

## The Purpose of the SACMEQ Project

Many countries in the Southern Africa sub-region have attained, or are moving towards the attainment of, universal primary education. Having satisfied the need for a wide basic educational “coverage” of the school-aged population, major efforts are now underway **to improve the quality of primary education**. This trend from “coverage” to “quality” is a worldwide movement which was reinforced by the final recommendations of the “World Conference on Education for All” that was held in Jomtien, Thailand during 1990.

Although there have been spasmodic attempts in the countries of the sub-region to measure the quality of education, there have been no systematic assessments undertaken. That is to say, there has not been an assessment mechanism that measures changes over time concerning either the levels and allocations of educational inputs to schools or the performance of pupils in key subject areas at regular intervals. In addition, there have been few systematic studies at regular intervals to assess the relative influence of educational inputs to schools on pupil performance.

This lack of information that can be used as a basis for sound planning decisions is extremely unfortunate because governments need this information in order to choose among possible and affordable courses of action. Education budgets in many countries of Southern Africa are shrinking, and therefore it is not possible for school systems to distribute all of the essential educational items to all schools. Hence, it is of utmost importance to identify those inputs that have most impact upon pupil performance so that the efforts of Ministry of Education can focus on providing schools with cost-effective resources. In addition to efforts to select the most cost-effective educational inputs for education systems as a whole, it is important to remember that information is also required to establish the pattern of resource allocation among schools and to measure whether these patterns fit within the government’s goals concerning equity of educational provision.

In short, a sustained effort is required in many countries in order to:

(a) Establish the levels and distribution patterns of educational inputs to schools that are most likely to enhance the educational environment of pupils;

(b) Identify the levels of pupil achievement in key subject areas at different levels in the school system;

(c) Identify changes in the levels of inputs and pupil achievement over time (in order to answer the questions about whether, over time, the levels of these two items are improving, remaining constant, or deteriorating);

(d) Identify whether the patterns and distribution levels of educational inputs and pupil achievement are the same in all regions of a country or if there are serious disparities among, or within, regions; and

(e) Identify which are the most important educational inputs that affect disparities in levels of achievement among pupils, among schools, and among (and within) regions in the country.

Sound evidence is required on each of the above points if Ministry personnel are to be aware of the condition of the quality of education in the nation's schools and therefore, be in a position to plan for improvements with full recognition of the costs that are involved.

The project proposed in this document is a co-operative project involving up to eight countries in the Southern Africa sub-region. It is the first co-operative project of its kind in education in this sub-region. It is proposed that the performance to be measured be reading at Grade 6 level. Reading achievement was selected because if a pupil cannot read with acceptable levels of comprehension, then he or she will not be able to read mathematics, social studies, on textbooks. Grade 6 was chosen as the target population because Grade 6 is the grade level where most of the basics of reading should have been taught and all pupils should be able to read with understanding. In addition, Grade 6 was considered as a key level of basic education because, in

nearly all countries in the sub-region, Grade 6 is the penultimate grade of primary school at which pupils are beginning to prepare themselves for the end of primary school examinations and, hopefully, for a successful transition to secondary school.

### The Genesis of the Project Plan

In a general world-wide environment of rising concerns about the quality of education, the IIEP organized the 1989 International Workshop on the concept of the quality of education and its interrelationships with information that is suitable for informed decision making. The 1989 workshop forged a new definition of “planning the quality of education” which acknowledged that governments needed to focus their concerns on those educational inputs provided by the state that would result in improvements in the educational environments of pupils and which could reasonably be expected to lead to measurable improvements in learning. The workshop concluded that the attention of educational planners needed to be directed towards three key aspects of the quality of education: (a) effective educational inputs; (b) measurable educational outcomes; and (c) the nature of the linkages between inputs and outcomes.

In 1990, following a request from the Zimbabwe Minister of Education and Culture, the IIEP worked with a team of educational planners from Zimbabwe to design and implement a national survey of schools that would provide a detailed analysis of the three aspects of the quality of education discussed above. This survey, entitled the “Indicators of the Quality of Education in Zimbabwe Project”, employed the most modern educational survey research technologies to provide:

(a) Rapid feedback of valid planning information within an eleven week period from initial planning to final report;

(b) Planning information focused on essential pre-conditions for learning (for example, the availability and condition of school buildings, furniture, classroom supplies, books, library facilities, qualified teachers, etc.); and

(c) Data that would permit an accurate assessment to be made of the reading achievements of Grade 6 pupils and also provide a deeper understanding of the connection between these achievements and various resource inputs to schooling.

The Zimbabwe survey focused on reading achievement as the main outcome of schooling because the Ministry of Education and Culture considered that reading was the key stepping-stone to effective learning in all areas of the school curriculum. The design, implementation, and results of the survey have been described in a three-volume technical report by Ross and Postlethwaite (1991) and an associated summary report Ross and Postlethwaite (1992).

