THE SOUTHERN AND EASTERN AFRICA CONSORTIUM FOR MONITORING EDUCATIONAL QUALITY (SACMEQ): MISSION, APPROACH AND PROJECTS

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Introduction

The quality of education is an issue of growing concern in many countries today, and there is increasing reliance on the employment of large-scale, scientific survey research techniques to study the quality issues, the monitoring and evaluation of the quality of education, and the formulation of policy interventions designed to improve quality. The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) is one of several initiatives around the world that have developed and implemented mechanisms for measuring and monitoring the quality of education in its member countries. SACMEQ has had a short but eventful history only 10 years, but

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little is known about its mission and approaches, and the projects it has implemented. Formed in 1995, SACMEQ celebrates 10 years of existence in 2005. This contribution describes the key elements of SACMEQ's research and training programme and in this way cultivates an appreciation of the value of its contribution to the development of education systems in Eastern and Southern Africa.

The origins of SACMEQ

A fuller understanding of SACMEQ's origins, mission and activities is an important prerequisite for an appreciation of SACMEQ's impact. In particular, sufficient knowledge of the key elements of its research methodology, training programme and the context in which these take place is important for a fuller understanding of SACMEQ's work and the challenges it faces.

The consortium known today as SACMEQ, had its origins in a large-scale national survey conducted in 1991 by Zimbabwe's Ministry of Education and Culture, with the support of the International Institute for Educational Planning (IIEP), on the quality of its primary education. In a record period of only 11 weeks from the day that the preparatory 'entry meeting' with policy-makers was held, a three-volume report was delivered to the ministry (Ross & Postlethwaite, 1991). Following this successful study, a number of ministries of education in Eastern and Southern Africa, that hitherto had only collaborated in a casual manner in a variety of activities, took an interest in the data generated by this study and decided to use it for collaborative training.

In 1993, a group of educational planners, attending the first training workshop on data building and data management held in Harare (Zimbabwe), developed a proposal that became the basis for the formation of a more formalized, special grouping of ministries of education committed to enhancing the quality of the education that they offered through collaborative training and policy research (Moyo et al., 1993). In 1994, the Zimbabwean Minister of Education invited the planners from the different countries to write a policy report based on Zimbabwe's data. It was unusual that planning officers from several countries agreed to participate in writing a policy report on another country; therefore, the report stirred a lot of interest and was well-received not only by Zimbabwe's Ministry of Education, but by the academic community who saw it as a product of a unique and innovative process.[1]

Planners from the seven countries subsequently met in Paris in July 1994 and established a more formal forum for the extension of their work, and a special grouping, called the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ), was formed.[2] This initiative received the positive support of ministers of education and, in 1995, SACMEQ was officially launched.

The 15 ministries of education that are members of SACMEQ are (in alphabetical order): Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia and Zimbabwe.[3] The IIEP accepted an invitation from SACMEQ Ministers to be the sixteenth member in acknowledgement of its association with the members of the consortium long before SACMEQ was formed.

SACMEQ's vision, mission and goals

Inspired by the goals adopted in 1990 in Jomtien and, subsequently, those adopted in 2000 in Dakar relating to improving the quality of education, SACMEQ's vision is that of sustainable regional education systems that fully embrace the expanded goal of Education for All (EFA), and that strive towards the realization of this goal through collaborative activities. The Consortium's mission is to bring together member ministries of education in Southern and Eastern Africa in undertaking integrated research and training activities that will enhance their capacity for the provision of quality education for all. The specific goals of this collaboration are: (a) to expand opportunities for educational planners to gain the technical skills required to monitor and evaluate the quality of basic education; and (b) to generate information that can be used by decision-makers to plan and improve the quality of education. Because sustainability is a value that lies at the core of SACMEQ's work, one of the preconditions for becoming a member is the ministry's commitment to take full responsibility for its own within-country costs associated with participation in SACMEQ research projects. However, SACMEQ's programme involves cross-national activities related to formal training and co-ordination, and funding for these has been secured from partners who were prepared to provide financial support for them.[4] So far, two SACMEQ projects have been successfully implemented (SACMEQ I completed in 1998 by 7 ministries of education and SACMEQ II completed in 2003 by 14 ministries).

