduction of the present report, and partly because data collection methods changed between the mid- and late-1990s, making time-trends for a large number of variables difficult. Consequently, the coverage of the data presented in this report is less useful for analytic purposes than it needs to be. In principle, an exercise to achieve comparability between contemporary data sets and those gathered in the early 1990s would be extremely valuable.

The information available to monitor aid flows to education remains open to considerable improvements in quality and coverage. The main database held by the OECD DAC is provided by the agencies themselves. Coverage and reporting improved substantially during the last decade. However, even by 2000, almost one fifth of reported commitments were not shown by sub-sector. The information available on disbursements is partial, and covered only 70 percent of education aid by 2000. These problems mean that trends in aid to education can be analyzed in only a partial fashion. The limitations often reflect the nature of agencies' own information systems. If donor commitments and disbursements in support of EFA goals are to be effectively monitored, more efforts are urgently required.

5. Towards an aggregation of the impact of HIV/AIDS on education

After having presented the relevant statistics and indicators of progress and results in primary and secondary education in the eight selected countries of this study, this section addresses an essential parameter in the evaluation of the achievement of EFA goals³⁸ – the impact of HIV/AIDS on the education sector in the countries in question. Although it has long been agreed that HIV/AIDS greatly impacts the education sector, the assessment of its real impact on the results and progress of an educational policy through reliable and tangible indicators is still emerging. Before analyzing indicators of the impact of HIV/AIDS on education, we briefly review the official prospects for achieving EFA goals in Table 14.

Table 16. Prospects for Achieving EFA Goals

Country	Countries at risk on primary completion	Countries at risk on primary enrollment	Countries at risk on gender disparity in primary completion or enrollment	Countries with >2% HIV prevalence or large numbers of infected people ³⁹	Countries in or recovering from conflict	Countries not at risk on primary enrollment or completion
Bangladesh						X
Cambodia	X		X	X	X	
Bolivia	X					
Honduras	X					
Burkina Faso	X	X	X	XX		
Ethiopia	X	X	X	XXX	X	
Mozambique	X	X	X	XXX	X	
Tanzania	X	X		XX		

Source: IDA: International Development Association 2002. In “Education and HIV/AIDS: A Window of Hope”, The World Bank (this table may be adjusted to reflect finalization of EFA country analysis currently under way).

As can be seen in the table above, the region hardest hit by HIV/AIDS is sub-Saharan Africa, which has the largest number of cases and the highest adult rates in the world. In terms of absolute numbers, sub-Saharan Africa is followed by South and South-East Asia and then Latin America, while in terms of adult prevalence it is followed by the Caribbean, South

³⁸ Goal 2: achievement of universal primary education; and Goal 3: promotion of gender equality and empowerment of women.
³⁹ XX indicates countries with HIV prevalence greater than 5 percent and XXX indicates countries with HIV prevalence greater than 10 percent.

and South-East Asia, and the Americas. The rapid spread of HIV/AIDS, especially in countries south of the Sahara; over the past decade is no longer just a health problem, but a major cause for the ongoing development crisis. Education is one of the many sectors that are being devastated by the spreading of the pandemic in these countries. In the absence of appropriate responses in this sector, the human resource infrastructure of these countries will be decimated by the epidemic and their economic output will continue to decline. Subsequently, the social costs of the pandemic will continue to rise⁴⁰.

The figures below highlight the difficulties of assessing and separating the impact of HIV/AIDS from the effects of other factors such as economic and social adjustment programs on the education systems remain unresolved. Collecting relevant data on HIV/AIDS and education, at the macro as well as at the micro level, is fraught with difficulties linked mostly to the nature of the problem and the social and cultural environment where this occurs. The induced challenges, for education managers to plan and monitor the future development of the system using variable data on the HIV/AIDS impact, are enormous. Existing data on the impact of HIV/AIDS on education are scarce and vary greatly in their quality because of the difficulties in measuring the impact and therefore need to be interpreted with care if sound prevention programs are to be based on them.

