

Activity Brief

Improving Education Management in African Countries (IEMAC)

1. This activity brief describes an action learning work program to put into practice donor commitment to reinforce African countries' efforts to improve management of their education systems. The proposed work is intended to help accelerate, in as efficient a manner as possible, progress toward the goal of Education for All by 2015 in the context of existing or new education sector programs. In agreement with the partners funding this initiative, the following five countries are being invited to participate: **Burkina Faso, Madagascar, Mauritania, Mozambique and Niger**. The expectation is that the experience gained from the work in these countries would pave the way for scaling up to other countries. The cost of this project is jointly financed by the World Bank and the governments of France, Norway and Ireland, and those of the participating countries, the latter through the time commitment of Ministry of Education staff who will serve as working members of the IEMAC task force that will be set up in each participating country. The project will be launched in early December 2003, and is expected to be completed 18 months later in June 2005.

Background

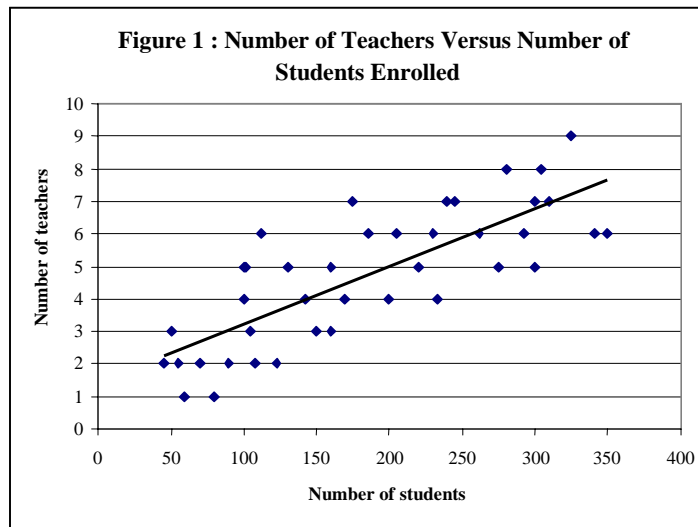
2. Most African countries have embraced Education for All by 2015 as a key plank in their poverty reduction strategies. Donors for their part have committed to increasing their financial support for countries that propose credible and fiscally sustainable plans to achieve this goal. Thus, under the Education for All Fast Track Initiative launched in June 2002, six Africa countries—Burkina Faso, Mauritania, Guinea, Niger, The Gambia and Mozambique—were endorsed for increased donor support, and additional countries are in the process of preparing their EFA plans to attract donor funding.

3. The plans that were endorsed for the six countries are largely consistent with the EFA FTI indicative framework which set forth international benchmarks for key parameters that relate to costs and quality, including construction costs per classroom, level of teacher salaries, pupil-teacher ratios, share of funds allocated for non-salary complementary spending, and volume of domestic resources mobilized for education (and for primary education in particular). While critical for assessing the overall soundness of sector policies, particularly their long-term fiscal sustainability, these parameters pertain to system averages and therefore describe only the aggregate aspect of policies for achieving EFA by 2015.

4. Beyond the global averages, there is also a clear need to ensure that the available resources are deployed as efficiently and equitably as possible within the sector. The cumulative diagnostic work prepared in the form of country status reports in various Africa countries suggests that much room for improvement exists in this regard. In too many of the countries, teacher deployment across schools shows a high degree of inconsistency, a pattern that inevitably implies that some schools are over-crowded and therefore unable to assure minimally supportive learning environment, while others enjoy a wasteful surplus of teachers. Classroom practices in most countries also leave much to be desired in that resource availability typically bears little relation to student learning outcomes.

Randomness in teacher deployment

5. Figure 1, in which each point represents a school, illustrates the nature of the problem. A simple and systematic method for assessing the degree of randomness in teacher deployment is to relate the number of teachers and students across schools using regression analysis.¹ The R^2 statistic of the estimated regression equation provides a measure of the tightness of the correlation between the two variables: a value of zero signifies no relation at all between them and a value of 1.0, a perfect correlation. We can thus use $1-R^2$ as a measure of the degree of randomness in teacher deployment across schools in the system.