The success of the Zimbabwe survey generated a great deal of interest among Ministries of Education and Culture in the Southern Africa sub-region. This resulted in the IIEP receiving numerous requests for training in the technical skills required to conduct these kinds of surveys. In response to these requests the IIEP organized two sub-regional Intensive Training Programmes in 1992: “Data Building and Data Management”, and in 1993: “Data Processing for Policy Report Preparation”. These training programmes were attended by educational planners from eight countries: Botswana, Lesotho, Malawi, Mauritius, Swaziland, Tanzania, Zambia, and Zimbabwe.

In the wake of these two training programmes, a group of educational planners from the Southern Africa sub-region prepared a draft proposal that was designed to extend their training and co-operation to other important issues in the field of educational planning. The proposal was concerned with the establishment of a mechanism for countries to work together on research concerned with monitoring and evaluating the quality of education (Moyo et al, 1993). All ministries involved in the preparation of this proposal recognized that such an undertaking would represent an enormous investment of financial and human resources, and therefore they were determined not to embark upon such a venture without first preparing a detailed “project plan” that would make explicit all administrative, financial, and manpower resources that would be required at national and international levels.

## The Co-operative Structure of the Project

The educational planners involved in the preparation of this project plan were determined that the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) should be a co-operative project. There were many important theoretical, practical, geographical, historical, and financial/administrative reasons given in support of adopting a co-operative approach.

First, the countries involved in the preparation of the SACMEQ plan are all members of the Southern Africa Development Conference (SADC), which is a political and economic union of countries in the sub-region. Many of the SADC systems of education are similar in structure, and they have similar problems with respect to the financing of education, the provision of basic school buildings and facilities, the availability of classroom supplies and textbooks, and the training and management of the teachers who enter the schools. In summary, there is a great deal of commonality in terms of structure, challenges, and missions among the educational systems of the sub-region, and therefore it made good sense to think in terms of a research programme that would recognize these major overlaps.

Second, following the conduct of (a) the 1991 Zimbabwe study of “Indicators of the Quality of Education”, and (b) the two follow-up IIEP Intensive Training Programmes on “Data Building and Data Management” and “Data Processing for Policy Report Preparation”, has resulted in the development of a reservoir of people in the sub-region who have developed the practical skills (instrument construction, sampling, data preparation, data analyses, field operations management, report preparation, etc.) required to conduct large-scale co-operative studies of the quality of education. These people are spread across eight countries of the sub-region, and it was thought that a co-operative study would be able to bring this talent together to provide a critical mass of people that would be best placed to address educational policy research questions of common interest. In addition, it was agreed that “working together” in this way provided many opportunities for individuals to learn from each other. This was considered to be an extremely important supplementary benefit for the “new” countries of the sub-region because of the training that would flow as an automatic outcome of participating in a co-operative study.

Third, it is less expensive to conduct a co-operative study for the sub-region than for each country to undertake their own separate studies. For example, survey sampling is a specialized field and if a co-operative approach was not used then most countries would have to contract an outside consultant to construct sampling frames and calculate appropriate sampling weights to use for the analysis phase of a study. This use of separate sampling consultants for each country would be an extremely expensive undertaking, and this would also be the case for more complex aspects of test construction, data preparation, and more complex data analyses. The gains to be made by taking a co-operative approach to the data analyses are substantial because, since most countries will require similar analyses of a common set of variables, a standard set of computer programmes can be prepared and then be deployed in all countries. In fact, the costs of preparing these computer programmes would be the same for one country “going it alone” as for preparing the same programmes for all countries.

Finally, and perhaps most importantly, a co-operative project allows the participating countries to compare themselves with each other. There may well be practices in one country that prove to be very effective, and yet these practices do not exist in other countries. The possibility of introducing such practices, assuming that they are compatible with societal and school cultures, can then be considered by those countries not having such practices. An obvious example of this is in the area of curriculum. It could turn out that one country is much better in performance in a particular aspect of a subject matter than other countries. The question then arises as to why this is the case. Very often, it is that the curriculum (a particular way in which the aspect is presented in the textbook or in a different sequence) is different or that the teacher training in that country has taught prospective teachers a different method for teaching it.

A further example could be in the area of equity. It may be the case that two or three countries have achieved equity between regions much better than other countries. The analysis should provide evidence on exactly which procedures are “responsible” for the low levels of variation among regions. If other countries wish to improve equity among their regions then they can examine the evidence on how the first set of countries have tackled this problem.

#### Administrative Organization of the Project

Each country will have a small National Centre (NC) consisting of a full-time research team responsible for project work within the country. There will also be a sub-regional co-ordination centre (SCC) responsible for the co-operative development of all aspects of the project and for ensuring the implementation of the work in each of the countries according to the plans that have been agreed to by all. The SCC will have a small full-time staff. It will organize meetings of relevant people from the participating countries to complete different aspects of the work and ensure that the quality of the work is of the highest possible standard and that it is completed according to the agreed timetable. It is essential that all aspects of the project run according to the agreed timetable and that no one country falls behind in its work or falls below the agreed standard of work.