Box 1. What HIV/AIDS can do to education?

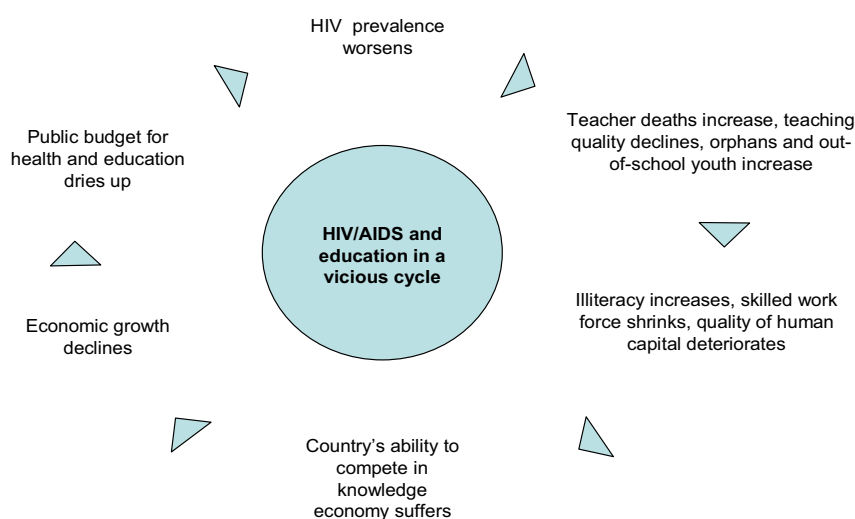
HIV/AIDS has the potential to

- Affect the demand for education
- Affect the potential clientele for education
- Affect the supply of education
- Affect the content of education
- Affect the process of education
- Affect the organization of schools
- Affect the role of education
- Affect the availability of funds for education
- Affect aid agency involvement in education
- Affect the planning and management of the education system

Source: Kelly, M.J. (2000). *Planning for education in the context of HIV/AIDS*. UNESCO/IIEP. Paris.

40 Carr-Hill, R.; Katabaro, K. J.; Katahoire, A. R. and Oulai, D. (2002). *The Impact of HIV/AIDS on Education and Institutionalizing Preventive Education*. Paris: UNESCO International Institute for Educational Planning.

HIV/AIDS and Education: the consequences of inaction



Source: The World Bank (2002). "Education and HIV/AIDS. A Window of Hope". Figure 1-3.

Monitoring the impact of HIV/AIDS and the education sector

Part of the problem of assessing the quantitative impact of AIDS is that previous predictions concerning growth rate have been astonishingly inaccurate. Thus the growth of population in school-age cohorts was far higher than the 18 per cent predicted for the period 1960–1980 – in fact it was five times higher than expected (Bishop, 1989)⁴¹.

There are data and projections that can be used, however inaccurate. Current trends and future projections for SADC countries indicate that both supply of, and demand for, education are likely to decrease in the medium term. However, the two trends are unlikely to match. What is more probable is what Shaeffer⁴² calls the increased randomness of educational provision:

"Especially in systems already affected by recession, debt, poverty, and natural or man-made disasters, the added absenteeism of both teachers and pupils due to the presence of HIV and AIDS will only make the provision of education more sporadic and unsystematic. Parents and children who realize this way see little point in continuing to pay for such an education". (1993:11)

As can be expected from the evidence above, and judging from the regional trends, it is not obvious what 'numerical' impact AIDS has on the ongoing problems. Nevertheless, AIDS has done much to highlight existing inadequacies and weaknesses in the education systems of developing countries, and has added to an existing burden of problems facing the sector.

Whatever the impact, the increased randomness of educational provision referred to above will make planning more difficult. Already

⁴¹ Bishop, G. (1989). *Alternative strategies for education*. MacMillan.