SACMEQ's structures

SACMEQ ministers make up what is known as the Assembly of Ministers, and this body provides guidance on SACMEQ's mission and research, as well as its training programmes. Its day-to-day programmes are co-ordinated by SACMEQ's Co-ordinating Centre (SCC) located within UNESCO's Harare Cluster Office in Zimbabwe. The SCC is managed by a director and operates under the guidance of SACMEQ's Managing Committee, chaired by the Minister of Education for the SACMEQ's host country, namely, Zimbabwe. A decision was subsequently taken to make Zimbabwe's minister the permanent chairperson for the SACMEQ Managing Committee. The Co-ordinating Centre provides administrative and technical support, and it works with partners to obtain funding for co-operative sub-regional activities. At the country level, each ministry has a steering committee, comprising key policy- or decision-makers, who provide policy guidance to SACMEQ's work. In addition to this committee, there is also a technical committee made up of SACMEQ's national research co-ordinators (NRC) and their deputy national research co-ordinators (DNRC). It is this technical team that plays the leadership role in the execution of research and training activities.

The Southern and Eastern Africa context

While SACMEQ research seeks to generate information on the basis of which member countries can make their own assessments of the quality of the education they offer, the

context within which such assessments are made is very important. As highlighted by Carron and Chau (1996), any framework used to analyze school functioning must take into account its local context. The two authors go on to highlight the key clusters of elements that make up this context and these are: (a) the input elements of context (material teaching/learning conditions, pedagogical teaching/learning conditions and teaching staff); (b) interaction elements of this context (in-school relations, relations with parents and relations with the administration). SACMEQ research measures a large set of variables associated with all of these contextual elements – and more. In fact, these contextual elements provide the pillars for the conceptual framework adopted by SACMEQ in its research projects.

SACMEQ recognizes that, at the national level, different countries exhibit different political, geographical, social, economic, demographic and cultural contexts. They have different, though somewhat similar, histories that have shaped the development of their education systems. At any one time, different countries have had their own priorities, and these tended to shift over time. Furthermore, the differences outlined above occurred not only among countries, but also in areas within countries. The form policy-making processes took varied from one country to another depending on these contextual differences, and any policy decisions taken reflected different education systems' underlying cultures, objectives and priorities.

In terms of their population sizes, SACMEQ countries varied considerably. Population sizes tended to correspond roughly with geographical area, although this has not always been the case. As expected, the most populous nations were South Africa and Tanzania (whose populations in 2000 were 32 million and 27 million, respectively). In contrast, Seychelles and Swaziland had populations of less than 1 million each. This factor presents different challenges when it comes to issues of quality and equity. The provision of quality education in a large, heterogeneous population scattered over a wide area constitutes a set of challenges that is different from that of providing education in a small country with a small homogeneous population.

In its assessments of quality, SACMEQ I and II focused on a grade (grade or standard 6) rather than on an age group. By the time they reached this grade pupils had had the opportunity to learn to read in English, KiSwahili or Portuguese, but was not in the final grade when they had to pass examinations. In the SACMEQ countries there were between 6 and 8 grades in primary schools. Only in 3 of the 15 systems was grade 6 the final grade. The proportions of an age group enrolled in school, which broadly reflected educational coverage at this level, varied considerably across systems. Those countries that had been affected by war, still had relatively low proportions of an age group in school. Ratios for primary school ranged between around 40% of an age group enrolled throughout primary education (Mozambique) to just over 90% for countries such as Mauritius, Seychelles and South Africa.[5] The challenges presented by these two extreme scenarios are different, and have implications for pupil achievement.

Measures of national wealth showed that there were enormous differences among SACMEQ countries. For example, in 2001, the gross national income (GNI) for Seychelles was nearly 40 times greater than that for Malawi (US$6730 and US$170, respectively). By comparison, the richest European country (Switzerland, with GNI of

US$39,650) was only three-and-a-half times richer than the poorest country (Portugal, with GNI of US$11,190).[6] Such differences had to be taken into account when interpreting the results of SACMEQ's policy research, when assessing the policy-related challenges and constraints different countries faced, and when assessing the impact of policy research in the member countries.

In one sense, the percentage of the government's budget devoted to education could be an indicator of how committed that government was to education. But, on the other hand, much depended on other priorities that occurred, and on alternative sources of educational funding (for example, resources raised by local communities). The budgetary allocations set aside to support education, as a percentage of the total government budget, varied considerably among countries. The figure for the country with the highest percentage (for example, Swaziland, with just over 30%) was more than four times greater than that for the country with the lowest allocation (Tanzania's figure, for instance, was 7%). Obviously, the full message conveyed by these figures can only be obtained when the specific context and circumstances of each country are taken into account. However, where percentages were low, it could be expected that resource provisions to schools would correspondingly be lower, unless resources were mobilized from other sources.

