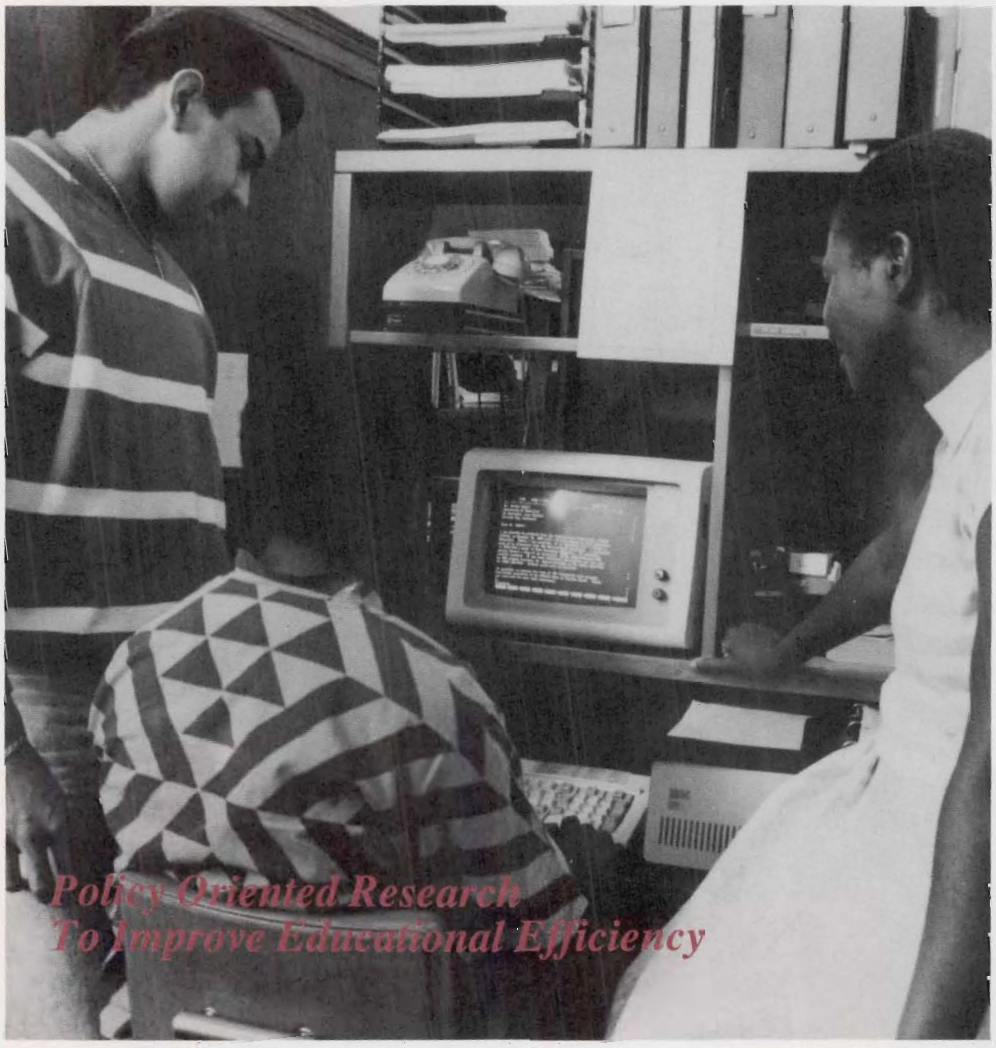
IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

WINTER 1989–1990

BULLETIN



IEES
1984 - 1994

A USAID Project

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BULLETIN
Improving the Efficiency of Educational Systems

This Issue: Knowledge Development to Shape Policy and Practice Reforms

IEES Policy–Oriented Research

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Improving the Efficiency of Educational Systems (IEES) is an initiative funded in 1984 by the United States Agency for International Development (AID). The principal goals of the IEES Project are to help developing countries improve the performance of their education systems and strengthen their capabilities for educational planning, management, and research.

A description of the IEES Project is provided on Page 14.