⁴² Shaeffer, S. (1993). *The impact of HIV/AIDS on education. A review of literature and experiences*. Paris: UNESCO. Section for Preventive education.

the international trend is to suggest devolution and flexibility of policy-making. In development terms, this means a shift from administration to management. Therefore, AIDS has not so far, by itself, had a major numerical impact on the educational process or services in terms of supply and demand in comparison with other factors. This is not to say that other impacts are not important. What is needed now is research to show the relative importance of HIV and AIDS in relation to other factors.

Clearly, whether or not there is any overall impact on the teacher/pupil ratio, the epidemic does have a significant impact on the attainability of the quantitative UPE⁴³ goals and on the quality of education. For planning purposes, it is therefore important to be able to track the spread of the pandemic through the system.

The World Bank provides “with” and “without AIDS” comparisons to help countries to appreciate the dimensions of the problem they face and develop the commensurate commitment to act with urgency, design effective responses, and mobilize the needed financial and human resources. Recent analyses suggest that HIV/AIDS is likely to increase the annual demand for external support to achieve EFA in the range of USD 450 million to USD 550 million.

In the report “The impact of HIV/AIDS on education and institutionalizing preventive education”⁴⁴, Carr-Hill, Katabaro, Katahoire and Oulai (2002) summarize these issues as follow:

- There is a general lack of concrete data and research presenting figures and information about HIV/AIDS and the impact on the education sector, especially regarding staff replacement issues and human resource development generally.
- HIV/AIDS is a complex issue, and cannot be separated from such primary goals as poverty alleviation. It has to be dealt with in a holistic approach, targeting individuals, households, communities and nation-states. A cross-sectoral approach is essential.

Methodology of measuring impact

In attempting to measure the impact of HIV/AIDS on education, one faces the problem of the methodology to use in determining the impact. Whereas the indicators (as discussed before) are clear, it is difficult to isolate other factors. For example, it is difficult to attribute some death cases to AIDS if there is no clinical diagnosis to prove that the case is due to AIDS. Similarly, as illustrated above, non-enrollment and school absenteeism are due to many factors, including problems not related to AIDS. The question here is how certain should one be to attribute some of the problems to HIV/AIDS and others to different causes?

There are several possible data sources on the number of HIV-infected education personnel nationwide including files from clinics and hospitals with information on cause of death (for teachers and other education personnel and the determination of the number of deaths due to HIV/AIDS), or even routine personnel data. The extent to which planners can rely on such data (shortage of teachers due to HIV/AIDS-

⁴³ Universal Primary Education.

⁴⁴ Carr-Hill, R., Katabaro K. J., Katahoire, A. R. and Oulai, D. (2002). *The Impact of HIV/AIDS on Education and Institutionalizing Preventive Education*. Paris: International Institute for Educational Planning, UNESCO. pp.77–78.

related illness or deaths; time spent by staff to attend the funerals of colleagues, absenteeism for staff, etc.) for decision-making is discussed below. The problem of interpreting information necessary for monitoring the impact on the system will also be discussed.

Teacher data

– Clinical and medical data to track AIDS among teachers

In 1998 UNICEF published two case studies of impact on teacher absences⁴⁵ that clearly show how difficult it is to determine whether or not the cause of death was AIDS (in Central African Republic, only 57 of the 339 deaths had a known cause; in Côte d'Ivoire, 303 out of 549). However in both cases the education system itself was able to assess the number of months of illness absence. Moreover, it was possible, with some effort, to extract information from the clinics and hospitals about teachers who had presented for diagnosis and treatment.

While the latter is of clinical interest, it is of little use for planning purposes as (a) it requires a special investigation, and (b) the majority had already reached the clinical stage of AIDS, which would mean that their effective teaching days would already have been considerably reduced even if they survived for a long time.

Personnel records

On this basis, the Carr-Hill et al. (2002) suggest the following indicators as the most sensible set, relatively easily generated from personnel systems:

- Number of teachers at each grade level, by standard (within country) region and by level of qualification;
- Numbers and proportions of new recruits to the stock;
- Numbers and proportions of teachers retiring at correct age;
- Numbers and proportions of teachers leaving the system prematurely (possibly at each grade level, by standard region, or by level of qualification).