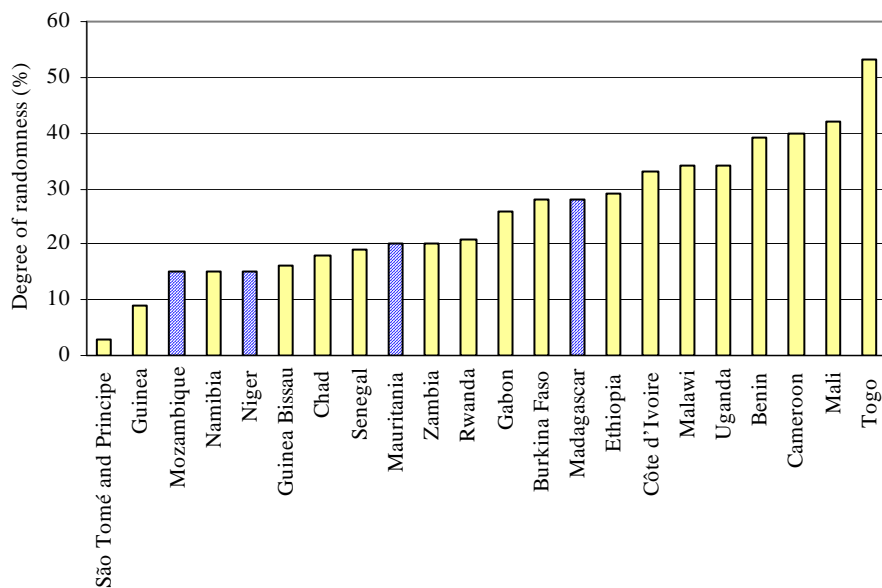
6. Applying the method to data for 22 African countries, we find that the degree of randomness in teacher deployment varies from a low of three percent in Sao Tome and Principe, to a high of 53 percent in Togo, with an average of 25 percent for the sample as a whole (see figure 2)². To appreciate the tangible meaning of these values, it suffices to note that even in best-performing Sao Tome and Principe, the number of teachers in schools enrolling 200 pupils, for example, ranges between five and eight. In countries where the indicator reaches nine percent (such as in Guinea), the range for schools enrolling 200 pupils goes from one teacher to six; and in those where the indicator reaches 39 percent (such as in Benin), teacher allocation for schools of this size ranges between one and eight. While it is impossible in practice to achieve perfect consistency in the pattern of teacher allocation and while there is no normative yardstick by which to determine an acceptable degree of randomness in teacher allocation across schools, the fact remains that in the large majority of countries in the sample, the disparities in allocation are probably much wider than might be considered minimally efficient or desirable.

¹ A typical specification of the regression equation is as follows: Number of teachers = $a_0 + a_1 \cdot$ Number of students

² In the figure, the countries selected, for reasons elaborate below, as sites for implementing the activities in this proposal are marked by striped bars: Burkina Faso, Madagascar, Mauritania, Mozambique and Niger.

7. Further analysis of the data suggests that in almost all the countries, the variability in teacher deployment arises predominantly from inconsistency in allocations within sub-regions or school districts rather than across regions or large geographic aggregations. The result suggests that poor management of teacher allocation is a localized problem associated with lax application of allocation criteria, if any, at the level of individual schools and teachers. This conclusion is reinforced by the fact that shortfalls in staffing are typically borne by rural schools serving poor communities with little political power to insist on their share of public resources.

Figure 2: Degree of randomness in teacher deployment across schools in African countries, circa 2000



Source: based on regression analysis of school census data for each country.

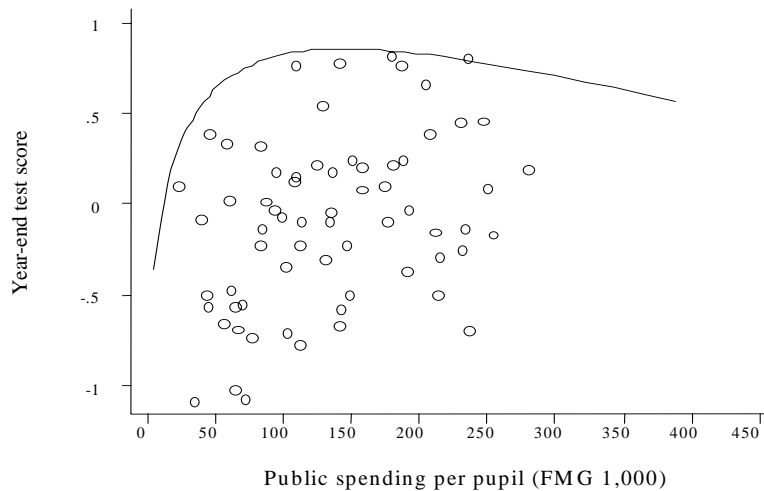
Weak link between resource availability and student learning

8. Turning now to the second aspect of weak management, recall that an education system's performance depends not only on the number of students it serves, but also on what the students learn. The availability of teachers and other tangible school inputs is clearly essential in this regard, which explains why it is so important monitor the pattern of allocation of resources—teachers as well as pedagogical materials—across schools, as discussed above. Yet differences in tangible inputs are insufficient to explain the wide differences in learning outcomes across schools that are documented in the student assessment data that are becoming available in a growing number of African countries. Conceptually, differences in these outcomes arise from disparities across schools in terms of:

- The level of endowments of tangible school inputs;
- The socio-economic and personal makeup of the students; and
- The efficiency with which the tangible factors are transformed into learning outcomes.