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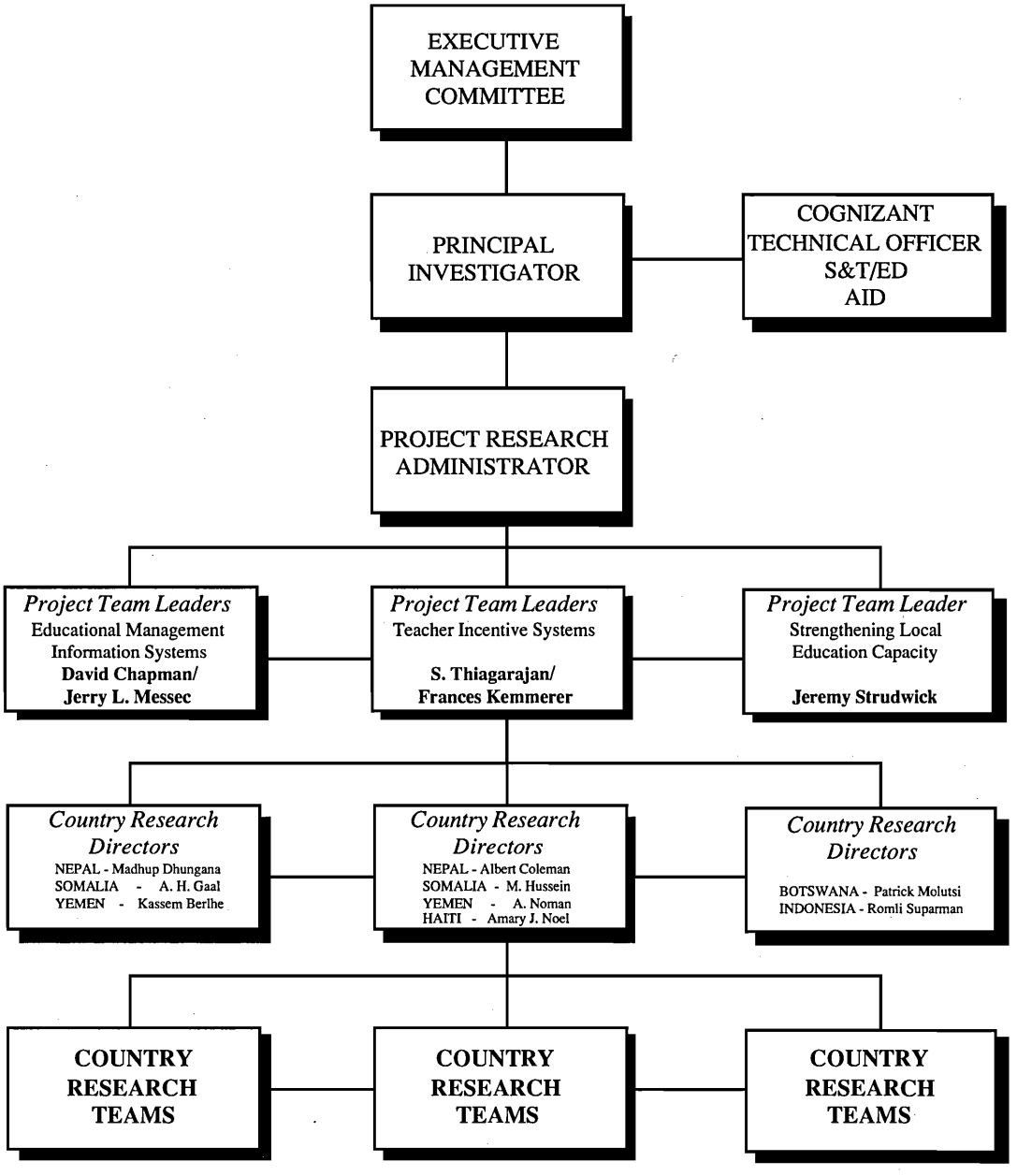
IEES POLICY RESEARCH INITIATIVE 1987–1989



This issue of the IEES Bulletin examines the key issues and findings of policy research topics and provides a brief overview of current IEES research activities. Readers are invited to respond to these research issues and to write for copies of the complete reports.

IEES has sponsored locally-directed research teams in Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic. These teams of national researchers examined critical issues in areas of recruiting and retaining teachers ("Teacher Incentives"), the collection, flow and use of educational information ("Education Management Information Systems"), and community support of education ("Strengthening Local Education Capacity").

IEES assisted the research teams in planning, carrying out, and reporting the results of their findings as requested by the individual teams. The reports and recommendations of the research teams were disseminated through national seminars and are now available in final reports from IEES. The impact of these studies has been immediate in some countries and has supported longer–term efforts in all of the participating countries. In all countries, the initiative brought together national researchers in a strong and supportive network–country researchers came together for training and reporting workshops–which continues today.

Research on Education Management Information Systems in Nepal, Somalia, and Yemen Arab Republic

Why did IEES sponsor locally–directed research on Education Management Information Systems (EMIS) ?

Though there is a wide consensus that efficient information management is a necessary condition for continued national development, there are widespread problems in data collection which have hindered data quality and the efforts in many countries to effectively utilize quantitative data in national level policy deliberations. Indeed, government officials often appear to hold a deep skepticism about the accuracy and usefulness of quantitative data. Since IEES is involved in helping Ministries of Education improve their data management systems, it seemed important for the project to carry out research to examine issues of how improving information management can assist a government in making its education system more efficient, while at the same time identifying the constraints in information flow between schools and policy makers.