SACMEQ countries had different but overlapping historical realities. Most of them were former colonies, and the different colonial powers espoused and implemented different policies that influenced, and continue to influence, the development of education in different ways. Many of the countries only got their political independence after 1960, with some of them securing it through protracted liberation struggles that disrupted the development of education. Even after attaining political independence, some experienced further civil wars that destroyed infrastructures and displaced whole communities. Language policies, school structures, curricula and teaching/learning practices, organizational cultures and many other aspects of SACMEQ countries' education systems have all been influenced by these complex historical realities.

The last 10 years have witnessed growing concerns over the impact that HIV/AIDS might have on education systems. It was noted that the data on HIV/AIDS infection rates that were available did not necessarily have great stability, but they did indicate the size of the problem in the SACMEQ countries and therefore the amount of energy that the Ministries of Education and other stakeholders had to direct away from schooling to deal with this problem. Although the impact of HIV/AIDS in terms of learner mortality and morbidity was believed to be relatively small, rising numbers of orphans, declining household and community capacity to support education, stigmatization, psychological trauma and other impacts could be significant. In countries where infection rates were high, system-wide impacts could be severe in the long run. Teacher morbidity and mortality, however, is already beginning to show negative impacts on the quality of education, but these need to be more systematically monitored and assessed. This is one of the new areas that the SACMEQ III project will focus on.

Overall, it can be noticed that the countries to the south generally had a higher infection rate than those in East Africa and in the Indian Ocean. In the year 2001, the countries that were worst affected were Botswana, Swaziland, Zimbabwe and Lesotho

– where infection rates were reported to be over 30% of the adult population. The least infected were Mauritius and Seychelles, where levels were almost negligible.[7]

Pupils in the different countries displayed different characteristics in terms of their average age, the language used at school and home, the regularity of meals and other matters. They also displayed unique problems of absenteeism, grade repetition and attendance at extra tuition. Similarly, teachers had a variety of characteristics in terms of their sex, age, and academic and professional preparation. They adopted different pedagogical practices and worked in widely varying community, school and classroom environments. These are other contextual issues that not only influenced SACMEQ's conceptual framework, but also the interpretation of results.

Elements of the SACMEQ methodology

SACMEQ employs a research methodology that meets world-class standards in terms of data preparation, sample design, test construction and data archiving, whereby state-of-the-art technology is applied. SACMEQ's work is premised on the conviction that effective policy research must adopt a genuinely participatory approach that involves continuous dialogue with key players at all the key stages of the research cycle. If policy research must address the needs expressed by key stakeholders (namely, policy-makers in the relevant ministries of education), then it is these policy-makers who must, at the very early stages, articulate the issues and concerns to be addressed by the research activity.

The technical activities associated with the actual research are left to the team of experts, but the consultation that takes place at the various milestones of the research cycle ensures the responsiveness of the research to policy concerns that were initially articulated. This process also secures the commitment of policy-makers and enhances

FIGURE 1. SACMEQ's policy cycle (adapted from Saito, 1999, p. 108).

ownership of the products, namely, the policy reports in general and the policy recommendations in particular. SACMEQ's research cycle is summarized in Figure 1.

The process of identifying the different ministries' policy issues and concerns involves the listing (by the technical committee in each SACMEQ ministry) of all the issues and concerns articulated by the ministry's policy-makers, and the formulation of these policy concerns as research questions. Thereafter, the research questions are presented to the policy-makers in order to ensure that the research questions accurately capture the issues and concerns. SACMEQ NRCs and DNRCs from the different ministries then get together to exchange notes on the research questions. In SACMEQ II, for example, the total number of questions from the different SACMEQ countries was very large. These were examined and merged and the final list was a much smaller set of questions that addressed all the key issues and concerns.

Conceptual framework and related methodological issues

Although SACMEQ countries' contexts are different in many ways, SACMEQ capitalized on the fact that there was a common thread running through the range of policy concerns expressed by policy-makers in the different member countries. Such a convergence of interests enabled researchers to develop a common research agenda revolving around a set of questions common across all countries. In more specific terms, the broad, identifiable policy concern that emerged from all SACMEQ ministries was: 'Why do young people in the Southern Africa sub-region appear not to be learning the basic skills at school in general, and why do they seem to display low levels of literacy and numeracy?' This broad concern was further broken down into more detailed questions that constituted a shared nomological net of variables that addressed this question and shaped the entire research study. The details of SACMEQ's methodology and its technical standards have been documented elsewhere (Ross et al., 2004). While these cannot be reproduced in this short article, a few examples might aid the reader's understanding here.