9. The last factor turns out to be highly relevant in accounting for differences in performance across schools. This is illustrated in the results for Madagascar, shown in figure 3, which are representative of the pattern in the African countries for which student learning (or examination) data have been analyzed (such as Benin, Burkina Faso, Côte d'Ivoire, Gabon, and Rwanda). After controlling for differences in the socioeconomic and personal characteristics of the student population, schools with the same endowments of physical inputs (as measured by the level of spending per student) continue to achieve widely different results on standardized tests. The large gaps point to differences in management practices that affect how effectively tangible resources are transformed into learning outcomes. Such practices include the structures of accountability that motivate the behavior of teachers and their supervisors at various levels in the system as well as the arrangements for providing support to teachers in classroom management.

Figure 3: Relation Between Per-Pupil Spending and Test Scores, Public Schools, Madagascar, 1997-98



Source: Madagascar Education Country Status Report.

Supporting improvements in education management

10. In light of the foregoing discussion, it is clear that while African countries will undoubtedly require additional resources—domestic and external aid—to advance toward the goal of Education for All by 2015, they must also ensure that all the resources are used as efficiently as possible. The Bank's approach in the Africa Region—as well as that of other development partners active in the region—has been to provide support to our client countries through a combination of analytical and advisory activities (AAA) and lending operations in support of sector development programs.

11. The role of AAA has always been to ensure that sector development programs benefit from sound sector knowledge, but the importance of these activities has grown in the

PRSP context—one in which all sectors are called upon to justify their claim on public resources (domestic and external). Accordingly, the Africa Region’s Human Development management team began to invest in the preparation of education country status reports (CSRs) as a means to consolidate and enrich country-specific education sector knowledge. The CSRs are typically prepared in collaboration with counterpart national teams and are intended to provide a common basis for discussions about policies for sustainable, efficient and equitable development of education in the country concerned. Such work has now been completed in nine countries, and are ongoing in ten countries, thanks to past and continuing funding support from the Norwegian and French governments. The reports have been effective in drawing attention to the kind of management problems highlighted above and they have also generated cross-country results to inform multi-country seminars and workshops that the Bank has convened or co-hosted over the past two years with other agencies such as UNICEF. These events have helped to sensitive senior policy makers and their technical staff to the need for and challenge of improving educational management.

12. As a natural progression to the analytical and dissemination work done so far the Bank and its development partners now need to focus on helping countries to implement the reforms that will be required to improve management of the sector. Without progress on this front, efforts to mobilize increased funding to finance education sector development plans — whether through the HIPC debt relief initiative, the EFA FTI or other avenues—run the risk of failing to produce the expected results. In assessing the proposals submitted under the EFA FTI, for example, donors have expressed explicit concern about weak implementation capacity in many African countries and the strong possibility that increased resource flows to the sector would overwhelm the education system’s capacity to make good use of the increase to expand and enhance service delivery. Where these flows are expected to materialize through budget support operations to help defray recurrent costs, it is especially important to minimize the constraints that impede the day-to-day functioning the system. In all country settings, the deficiencies in management elaborated above are appropriately addressed in the operational context of ongoing or proposed education sector development programs.

The proposed approach

13. In line with the international community’s commitment to the MDGs, the proposed work will focus on primary education. While there are many aspects to improving management of this sub-sector, we will concentrate on the two areas identified above : (a) consistency in teacher deployment across schools; and (b) the transformation of tangible resources into learning outcomes at the classroom level. These problems are not new, but the proposed activities will seek to address them in new ways in terms of both the technical content of the work as well as the process for accomplishing it. The proposed activities are thus inevitably exploratory in nature and substantial learning-by-doing is to be expected for all involved. In the process, it is hoped that we will develop concrete ideas about suitable arrangements for replication, including arrangements involving African educational institutions that can spearhead the effort and bring it to scale. Below we elaborate on the selection of countries, the types of activities envisaged, the people who would be involved, the status of the financing requirements to implement the proposal, and the expected outputs and outcomes.

14. Selection of countries. In view of the experimental nature of the proposed activities, it would seem wise to implement them initially in a small group of countries, with priority given to countries already endorsed by the donors for the Education For All Fast Track Initiative (EFA-FTI). In addition, in order to improve the chances of a successful experiment, countries are prioritized where (a) policy development is well-advanced following completion of a CSR; and (b) there is strong commitment by the government to address management inefficiencies in the system, as evidenced by a formal commitment to set up the counterpart team (as described below) for the project. Finally, the selection must also respond to the views of the four funding partners to ensure that the project would add value to their respective ongoing engagement in the countries that are selected.