The specific purposes of these studies were (1) to determine what types of education data educators believed they need; (2) to identify what types of education data currently were available to national level decision makers; (3) to document procedures through which education data are collected at the school and district levels and forwarded to the central Ministry of Education; and (4) to identify specific constraints and impediments in that collection and transfer process.

How were countries chosen to participate in this research initiative?

Nepal, Somalia and Yemen Arab Republic requested to join in the Education Management Information Systems research. The research teams were composed of Ministry of Education researchers in Somalia and Yemen, while a local private consulting firm was identified by the Ministry in Nepal for this work. The Yemen team completed only the first research component (Status Review of EMIS in Yemen) due to heavy ministry work loads. Following the sector studies, which had been earlier carried out in collaboration with IEES, the respective Ministries of Education & Culture were concerned that the bottlenecks in data collection and analysis–affecting the accuracy, timeliness and, in some cases, availability of the data–be identified and that strategies to overcome these problems be developed. In Nepal, a private consulting firm was contracted to undertake the entire activity; in Somalia, the Director of Planning for the MOEC was appointed as Country Team Leader.

> ***"... national level decision makers believe they need objective, quantifiable data about the education system when making educational decisions and they assign considerable priority to getting it."***

Findings of IEES–Sponsored Locally–Directed EMIS Policy Research

What data do decision makers believe they need?

In both Nepal and Somalia, national level decision makers believe they need objective, quantifiable data about the education system when making educational decisions and they assign considerable priority to getting it. Indeed, in Nepal, respondents reported that they assign more importance to statistical data than to conversations they have with headmasters, teachers, other MOEC personnel, or friends. Formal statistical analyses are paralleled only by the credibility and importance respondents assigned to their own experience as a basis for decision making.

However, the findings suggest that respondents' enthusiasm for data as a basis of decision making is not matched by their actual use of data. There appear to be substantial differences between what they say they need and what they use. One reason for this could be that the data they want is not available to them. This issue was addressed in the second component of the study.

The findings were similar in Somalia, where policy makers appeared to hold high expectations about the efficacy of such data in decision making.

What kinds of data are, in fact, available?

There is no shortage of data available on the education system in Nepal: 48 documents published over an eight-year period were consulted for this study. In one sense, the problem is not the data which is or is not available, but the fact that there are three independent, parallel systems within the ministry's structure for collecting, analyzing and circulating data on schools, with no consultation or comparison across these data bases. In addition to these, non-governmental agencies also collect and publish their own data. Forty percent of the documents reviewed were sponsored directly by Nepal government agencies, while a similar portion were sponsored by external donor agencies.

This is not to say that all types of data which might be useful are available, however: While descriptive data on student enrollments and teacher supply were available in about half of the Nep-

alese documents reviewed, data on availability of textbooks, projected teacher demand, and facilities use were presented only rarely. Aggregate national cost data of various types were available in many of the documents; however, cost data by region, district, or school were rarely reported. Cost data disaggregated by type of cost were reported in only two documents over ten years.

In general, however, it was found that most data needed by decision makers in Nepal's education sector are already collected. However, the collection process requests such massive amounts of data at such detailed levels of specificity, that the analytic and interpretive demands on making use of the data overwhelm the system. The net result is that data are not available to decision makers at the time they are needed or in a form in which they can be easily accessed and used. Often, decision makers and educators are not aware of the data that are available.

Published data describing the current status of the education system in Somalia traditionally has been scarce. The lack of printing and storage capacity are part of the reason. Probably more to the point is that Somali has been a standardized written language only since 1972. Hence, for the 22 year period examined, only 31 documents could be found. For the 18 years, 1965-1983, only 12 documents were available. Then, in just the next four years (1984-1987), 19 documents were published. A major factor in this sudden move to documentation was the contribution of the USAID-funded IEES Project, which alone accounted for 7 of the 19 documents.

How accurate is the data which is available?

Perhaps the most dramatic finding in the Nepal study was that basic education data at the national level is more accurate than MOEC officials believe it to be. As such, it may provide a more useful basis for policy discussion than national level decision makers recognize. Aggregate counts of students and teachers tend to be far more accurate than officials believe them to be; and the errors which do exist across data bases (district, regional, national) tend to be random: Instances of intentional over-reporting, for example, are not widespread.

In Somalia, the primary issues of accuracy relate, first, to whether the headmaster correctly gathers and reports school level data on the annual form and, second, whether these forms are received from all the schools. Findings from this study suggest headmasters have substantial problems in providing the data now being requested and that schools are not consistently represented in the national summaries.

"...the Nepal study suggests that education data are available in greater quantity and at a higher quality level than is generally recognized, it is found that the data tends to be underutilized ..."