Policy concerns for SACMEQ II, for example, were clustered under five main themes, namely:

1. Pupils' characteristics and their learning environments.
2. Teachers' characteristics and their viewpoints on teaching, classroom resources, professional support and job satisfaction.
3. School heads' characteristics and their viewpoints on educational infrastructure, the organization and operation of schools, and problems with pupils and staff.
4. Equity in the allocation of human and material resources among regions and among schools within regions.
5. The reading and mathematics achievement levels of pupils and their teachers.

The five themes, in a way, defined the key elements of SACMEQ's framework. Pupil, teacher and school head characteristics and their contexts (elements under themes 1, 2 and 3) and their pattern of allocation (theme 4) were viewed as comprising a core set of factors that ultimately impacted on learning outcomes and the pattern of these outcomes among geographical units (theme 5).

One of the general policy concerns falling under theme 1 is: 'What were the personal characteristics (for example age and gender) and home background characteristics (for example parent education, regularity of meals, home language, etc.) of grade 6 pupils that might have implications for monitoring equity and/or that might impact upon teaching and learning?' The policy concern was then split into a set of specific research questions, one of which was: 'What support did pupils get at home regarding homework and interest in schoolwork?' An example of a question pupils had to answer under this research question was: 'How often does a person other than your teacher usually help you with your homework?'

The majority of questions were common for all countries since they emerged from issues and concerns that were widespread. However, where a country felt it had important policy concerns that were not widely shared by the other countries because of country-specific realities, it was free to add 'country options'. An example of such concerns is the issue of pupil and teacher discipline, elements that were not considered to be important in some countries.

Dummy tables were developed for each general policy concern to capture the values of each of the variables measured by the different research questions. Although there were different files for teacher data, pupil data and school head data, they were interlinked through the use of a unique coding system so that school head and teacher data could be aggregated over pupil data. It was therefore possible to link each pupil directly to a specific teacher, class and school head.

Test construction

The construction of the reading and mathematics tests involved a comprehensive analysis of official curricula for all SACMEQ countries to make sure that the skills that test items focused on were central to all SACMEQ countries' curricula, school syllabi, textbooks and examinations. A test blueprint was then developed before test items were constructed so that the items covered all the domains of reading (narrative prose, expository prose and documents) and mathematics (number, measurement and space data). SACMEQ also requires decision-makers in ministries to pre-determine the 'minimum' and 'desirable' levels of mastery for their own pupils using a set of 'essential items' (i.e. items considered to be central to their own country's curriculum objectives), and to make assessments of learner performance against them. (See Table 1 in the following article.)

SACMEQ employs Rasch scaling, a technique rooted in our knowledge of classical item analysis and modern item response theory, to produce descriptive accounts of learner performance in literacy and numeracy along hierarchical levels of increasing competence. This technique permits the performance of pupils and teachers not just to be described as 'pass' or 'fail', but to be aligned along a single dimension that could be broken into levels, each level requiring a set of skills for successful completion of items in each group (Griffin, Smith & Burrill, 1995). SACMEQ developed eight such levels for reading (ranging from 'pre-reading' to 'critical reading'), and eight for mathematics (from 'pre-numeracy' to 'abstract problem solving') (Ross et al., 2004). This technique is an innovative approach to the assessment of quality, and it can also serve as a powerful

tool for the identification of learner and teacher competencies that require greater emphasis.

One test item at the first level of reading (pre-reading) that is linked with the first level in the test blueprint is presented in Figure 2 for illustrative purposes. The skills it requires are those for locating familiar words in a short (one line) text, matching words and pictures involving concrete concepts and everyday objects, and the ability to follow short simple written instructions.

It is also important to point out that SACMEQ tests were overlapped so as to facilitate scaling, and this involved the use of a unique set of items that were common in the different sets of tests. Furthermore, a set of items from other international tests, such as the International Association for the Evaluation of Educational Achievement (IEA) and Trends in Mathematics and Science Study (TIMSS) were embedded in the SACMEQ II study. It was possible, therefore, to make valid comparisons of pupil performance at different time points (in this case for reading only because mathematics tests were administered in SACMEQ II only), of pupil performance against that of their teachers (because the use of Rasch scaling was able to measure them on the same scale) and of SACMEQ pupils' performance measured against the scale of other initiatives such as IEA and TIMSS.