The first three should already be standard or, if not, relatively easily generated from personnel systems. The latter would require the introduction of another standard output from the civil service/registration system. With these data, a regular summary could be generated of the average length of service and age of teachers leaving the system prematurely, and of the average absence during the year preceding their departure from the system. These would provide the most reliable indicators of the spread of the pandemic and which class grades, regions of the country and levels of teachers are most affected.

Data on children

The IIEP identifies three major problems regarding the impact of AIDS on children and their education:

- How many children are being orphaned?⁴⁶

45 UNICEF. (1998). Le VIH/sida et le Corps enseignant. Bangui (Central African Republic), Bulletin No.5. UNICEF. (1998). Le VIH/sida et le corps enseignant: Impact du VIH/sida sur le système éducatif ivoirien. Abidjan (Côte d'Ivoire), Bulletin No.4.

46 Detailed "orphan" estimates for the eight countries in question are presented in Appendix 1.

- How many children are not coming to school and how many of those are orphans?
- How many children at school on a regular basis are able to follow the lessons and how many of those are orphans?

However, these problems and their measurement overlap. As shown earlier, current routine data, at best, measure enrolment and attendance as well as rates of repetition but nearly all the estimates of gross or net enrolment rates rely on demographic population projections which are themselves becoming more problematic with the epidemic. Thus, in areas with high prevalence, it is almost impossible to estimate GERs or NERs with any reliability without a community survey, something not feasible on the national level. Therefore, other options have to be explored for generating some useful national data. The IIEP suggests drawing on agency (NGO) records of AID orphans and improving the current data on school attendance.

Agency records on orphans

It is probably not feasible on a national basis to collect school-based data on orphans because this imposes the burden of identifying and recording on already overstretched teachers. Moreover, it is unclear how useful a simple count of those who are orphans would be, given the complexity of relationships and different support networks. However, this could be done on a local level with the cooperation of the parents (relatives) and community leaders.

A detailed study in Uganda carried out by Rice (1996)⁴⁷ suggests that considerable information can be collected by drawing on the records of those who are supporting orphans in schools such as WATOTO. Most important, in addition to age, gender, whether or not parents are alive, whom the child is living with and whether the child is separated from siblings, they record the year of schooling. This enables calculation of the extent to which orphans (however defined) are being marginalized.

Improving current data on school attendance

In general, administrative data on school enrolment give a reasonably accurate portrayal of the situation (for the day on which they are collected). The problem is, they do not accurately reflect the number of children who actually attend school throughout the year.

The accepted view is that children affected by HIV/AIDS in the family are less likely to be enrolled in school, and, if they are, are less likely to attend regularly. The World Bank provides “with” and “without AIDS” comparisons to help countries appreciate the dimension of the problem they face and develop the commensurate commitment to act with urgency, design effective responses and mobilize needed financial and human resources. Currently analyses suggest that HIV/AIDS is likely to increase the annual demand for external support to achieve EFA in the range of USD 450 million to USD 550 million. On the other hand, there is anecdotal evidence that some families affected by HIV/

⁴⁷ Rice, D. (1996). *The impact of HIV/AIDS on primary education in Uganda*. Dissertation for MA in Education and International Development. Institute of Education, University of London, UK.

AIDS might be more enthusiastic to send their children to school (World Bank, 2002).

However, all agree that an increasing pandemic will affect social and economic processes around death, family formation, maintenance and reproduction and rituals. For children, this implies that there will be an increasing number of occasions when they are kept at home, either for (domestic) work reasons, family problems or a funeral, or simply because of fees. Whatever the reason, the fluctuations and/or trends in attendance rates, if accurately measured, will be a good proxy indicator of local disruption to the school system, most of which may be due to AIDS.

Building capacity to assess the impact on education

Both field and literature surveys have suggested that there is lack of capacity to assess the impact of HIV/AIDS from the grass-roots level up to the national level in many countries. While most countries seem able to document the number of teachers affected, it is much more difficult to determine the number of teachers who have died from AIDS? Moreover, there is guarantee such information can even be collected.