Once the data are received in the MOEC, there is considerable confidence expressed in the ability of the Statistics Department to analyze the data accurately. Evidence from this study supports the claim that data entry and arithmetic errors generally are not serious threats to overall data quality in Somalia.

What constraints prevent effective use of the data?

Whereas the Nepal study suggests that education data are available in greater quantity and at a higher quality level than is generally recognized, it is found that the data tends to be underutilized, due both to the lack of knowledge of their availability (which may be due in part to the fact that there are overlapping and parallel systems for data collection) and, more importantly, to the lack of sufficient incentives in the system to use data for rational decision-making.

It was found that nearly all the preconditions of good data use in Somalia have been met. The capacity to analyze data in ways that support improved efficiency is now in place. What now is needed is a coherent plan of action that links data to decision making. Data is a necessary but not a sufficient condition of improved educational efficiency.

What are the major implications of the findings?

The most obvious recommendation coming out of the Nepal EMIS study is that responsibility for data collection and analysis activities within the MOEC should be consolidated in a single section of the ministry. Then, there should be a reassessment of exactly which data can actually be used and analyzed within a reasonable time frame; this review is expected to reduce the amount and duplication of data presently collected. Beyond this, the long-term goal must be to develop means of linking and sharing data collection and use both within and across ministries, in order to improve the process of data-based decision making.

In Somalia, EMIS research activities have accomplished the primary goals of building MOEC research capacity and describing the present state of educational data availability and use. The impact of this two-year effort has already been demonstrated in several ways. The Research Advisory Committee meetings have provided a forum not only for discussing research issues, but also for moving towards the organizational structure within which data-based arguments can be made for MOEC policy changes. The National Dissemination Seminar, held to discuss the research findings, provided an even broader forum for discussing data use and availability.

Conclusions and Recommendations

The impact of the Nepal study has been that the MOEC is already examining ways to rationalize its methods of data collection and analysis. In anticipation

of beneficial long-term improvements in the ministry's capacity for data-based decision making, the MOEC has scheduled a national conference (January 21-25, 1990) which IEES has been invited to participate in. The conference will be to develop strategies for acting on the research findings, as well as for implementing proposals made by the IEES Resident Technical Advisor and short-term advisors.

In Somalia, EMIS research activities have accomplished the primary goals of building MOEC research capacity and describing the present state of educational data availability and use. What is needed now is a coherent plan of action that links data to decision making.

In Nepal and Somalia, it is anticipated that the most significant outcome of this research initiative will be the increased awareness and understanding among government education officials of both the potential uses and present availability of data in their respective countries, and, in turn, the resultant increased demand for information which is not simply descriptive but is more analytical in nature. Along with this, there is the anticipated demand for changes in the organizational structures which will enable the implementation of the policy changes which such information supports.

Research On Strengthening Local Education Capacity In Botswana & Indonesia

Why did IEES sponsor locally-directed research on Strengthening Local Education Capacity (SLEC) in Indonesia and Botswana?

In education, as in other sectors in developing nations, there is an increasing inability of centralized administration to meet the needs and expectations of its citizens in providing the services and facilities that are in demand. This, in large part, explains the growing interest in exploring and identifying areas where there is an existing, or potential, local capacity to absorb additional responsibilities for the support of instructional activities. It is hoped, thereby, to expand the presently inadequate resource bases for educational services while, at the same time, increasing the level of community participation in educational governance.

However, increasing community participation in education generally implies parting with the established traditions of "free education," and this, in turn, requires careful consideration of alternative policy options before priorities are determined and decisions implemented. Consideration of these issues led to the decision to carry out research on the subject of strengthening local education capacity (SLEC).

The SLEC Study was designed as a two-year, two-phase project: Phase I concentrating on the preparation of a Status Report, with Phase II taking the form of an extended study, the foci of which were determined according to the findings and recommendations of the in-country reviews of the Phase I Status Report. These Status Reports were developed along guidelines common to both participating countries, Indonesia and Botswana. However, the Phase II studies were based on needs unique to each country, and the findings cannot, therefore, be necessarily compared across countries.

> ***"What policies encourage community participation and what policies discourage it? Are there areas of current policy which need revision?"***

How were countries chosen to participate in this research initiative?

Participation was limited to those countries cooperating in the IEES Project. Initially three countries opted to participate in the SLEC Policy Research Initiative: Indonesia, Botswana, and Haiti. Haiti withdrew during the planning stages of the project due to internal political problems. Botswana and Indonesia continued and completed the entire research agenda. Planning for the initiative took place in December 1986, and activities began in both countries in March 1987.

The Ministry of Education in both countries appointed Country Team Leaders (CTL), who were responsible for recruiting their research teams, and actively participating in the literature review and interviewing of decision makers in the Education, Finance and Planning ministries. They also prepared reports and organized and chaired workshops and seminars. The Botswana and Indonesia projects were coordinated by a member of the IEES consortium, and also received assistance from the respective resident technical advisors.