The common research questions generated served as a strong basis for a collective effort, as countries had opportunities for working together on a joint research agenda. Such collaboration enabled countries to share resources, expertise, experiences and best practices, and to learn from each other. In fact, one of the unique features of SACMEQ is its working style. SACMEQ countries do not simply participate in assessments of conditions of schooling and learning outcomes, but actively collaborate in the broad range of activities that have already been described.

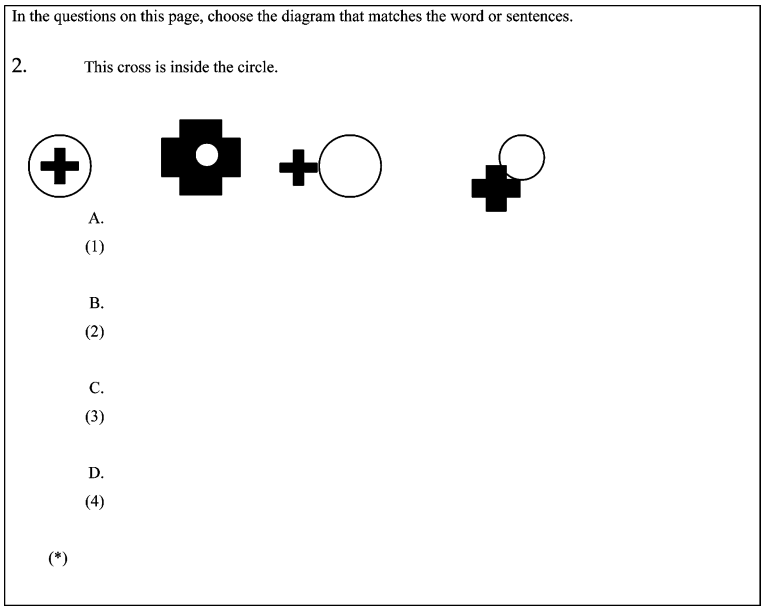

FIGURE 2. Test item at the first level of reading.

The other benefit that deserves special mention here is the possibility of carrying out cross-national comparisons. Making comparisons has been a very sensitive affair, and this is not unique to SACMEQ. SACMEQ has not rushed into cross-national comparisons because it is important to prepare countries adequately for an exercise of this nature. No cross-national comparisons were done in SACMEQ I, and the first presentation of cross-national results for SACMEQ II was carried out on 28 September 2003 at the Assembly of Ministers' meeting.

Naturally, the presentation of the first cross-national results was received with initial anxiety, but SACMEQ countries gradually came to terms with this, and several lessons were learnt from this experience. The first lesson was that cross-national comparisons were more painless if they did not focus on the mere presentation of scores in the form of league tables, but used this only as the starting point for the identification of individual countries' strengths and weaknesses. Secondly, the benefits of cross-national results were acceptable if it could be demonstrated that each country's education system had some strengths (and so could serve as a learning point for others) and some weaknesses (that could be addressed by learning from other countries' experiences and practices). Thirdly, it was also important to present results together with a clear description of relevant aspects of each country's context. Lastly, cross-national results were better received when they were presented as one of the alternative ways of looking at the messages conveyed by the data. In the case of SACMEQ, different countries had the opportunity to make assessments and evaluations against the minimum and desirable standards that they had set for themselves before the test was administered. Alternatively, they could simply examine the percentages of pupils who were performing at the different skill levels.

Conduct of a typical SACMEQ study

A team of researchers and educational practitioners from various backgrounds manages the technical aspects of the research process: planners, curriculum developers, test developers (language and mathematics specialists), school supervisors, school heads, and teachers. The idea is that the study can benefit from inputs that a team with a variety of skills available within the country can make in the design and development of tests and research instruments. The team's experience and knowledge of the ministry also facilitates proper contextualization of issues, and the team makes sure that all key concerns are addressed in the tests and other data collection instruments developed. A team with diverse skills also provides checks and balances in the interpretation of results, and in reaching an objective assessment of minimum and desirable standards of performance.