A number of “ground rules” have been agreed to by the National Research Co-ordinators (NRCs), the project directors in each of the countries. These are given in a later detailed chapter on project administration. They are strict but are considered to be essential by the NRCs if the project is to proceed successfully according to schedule.

The Ministry of Education and Culture in each country will be responsible for all costs incurred within each country. These costs have been described in detail in the chapter on project budgets. It can be seen that the costs are divided between “hidden” and “visible costs”. The hidden costs are all costs that can be covered by the ministries themselves (usually by employing existing budget allocations), and the visible costs are all costs for which extra-budgetary funding must be raised.

The costs for the SCC will be covered by external funds for this particular project on Grade 6 reading. If the project is successful, it is anticipated that the participating countries will wish to continue with this kind of work as part of their sub-regional co-operation. To this end, one of the tasks of the SCC in 1995 will be to investigate the establishment and funding of this kind of work on a permanent basis as a SADC activity.

## A Brief Overview of the Project

### (a) Target Population and Achievement Measure

As already stated, the focus of the project will be all children in Grade 6 in the eighth month of the school year. Malawi has a different school year from the other countries and the eighth month in Malawi will be May, whereas it will be in the period 20 August to 20 September in the other countries. The assessment of pupil achievement will be focused on reading because it is the key subject in primary schools and forms a pathway for successful learning in other areas of the curriculum.

### (b) Materials Already Available

(i) The NRCs have already met and prepared a pilot test. This test covers the general domains of narrative reading, expository reading and documents reading. Only a total score will be reported.

(ii) Drafts of background questionnaires for pupils, teachers, and school heads have also been presented. These questionnaires will elicit information on a wide range of aspects of the educational and social environments of pupils, the general conditions of schooling, and the levels of educational inputs to schools in the sub-region. The draft tests and questionnaires will be piloted in each country in early 1995 and then finalized.

(iii) Drafts of two manuals concerned with the administration of NCs and the co-ordination of field data collection activities have already been prepared. These have been prepared in a later chapter of this document. The first manual is for NCs and contains a step-by-step description of the tasks that must be undertaken by each NRC throughout the whole of the study. The second manual will be for data collectors explaining exactly what they have to do, from the time they leave their data collection training course with tests and questionnaires for the school in which they have to collect data, to the time when they return the completed instruments. The two manuals will be tested in the pilot phase so that revisions can be made before the main testing.



### (c) Collection of Ministry Norms

For many of the inputs to schools, each ministry has norms. One of the tasks of the SCC will be to collect these norms so that they can be used in the main analyses in order to assess the extent to which pupils are in schools and classrooms that meet the ministry norms.

### (d) Sampling Procedures

Probability samples of schools and pupils will be drawn in each country so that accurate estimates can be made of target population values for reading test scores and the variables mentioned above from the background questionnaires. No country will be allowed to proceed with its data collection until the sampling plans have been agreed to by the international sampling consultant.

### (e) Time Frame

The project will begin in January 1995 and continue until October 1996.

### Expected Results from the Project

The major results of the study will include:

(a) Data on minimum and desirable standards in reading in each country and for the participating SADC countries as a whole.

(b) Precise information on the “quality” of inputs to schools and the extent to which these inputs meet the respective ministries norms.

(c) Information on the level of inputs to each region and the equity/inequity between regions within a country and between schools within the country and in each region.

(d) Information on the home backgrounds of the pupils in the various schools.

(e) Information on selected “processes” within schools.

(f) Information on inputs and processes that affect differences in reading performance between pupils, between schools, between regions and between countries.

(g) Information on the inputs and processes that differentiate more effective schools from less effective schools. That is to say, inputs and processes that are associated with schools that perform better or worse than could be expected after taking account the type of children enrolled in the school. Of particular interest are schools that are in poor areas but nevertheless perform much better than could be expected.

The results of the surveys will need to be examined in each ministry of education to determine the implications for policy-making in the same way as was done in the Zimbabwe project (Murimba et al, 1994). This will require that each ministry reads the results and then forms groups of senior officials to determine what actions may/should be taken and the costs involved. Some results may require funding but others may require a reallocation of existing funds. In other cases it will be a matter of changing the content of the curriculum or of teacher training courses.

It should be recognized that data gathered in the first cycle of the study will represent baseline data, in the sense that in the years to come it will be possible to conduct repeat surveys that will be able to show whether the inputs, processes and performance have improved, remained about the same, or decreased. Such repeat surveys will also be able to show whether or not the “effect” of particular inputs or processes on performance have changed and if there are new inputs that now affect differences in performance and require the attention of the ministry of education.

### Conclusion

The remainder of this proposal describes in detail the design of the study, the major questions to be examined and the types of tables to be produced in order to present the results, the sampling procedures to be used, the development and piloting of the instruments and all procedures to be undertaken in the main testing. The overall timetable is also presented along with the budgets for each participating country and the sub-regional Co-ordination Centre.