What were the major research questions in these studies?

The overall objectives of the project were the following:

To identify specific areas where there is evidence that local and/or private participation in the provision of education has led to, or has the potential of leading to, a determinable increase in the quality of education; and to identify factors that either promote or discourage increased community participation in the schools.

It is important to note that the Botswana research focused on the implications for the government's new Community Jun-

ior Secondary Schools (CJSS), and affiliated Partnership Project, whereas the Indonesia research concerned itself with both primary and junior secondary schooling. The Indonesian study was undertaken in the context of the new Education Law, which introduces the Nine Basic Education Cycle (NBE)–which combines three years of junior secondary and six years of primary education–and a local content component of up to 20% in the otherwise nationally-mandated curriculum.

Research Questions and Major Findings in Botswana

1. Are there identifiable regional, local, or community related factors that contribute significantly to an increase in community participation?

Certain ethnic groups more readily accept formal education than others, so that there are some groups which place higher priorities on traditional skills (such as cattle tending or blacksmithing) than on education.

2. What policies encourage community participation and what policies discourage it? Are there areas of current policy which need revision?

The Partnership Policy (PP) in Botswana, which defines the role of the new CJSS schools, and the relationship of the central government and the communities in administering those schools, is now in place, along with its support structures and, to some degree, guidelines for implementation. Problems were identified, not so much with the Partnership Policy itself, but with the way in which the policy was formulated and enacted: Neither government officials nor members of the communities were found to have a clear understanding of the new policies or the schools supported by them.

The result is the communities consider the PP a brainchild of the central government, and see it as being divorced from and divergent from past actions and policies. The "Free" Education Policy and the Partnership Policy have resulted in a situation, attributable to either misinformation or no information, where the public see themselves being asked to support, directly or indirectly, the new junior secondary schools, while being assured by government that there is now free secondary education. So there is a great need for clarification and dissemination of what the government's policies actually are.

3. What resources in the community are available for continued investment in the schools?

In Botswana, it was found that the only foreseeable scenario is that local cash resources (both family and community) will remain very limited for an indefinite time. As a consequence it is not expected that either households or local authorities will have adequate funds to invest in education. Other than financial contributions, the only other real options for communities to provide support are donations of material (cattle, products, etc.), labor, family support and moral support. Regular occurrence of droughts undermines the ability of community members to donate any crops or livestock. The general lack of all but low-level skills in the rural areas limits the kinds of contributions of labor which the people can offer. In short, therefore, the schools must remain very much dependent on central government support for the foreseeable future.

> ***"The willingness of parents to contribute is affected by their assessment of the way that those contributions are managed, and by their perception of the effectiveness of past contributions in increasing childrens' education."***

4. How can the coordination and dissemination of information within the educational system be improved?

Lack of knowledge about the Partnership Policy raises several questions relating to the government's methods of communicating with the population. It was found that a large number of teachers, civil servants, and politicians were not conversant with the Partnership Policy. One suggestion was that regional education offices be established for secondary school affairs, as there is at present insufficient non-central ministry support at this level, which at least contributes to the lack of information dissemination vertically within the system.

Research Questions and Major Findings in Indonesia

1. What kinds of contributions are provided by parents, communities and local government offices to primary and junior secondary education?

Communities rarely make cash contributions, but do contribute land, furniture and equipment. (The early tradition of "gotong royong" (self-help) which was strong before the first five-year plan is now virtually non-existent.)

It was found that the fees charged (BP3 and SPP) are already at the maximum most parents can afford. One-third of all parents reported that they contributed in some way other than the payment of school fees. This is usually in the form of direct labor such as repairing furniture.

The willingness of parents and community leaders to give non–monetary contributions is not taken advantage of by either the schools or BP3 (PTA's). Ninty-eight percent of the parents and 94% of the community leaders expressed a willingness to contribute manpower.

2. What factors are related to the degree of parental and/or community participation in the primary and junior secondary schools?

Parents who most often participate in school and PTA activities are not the wealthy parents, but rather those with little or no education; though those parents with higher education and/or occupational status were found to more readily support the school in a material sense.

The willingness of parents to contribute is affected by their assessment of the way that those contributions are managed, and by their perception of the ef-

fectiveness of past contributions in increasing childrens' education.

School-based income generating activities are inhibited by an MOEC regulation which requires that any such earned income be submitted to the state treasury.

3. *What functions, authorities, or responsibilities could be delegated to local units of MOEC, parents, communities and other local government offices in order to increase the efficiency and effectiveness of local schooling?*

It is critical that local government be permitted to raise funds for education, and that government policies more clearly define the role of each level of local government in relation to the use of the school monies obtained from various sources.