After piloting and finalizing instruments and tests, a sampling frame is prepared. To ensure that sampling estimates of important pupil population parameters reach internationally accepted standards, painstaking care is taken in the preparation of a sampling frame, and this involves a complete listing of all schools (that comprise the desired target population) in each country by type and by size (in terms of grade 6 enrolment). This is a complex exercise since, in many cases, there is a need to update most ministries' educational management information systems. Thereafter, a two-stage cluster sample with a sampling accuracy that is equivalent to the internationally accepted simple random

sample of 400 pupils is drawn, but the actual number of pupils varies from country to country depending on population size and measures of intra-class correlation (or rho value, which is a kind of measure of variation in key variables) (Ross, 1985).[8] The two-stage sample involves the selection of a subset of schools and a subset of 20 grade 6 pupils from each school. An effort is made to strike a balance between the need for accuracy on the one hand, and issues of cost, logistics and procedural demands on the other. Nevertheless, the defined target population (namely, grade 6 pupils attending registered mainstream government or non-government schools) must exclude no more than 5% of the desired target population.

The ministry's human and physical infrastructure (education officials at the district or regional level, vehicles, postage facilities, telecommunication services, etc.) is then used to conduct the data collection. Schools are warned ahead of the data collection visits, and only trained data collectors (not school officials) are allowed to draw the sample, to collect data on pupils, teachers and the school head, and to test teachers and pupils. Teams of data collectors undergo intensive training before they go to schools, and they are required to religiously adhere to the instructions in the data collection manuals so that data collection procedures are standardized across all countries. Thereafter, another trained team under the close supervision of another team of researchers captures data, and all queries related to the data are referred to this team. Data cleaning then takes place, and frequently takes several cycles before it is 'clean' enough for analysis (see the following article for the number of 'cleaning cycles' for SACMEQ II, by country).

As has already been indicated, policy-makers are involved in the initial stages of the research process. From this point until the presentation of results, researchers deal by-and-large with lower-level officials when, for instance, they need records on established norms on school provisions, policies on homework and other issues related to key policy concerns. The next critical stage, which involves senior policy-makers, is the communication of findings and policy suggestions. The major process here involves the engagement of policy-makers in a dialogue over the results of the study and the policy suggestions arrived at. As a quality assurance measure, all policy recommendations are strictly based on, and naturally flow from, the evidence drawn from the research data, and not on any anecdotal information or on researchers' knowledge of the education system.

This difficult part of the research process requires special skills as, in several cases, the researchers have to present findings that are unpalatable or regarded as a direct 'threat' to the establishment, and have to make policy recommendations that may go against the ministry's culture or normal practice. However, the process is necessary as, frequently, policy-makers may have some input on practical elements of the policy suggestions. Researchers may, for example, have to help policy-makers understand the implications of findings, and the commitment associated with some policy suggestions. In other cases, it might be important to involve policy-makers in refining the locus of responsibility for certain policy actions, and to sharpen researchers' appreciation of the limitations of human, material and financial resources. What researchers may, for instance, regard as a short-term, low-cost policy suggestion could, in fact, require substantial resources over a

relatively long period. In most cases, the original policy suggestions do not change much, but the sense of ownership created is phenomenal.

As a standard feature, SACMEQ national policy reports set down agendas for governmental action on a variety of quality-related issues, and are presented in such a way that they provide a basis for informed decision-making by member ministries. The final chapter of each SACMEQ national policy report provides a meta-analysis of the various policy suggestions presented in earlier chapters. All national reports, therefore, present these suggestions under five main themes, namely: (a) consultations with staff, community and experts; (b) reviews of existing planning procedures; (c) data collection for planning purposes; (d) educational policy research projects; and (e) investments in infrastructures and human resources. Within each theme the policy suggestions are classified according to the department or unit within the ministry of education that should be responsible for implementation. The time required for implementation is then estimated according to three categories: 'short' – around 3–9 months; 'medium' – around 1–2 years; and 'long' – around 3–5 years. Finally, each policy suggestion is linked to approximate cost estimates ranging from 'low' (activities that could be accommodated within existing budgets) to 'high' (major investments in capital works and human resources) (Murimba et al., 1994; Kulpoo, 1998; Machingaidze, Pfukani & Shumba, 1998; Nassor, 1998; Nkamba & Kanyika, 1998; Voigts, 1998; Milner et al., 2001; Nzomo, Kariuki & Guantai, 2001).