15. Following several rounds of discussions within the World Bank and with representatives of the French, Norwegian, and Irish governments, it was agreed that the project team would invite the following countries to participate: Burkina Faso, Madagascar, Mauritania, Mozambique and Niger. The five countries are at different stages of policy development to address the management problems that will be the focus of this project. This diversity is an advantage as it will stimulate cross-country learning. As experience is gained by working with this first set of countries, a similar effort can be rolled out for other countries as demand dictates.

16. Participants. Each participating country will be expected to form a team of about five members led by the director-general of the ministry of education (or equivalent) and comprising such members as: the director of human resources (or teacher development and in-service teacher training); the director of primary education; the director of planning; the head of the school inspectorate. These managers oversee key areas of service delivery and their engagement is critical to ensure that the specific steps to improve management that will be identified in this exercise will indeed be implemented. As needed, the country team would draw on the expertise of relevant interlocutors at the regional and school levels, including school heads and teachers.

17. On the World Bank side, the counterpart team would include members of the Policy and Sector Analysis Support Team (PSAST), as well as the task team leader for education in each participating country. Participation from the Bank's development partners, such as the Pôle de Dakar team financed by the French Ministry of Foreign Affairs, would be highly appropriate given their participation in CSR work in the countries indicated above. Participation will also be sought, as appropriate, from the French technical advisors resident in the participating countries. In addition, support from the World Bank Institute would provide significant value-added, particularly for the part of the work program involving seminars or workshops.

18. Work program. It is the intention of the World Bank staff to implement the IEMAC project in a transparent and collegial manner through open, frank and timely communication. A common distribution list, consisting of representatives of the funding partners as well as the participating countries, will be created to facilitate email communication of relevant information related to the project.

19. The proposed work program will consist of two kinds of activities: (a) two regional seminars/workshops; and (b) several in-country working missions in each participating country. It is envisaged that the two regional seminars will be spaced 12 months apart, and that all members of the participating teams will attend both seminars/workshops. The first seminar/workshop, scheduled to take place in December 2003 in Nosy Be, Madagascar, would kickoff the work while the second would wrap it up. Agenda items for the kickoff event would include a review of the management challenges to achieve EFA by 2015; the tools available to meet those challenges; the process envisaged for Bank-country collaboration to adapt and apply those tools in each country; and an articulation by participants of the outcomes they expect from the exercise. The wrap-up event would provide an opportunity for participants to report on the experience, share tools that were used to improve management of the sector in each country setting; and distill lessons for broader application.

20. In the period between the two regional seminars/workshops, the work of preparing, adapting and testing the tools for improving the consistency of teacher deployment and the effectiveness of classroom processes would take place. The tools would be customized to each country's unique context through an iterative process, using the following generic templates: (a) explicit descriptions of the job and accountabilities of the managers at each level in the system (such as director of planning and the central ministry, school district heads, inspectors, and school heads); (b) a specification of the indicators and data that will be used to support the managerial functions at each level, with sufficient disaggregation in the data to alert the relevant manager to problems in teacher allocation or student learning outcomes, and to facilitate evaluation of managerial performance; and (c) an articulation of the process and arrangements by which problems in teacher management and student learning will be identified and solved as they arise.

21. The mechanism for accomplishing this work would be through several week-long in-country working missions to each of the participating countries. The visiting team would consist of the relevant Bank staff, staff from partner organizations (such as the French Ministry of Foreign Affairs' Pôle de Dakar team), as well as two members from a participating country team. The mission objectives would be to (a) work with the host country team to prioritize their management improvement agenda in primary education, (b) adapt available tools and design new ones for use by managers to improve the system's performance, and (c) draw up an action plan for application of the tools. To ensure that the work would be adapted to local conditions and that it would actually be implemented, a series of perhaps three missions to each country is envisaged.

22. Financing of country task force members' mission travel and regional workshop participation. The project will finance travel by economy class and provide a per diem to cover hotel and subsistence for all task force members (up to five persons per country) participating in the regional workshops (2 events expected over the life of the project). As appropriate, the project will also cover the cost of economy-class travel and subsistence for 2 task force members from each country to participate in an IEMAC mission to one of the participating countries.

23. Timing and expected outputs/outcomes. The project is planned to be active from December 2003 to June 2005. The timing of the various activities is indicated in table 1 below.

The output from this project consists of: two regional workshops, back-to-office reports from in-country missions, a completion report containing the management tools prepared by the five country teams and a consolidation of the knowledge gained from the exercise; and country-specific ready-to-implement plans of action to improve education management in each country. Each country task force will be responsible for producing the plan of action for their own country.

Table 1: Time frame

Month/Year	Launch workshop	In-country missions for tool construction	Results workshop	Completion report
Dec, 2003				
Jan, 2004				
Feb				
Mar				
Apr				
May				
Jun				
Jul				
Aug				
Sep				
Oct				
Nov				
Dec				
Jan, 2005				
Feb				
Mar				
Apr				
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