Effective implementation of the Nine-Year Basic Education Plan will require some delegation of authority from the central units of the ministry to the school. A system of school-based management and micro-planning should be given serious consideration, as it is becoming increasingly difficult for the central and local MOEC bureaucracies to effectively manage the rapidly growing number of schools.

If headmasters and teachers were released from administering BP3 (PTA) organizations and the members were brought more directly into the governance process, this, along with evidence of an increase in the quality of schooling, would serve as an incentive for parents to become more involved in the schools.

Conclusions and Recommendations

Botswana

More definition is required as to what the local councils, communities and the private sector are supposed to do, vis-à-vis the central ministry and government. Thus, a revision of the 1978 Education Act is long overdue: It needs to express clear and definitive procedures on CJSS ownership, funding and management issues. As a result of such clarification, it is hoped that community leaders may become proactive participants in the process of developing and administering the CJSS schools, something which is not happening at present.

The schools need to do more in the area of practical activity in order to attract community attention. Activities could include producing and selling vegetables, running farming workshops, having open days and occasional evening lectures, etc. This would help to start building the sense of community involvement and ownership which is required.

> ***"There are other, non-financial considerations which must follow as a consequence of the decision to incrementally introduce universal schooling through the junior secondary..."***

Successful implementation of public policy is dependent on information flow, both prior to, and following the introduction of the policy. The absence of any participatory role in the policy formulation process, and the attendant confusion caused by being the silent partner in the reestablishment of what was the community institution served as a disincentive for the communities to support what is for all intents and purposes their only opportunity for access to postprimary education.

Indonesia

As part of the effort to universalize primary education, the government was obliged to provide free education to those who were otherwise unable to attend schools. This program instituted a tradition, and subsequent expectation, of free (or virtually) free education at the primary level. Yet, the government is in no position to introduce a similar policy at the junior secondary level.

With Indonesia entering what has been termed its "industrial take-off period," the government's decision to expand universal education to the junior secondary level is seen as commendable; yet it is also clear that this will require the imposition of additional fiscal burden at the local level. Given that, it is necessary that the government of Indonesia permit communities to address their own concerns in the expansion of educational services, particularly given the great diversity of the country. The allowance of community participation in the ownership and governance of schools, and the determination of the role that schools play in their communities are, at this stage in the country's growth, the only real options remaining under which the NBE program can be funded.

There are other, non-financial considerations which must follow as a consequence of the decision to incrementally introduce universal schooling through the junior secondary level: One is the structural changes that this policy will cause to the village work force. Almost all rural Indonesian communities depend to a great extent on the use of older children and young adults in most farming and commercial activities; requiring them to stay in school for an additional three years will certainly have a large impact on community and family resources. There is nothing in the country's experience to give guidance how to lessen the negative impact of this change. This is but one issue resulting from the NBE policy.

Communities' Ability to Fund Education

The findings of both sets of research reported in this study are unanimous on one point: In general, communities, particularly rural ones, are unable to meet education costs in excess of those already imposed on them. The 20% of the families in both countries deemed to be able to contribute more to education live predominantly in the urban areas. Care needs to be taken to find an equitable funding formula which will permit maximum mobilization of local resources to fund education, while protecting the poorer communities' access to equivalent, quality education.

Research on Teacher Incentive Systems in Haiti, Liberia, Somalia, and Yemen

Why undertake a study of Teacher Incentive Systems (TIS)?

Nations at every level of development are debating issues related to incentives for teaching. The current discussion of teacher incentives is reflective of a profound concern with the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while, at the same time, the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited into teaching. In developing nations, where school systems are still expanding, infrastructures (communications, transportation, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of much greater magnitude than it is in more developed countries where both human and material resources are not so sharply constrained. Because the issue of teacher incentives was prominent in all IEES sector assessments, a number of collaborating countries were eager to undertake these studies.

Which countries took part in this locally-directed research?

Three IEES countries–Liberia, Somalia, and Yemen–participated in the policy research initiative dealing with teacher incentives from the outset. Research activities in these countries were initiated with a general conference in Sana'a, Yemen, in November of 1986. Haiti, which had originally opted to participate in another of the research initiatives, joined the teacher incentives group in June 1987. The original plan envisaged each country conducting a *Status Review* and then the collection and analysis of field survey data. In Liberia, Somalia, and Yemen, both phases of the study were completed. Political upheavals ended the research in Haiti following the completion of the *Status Review*.

What are the policy issues involved?