Carr-Hill et al. (2002) propose some methods that can help to improve this situation in order to be able to assess the impact of the pandemic. In order to generate and gain access to relevant information there is need to train and sensitize teachers and educational administrators to be responsible for keeping the following of records.

On teachers (and other officials)

- Number of colleagues affected by the pandemic;
- Pupils who drop out of school because of AIDS;
- Time lost by teachers on matters related to AIDS (e.g. attending AIDS patients, attending funerals where the cause of death is AIDS); and
- Teachers falling sick with AIDS-related diseases.

On pupils

- Number of children absent because of AIDS-related problems (e.g. death of parent/relative, attending an AIDS patient);
- Hours lost as a result of teacher's absence because of AIDS problems;
- Constantly keep record of school pupils who become orphans because of AIDS;
- Number of schools closed because of reduced number of children (due to AIDS); and
- Number of school transfers because of AIDS, e.g. number of children transferred after losing a parent/guardian.

This format can be replicated at district/regional/provincial level up to the national coordinating unit in the Ministry of Education. A reporting mechanism can be instituted accordingly to ensure flow of information. More generally, there needs to be a greater understanding of household budgeting to establish the extend to which family incomes have been

reduced, and establish a reduced education budget as a consequence of reallocation of funds for health/medical care at family/household level and national level (allocation to Ministry of Health rather to Ministry of Education).

However, the problem is not simply to enumerate practical indicators. It is also to assess the feasibility of collecting corresponding data.

Typically, while data on teachers are kept reasonably consistent (if only for the purpose of paying their salaries), the reality is that countries most affected by the pandemic are also those countries experiencing problems collecting even the most basic data on children reliably.

Given that the focus is on the quantitative universal primary education (UPE) grades and on the quality of education, there are two main implications:

- There is no particular advantage in adding to, augmenting or improving the data on teachers any further.
- Instead it is important to concentrate on the reliability of the basic data about children in the system.

6. Final recommendations

This report reviewed the historical evolution of educational indicators of progress and results and has demonstrated how to use them to assess an education policy for the purpose of sector program support. A list of recommendations synthesizes the main ideas developed in this report.

Recommendations for the assessment of sector program support

The monitoring of ongoing sector programs should include:

- Macro-economic monitoring (e.g. growth trends, exchange rate trends, inflation trends and budget deficit and financing);
- Finance and budget monitoring;
- Sector monitoring; and
- Institutional capacity building.

These four steps can be fulfilled by the analysis of:

- Input indicators;
- Output indicators;
- Outcome indicators; and
- Impact indicators.

In order to conduct an international comparative evaluation of the results and progress achieved by several partner countries in the context of a sector program, these steps should be applied rigorously.

Recommendations for the conduct of a comparative analysis of educational statistics

- Given the variation of education systems across countries, it is essential that international comparisons be based on a common framework of standards agreed to prior to data collection, and against which the adequacy of the data collection procedures and the accuracy of the results can be validated (Schleicher 1994).
- Awareness of the relevance and difficulties of all indicators agreed on is essential for the conduct of any comparative analysis.

- Awareness of the political, social and economical context of the countries' data collection is vital for the understanding and analysis of the statistics⁴⁸.
- The delimitation of the studied period is crucial for the relevance and coherence of the analysis, especially when it includes population-related indicators⁴⁹.
- Data should be treated with skepticism, even those presented by internationally recognized statistics institutes, such as the UIS or the World Bank. Percentages above 100 should constitute a warning signal of the reliability of a country's indicators⁵⁰.
- Indicators cannot evaluate programs. They can only measure performance or goal achievement. Therefore, decisions emerge from a mosaic of inputs, with value-based, political and technical components.

⁴⁸ For example: economic consequences of Honduras' natural disaster.

⁴⁹ Cf. Revision of the ISCED in 1997 mentioned in the introduction of this report.

⁵⁰ Cf. Part 4 of the present report.

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