Training

Intensive training is invariably an integral part of SACMEQ's entire cycle. From 1993, SACMEQ has held at least one face-to-face training workshop every year, each one focusing on a core set of skills that were considered to be essential, and that were directly applicable to the research process. A few of the themes dealt with in such workshops are: (a) computer-based analysis of pupil-achievement levels for SACMEQ II (UNESCO, 2002); (b) computer-based approaches to survey sampling and data management for large-scale studies of the quality of education (UNESCO, 2003a); and (c) the construction and improvement of literacy and numeracy tests using classical item analysis and item response theory (UNESCO, 2003b).

Every time NRCs have an opportunity to meet, they participate in a training component that addresses the needs identified by NRCs themselves. Such training is conducted by world-renowned experts available in the area of the various components of large-scale survey research, notably in sampling, instrument development, test design, administration and analysis, and in learning assessment. SACMEQ's research is computer-based, and has taken advantage of the breakthroughs made in the field of technology to ensure that capacity is expanded. SACMEQ NRCs, for example, receive training through 'virtual workgroups' that use internet-based modular training. It is possible, therefore, to meet individual and group training needs through the use of the Internet.

As SACMEQ NRCs acquired more complex skills, they become a resource to all SACMEQ ministries. They are therefore constituted into specialized teams of trainers

that provide training support to those countries that still have gaps in identified areas of their work. In 2002, for example, a team of NRCs, together with experts from the IIEP, provided Malawi's education officials with training in data collection and data analysis. Similarly, Zanzibar has received support from Kenya and Tanzania Mainland. In some cases, NRCs meet at the SACMEQ Co-ordinating Centre to work together. 'Countries supporting each other' has become part of SACMEQ's working style.

SACMEQ's future plans

SACMEQ's plans for the future are ambitious. It has already been resolved that SACMEQ III will be a repeat of SACMEQ II, with minor additions. This will ensure that every SACMEQ country has comparable data at a minimum of two different time points. However, there are plans to build in a stronger capacity-building component that focuses on broadening and deepening ministries' technical teams in key research skills (from sample design all the way to computer-based desk-top publishing techniques) through training. Furthermore, this process will be supported by the attachment of several research fellows to a reputable institution, such as the IIEP, for a year or so; their ultimate task being to provide SACMEQ with high-level technical support. One of SACMEQ's key activities involves the strengthening of its linkages and collaboration with local universities and research institutes, and thus to more speedily develop a richer critical mass of players who will support a broad range of its activities and use its products in a more productive way. Through this collaboration, additional activities have also been proposed, among them a research and publication programme based on SACMEQ I and II data, regional and international conferences dedicated to issues emerging from SACMEQ's research, and holding policy forums targeted at ministries' policy-makers. In order to support the uptake of the products of its research programme, and thus facilitate the use of the information generated for policy development, SACMEQ intends to create cultures or internal environments within member ministries. In pursuit of this goal, it will hold sensitization and consultative meetings, as well as policy workshops for permanent or principal secretaries, their deputies and directors of education. Through these activities, SACMEQ hopes progressively to achieve its long-term goal of institutionalizing mechanisms for monitoring and evaluating the quality of education, and thus to help countries achieve the expanded goals of EFA, namely, quality Education for All.

Conclusion

This article provided the basic facts about SACMEQ and its mission, structures and research programme. It is not possible to provide details of the framework that guides its research and training activities, and the set of activities it undertakes; the reader is referred to the relevant document for these details. SACMEQ has compiled a massive data archive that contains all the data collected for SACMEQ I and II (including the 1991 Zimbabwe study), research instruments, and all background information. The data

archive was available to researchers from July 2004. The following article focuses on the impact SACMEQ's research and training programme has had in SACMEQ countries.

Notes

1. The report was entitled *An analysis of educational research data for policy development: an example from Zimbabwe* (see Murimba et al., 1994). The report was subsequently published in the *International journal of educational research* (Kidlington, UK), Vol. 25, No. 4, pp. 301–403.
2. The Consortium changed its name from Southern Africa Consortium for Monitoring Educational Quality to Southern and Eastern Africa Consortium for Monitoring Educational Quality on 28 September 2003. The acronym 'SACMEQ' remained unchanged.
3. SACMEQ is made up of 15 ministries in 14 countries because Tanzania Mainland and Zanzibar, which together comprise the United Republic of Tanzania, are treated as two different members since education is not regarded as a union matter.
4. SACMEQ's long-time funding partner for the co-ordination of its cross-national research and training activities was the Netherlands Government and, subsequently, The World Bank.
5. Figures extracted from different sources, mainly from UNESCO, *Monitoring report on Education for All*, Paris, 2001, and from the UIS/WB/UNESCO (2000) MINEDAF VIII database website.
6. World Bank, *The world development indicators*, 2003, from the World Bank Web site: http://www.worldbank.org
7. Figures provided refer to the percentage of the adult population (15–49) that was HIV-positive in 2001, according to UNAIDS/WHO (2001). Seychelles' figures were sourced from the government document 'National Policy for the prevention and control of HIV/AIDS and STIs'.
8. '*rho*' is estimated using the formula: $rho = (b \cdot (a)^2 - s^2)/(b-1)s^2$, where $s(a)^2$ is the variance of cluster means, s^2 is the variance of the element values and b is the cluster size.