If the problem is how to improve teacher productivity (that is, how to help teacher facilitate student learning), given current resource constraints, the major policy issues examined in these studies are who is to be recruited at what price and who is to be retained at what price. Price, in this context, connotes the total package of incentives, including both direct and indirect monetary and nonmonetary benefits. The price of recruitment includes both preservice training and beginning teacher salary payments made during the training period, while the price of retention includes not only salary and allowances but also the provision of inservice training, adequate instructional materials, supportive supervision, and the availability of second jobs, etc. The magnitude of these investments is such that each component (e.g., the quality and quantity of preservice and inservice training, instructional materials, etc.) requires justification in terms of its effect in improving teacher performance.

> ***"The overall goal of the teacher incentives research was to provide relevant data on teacher perceptions of the effectiveness of the current incentive system and possible alternatives."***

A significant portion of those trained for teaching never teach, or leave the service before the government has realized a return on its investment in training. These studies look at the characteristics of the systems that influence recruiting. In some cases, the entry characteristics were too high relative to the compensation package. In this case, one option is to reduce the entry requirements (and possibly salaries) and provide greater instructional support for teachers. Thus, if the target population for recruitment is secondary graduates, government may decide to recruit secondary dropouts until such time as market conditions or government fiscal capacity improves.

Similarly, if teacher behaviors do not meet the minimal standards of performance, such as regular attendance at school and in the classroom, both the compensation package and the rules and regulations for tenure and promotion need to be examined.

Obviously, the first step in addressing issues related to teacher productivity is to define the minimal acceptance standards for the payment of salary and those set of behaviors which will be rewarded beyond salary (tenure, promotion, inservice opportunities, public recognition, etc.). This requires a conceptualization of the factors influencing different levels of teacher performance.

Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and behavior. Outside the classroom, teachers are sometimes expected to participate in school level decisionmaking, assist in routine administrative tasks, and meet with the parents of their students. The literature suggests that the factors which influence

teacher willingness and ability to carry out these responsibilities effectively are as follows:

- entry characteristics (academic ability, the quantity and quality of prior schooling);
- nature and type of teacher training;
- adequacy of the compensation package;
- quantity and quality of instructional support (texts, materials, supervision);
- opportunities for promotion and advancement;
- quality of the school environment (management structure, colleagues, facilities, and students); and
- status in the community.

What were the goals of these studies?

The overall goal of the teacher incentives research was to provide relevant data on teacher perceptions of the effectiveness of the current incentive system and possible alternatives. In order to achieve this goal, information was first gathered from Ministry documents, extant research, and officials describing the current incentives and disincentives for primary teaching embedded in civil service rules and regulations. This was considered an important first step since the removal of disincentives stemming from the unintended effects of regulations constitute a relatively low cost means of affecting system improvement.

In the second phase of the study, information was gathered in each country from approximately 200 primary teachers stratified by gender and urban/rural location and small samples of former primary and secondary teachers on their perceptions of current incentives and their recommendations for improvement of the incentive system. The former teacher and secondary teacher subsamples were included to test whether the perceptions of these individuals differed significantly from those of the currently serving primary teachers and thus indicated the need for further study. Liberia and Somalia each added an additional subsample. In Liberia, teacher *trainees* were interviewed and in Somalia, *headmasters* were interviewed. The following research questions guided both phases of the study.

Current Status

- What are the characteristics of currently serving teachers (educational attainment, age, gender, marital status, national origin, part-time, full-time, etc.)?
- How many teachers are actively teaching and how much do they get paid (description of the salary structure and the number of teachers at each step)?

"What do currently serving primary teachers, former teachers, and secondary teachers perceive as incentives for recruitment, retention, and performance?"

- How much could be saved by removing non-active teachers from the payroll?

Recruitment to Teacher Training

- What is the teacher turnover rate (national, regional, district)?
- What are the opportunity costs for primary teaching for each relevant level of educational attainment of recruits and different types of teachers?
- What are the per student costs of preservice training?
- Is preservice teacher training considered an incentive for joining the teacher service? If so, why?
- Are there alternative types of training which might be less costly (e.g., training as part of the secondary school curriculum, programmed teaching, interactive radio)?
- How closely does the teacher training curriculum relate to the realities of primary school teaching?
- What proportion of those who graduate accept assignments as teachers?

Teacher Retention and Attendance

- How are teachers assigned to schools?
- What is the length of the typical assignment?
- How long does the average person remain in primary school teaching?
- What factors are associated with teacher persistence or exiting?
- How regularly do teachers attend school?

Teacher Income

- What strategies do teachers use to supplement their income?
- How do these strategies differ with the location of the school and the gender of the teacher?
- Which supplementary income strategies are officially sanctioned?
- What are the effects of secondary employment on teacher performance?
- What types of secondary employment are complementary to teaching?

School Income Generation Activities

- What school income generation activities are appropriate for different regions?
- What strategies have been tried in what locations and with what results?

Perceptions of Incentives

- What do currently serving primary teachers, former teachers, and secondary teachers perceive as incentives for recruitment, retention, and performance?
- How do these perceptions differ from one group to another?