References

Beaton, A.E. et al. 1999. *The benefits and limitations of international educational achievement studies*. Paris: UNESCO.

Carron, G.; Chau, T.N. 1996. *The quality of primary schools in different development contexts*. Paris: UNESCO.

Griffin, P.; Smith, P.G.; Burrill, L.E. 1995. *The literacy profile scales: towards effective assessment and reporting*. Deakin, Australia: Australian Curriculum Studies Association.

Kulpoo, D. 1998. *The quality of education: some policy suggestions based on a survey of schools (Mauritius)*. Paris/Port Louis: IIEP/Ministry of Education and Human Resource Development.

Milner, G. et al. 2001. *The quality of education: some policy suggestions based on a survey of schools (Malawi)*. Paris/Lilongwe: IIEP/Ministry of Education, Science and Technology.

Machingaidze, T.; Pfukani, P.; Shumba, S. 1998. *The quality of education: some policy suggestions based on a survey of schools (Zimbabwe)*. Paris/Harare: MOESC/IIEP.

Moyo, G. et al. 1993. *A Southern Africa proposal for monitoring progress towards attaining the goals of the EFA Jomtien Conference concerning the quality of education*. Harare. (Unpublished proposal document.).

Murimba, S. et al., eds. 1994. *An analysis of educational research data for policy development: an example from Zimbabwe*, Paris: UNESCO/IIEP.

Nassor, S. 1998. *The quality of education: some policy suggestions based on a survey of schools (Zanzibar)*. Paris/Zanzibar: IIEP/Ministry of Education.

Nkamba, M.; Kanyika, J. 1998. *The quality of education: some policy suggestions based on a survey of schools (Zambia)*. Paris/Lusaka: IIEP/Ministry of Education.

Nzomo, J.; Kariuki, M.; Guantai, L. 2001. *The quality of education: some policy suggestions based on a survey of schools (Kenya)*. Paris/Nairobi: IIEP/Ministry of Education, Science and Technology.

Pollitt, E. 1990. *Malnutrition and infection in the classroom*. Paris: UNESCO.

Postlethwaite, T.N.; Ross, K. 1991. *The quality of primary education: a national study of Zimbabwean schools*. Harare: Ministry of Education/IIEP.

Ross, K.N. 1985. Sampling. *In*: Husen, T.; Postlethwaite, T.N. eds. *The International encyclopedia of education*, pp. 4370–4381. New York, NY: Pergamon.

Ross, K.; Postlethwaite, T.N. 1991. *Indicators of the quality of education: a study of Zimbabwean primary schools*. Harare/Paris: Ministry of Education and Culture/IIEP.

Ross, K. et al. 2004. *Chapter 2: The conduct of the SACMEQ II project*. (Unpublished draft.).

Saito, M. 1999. A generalisable model for educational policy research in developing countries. *Journal of international co-operation in education* (Hiroshima, Japan), vol. 2, no. 2, pp. 107–117.

Voigts, F. 1998. *The quality of education: some policy suggestions based on a survey of schools (Namibia)*. Paris/Windhoek: IIEP/Ministry of Basic Education and Culture.

UNAIDS/WHO. 2001. *A global view of HIV infection*. Geneva, Switzerland: United Nations.

UNESCO. 2002. *Working meeting of SACMEQ National Research Co-ordinators on 'Computer-based analysis of pupil achievement levels for the SACMEQ II Project'*. Paris: IIEP/Ministry of Education and Scientific Research (Mauritius) (working document).

UNESCO. 2003a. *Intensive training workshop on 'Computer-based approaches to survey sampling and data management for large-scale studies of the quality of education'*. Paris: IIEP/World Bank Institute (working document).

UNESCO. 2003b. *Intensive training workshop on 'The construction and improvement of literacy and numeracy tests using classical item analysis and item response theory'*. Paris: IIEP (working document).