Remote Area Teaching

- What are the incentives and disincentives for teaching in remote areas?
- What are alternative strategies for increasing incentives or decreasing disincentives?
- What are the likely costs and benefits of those alternative strategies?

Community Participation

- What is the extent of current community support for teachers' food or housing?
- What types of incentives are best provided by parents and the community?
- How should government formalize community support?

Evaluation and Feedback Systems

- What types of formal evaluation of teacher performance are undertaken?
- What is the relationship between formal evaluation, tenure, promotion, and salary increases?
- What types of formal and informal feedback do teachers receive from headmasters, inspectors, students, parents, and community leaders?
- What is the effect of recognition, indifference, or criticism on teacher performance and morale?
- What formal mechanisms can be used to increase the frequency of feedback and to make it more objective?

Instructional Support

- Do teachers perceive instructional materials as an incentive?
- What are the relative incentive values of teacher guides, textbooks for students, and classroom level instructional materials?
- What are the costs of these materials?
- What is the relationship between the availability of instructional materials and teacher attendance?

Teacher Status

- What is the public perception of the status of primary school teachers?
- What is the effect of such perception on the morale of teachers?
- How can the status of teachers be enhanced?

Opportunities for Professional Development

- What types of inservice training programs are available for the professional development of teachers?
- Are inservice training opportunities perceived by teachers as incentives?

"Since the inception of the rural teachers training institutes in Liberia, Government has spent, and continues to to spend huge sums of money to train teachers..."

- What opportunities for promotion exist?

School Characteristics and Job Satisfaction

- Do the characteristics of schools (e.g., size, enrollment, location, complete/incomplete cycle, etc.) affect teachers' job satisfaction?
- How are classrooms, students, and workloads assigned to teachers?
- Do teachers perceive workloads as being distributed equitably?
- To what extent do teachers participate in the school management and administration?

What were the major findings of the Teacher Incentives Research?

Haiti

Following the IEES International Conference in Indonesia in 1987, Haiti, which had originally opted to participate in another of the policy research initiatives, joined the teacher incentives research group. The Country Team Leader submitted a proposal for the study of teacher incentives in both public and private sector schools. Following the visit of the project coordinators in June 1987, the Haitian team began work on the *Status Review* and submitted a draft version in June 1988. The entire project was indefinitely halted at this time due to the decision of the U.S. to terminate all nonessential aid to the Haitian government.

The *Status Review* was also hampered by the turmoil surrounding the political events which led to the U.S. withdrawal of aid. The review concisely summarizes the entry requirements for teaching and the incentives and disincentives for teaching at the primary level in both the public and private sector in Haiti.

Highlights among the conclusions in the *Status Review* include the following:

The goal of the teacher incentive system in Haitian primary education is to retain trained and experienced teachers. This goal is not achieved due to the low salaries, poor working conditions, and deficient implementation of incentive policies.

The equity criterion for teacher salaries is met through an agreement between the Teacher's Union and the Ministry of Education which takes into account the training level and seniority of teachers. However, there is no provision for differential salaries based on differential workloads among urban and rural teachers.

There are few career opportunities for Haitian primary teachers in the private sector. As a result, most teachers devote their energy to secondary revenue sources rather than to the improvement of their teaching skills. The public sector offers relatively greater opportunities for promotion.

Liberia

The research in Liberia was headed by the Director of Teacher Education at the Liberian Ministry of Education. Supported by a group of competent educators, the Liberian team carried out its policy research activities with minimal input from the IEES Project Coordinators.

Of the 300 secondary school teachers, former primary school teachers, and current primary school teachers interviewed, only 141 (47%) had any form of teacher training. Although this is an improvement over the 35% reported in most previous research in Liberia, there is still much need for improvement.

Many times critics of the Liberian educational system argue that teachers are performing poorly because they are not qualified. While this may be partially true, there is more that determines performance than just qualifications. Motivation–a motive to do what has to be done–plays a great part in determining what is actually done.

The results of the research seem to confirm results from previous studies which indicate that there is a high level of unqualified teachers in the school system.

Since the inception of the rural teachers training institutes in Liberia, Government has spent, and continues to spend, huge sums of money to train teachers from these institutions and from the Teachers College of the University of Liberia.

The question is, what is happening to all the trained teachers? There is a need for further research into this problem; and these research findings might help to find a solution to the problem.

Teachers were required to list what they considered the least satisfying things about their profession. The most frequently listed problem with the teaching profession is the low and irregular payment of teachers salaries. This item appeared 63 times. This was followed by inadequate materials, facilities, and equipment–37 times; low teachers status and disregard in the communities–18 times; and student lack of discipline–13 times.

Psychologists have identified certain basic human needs which must be met. Among these needs are: the need for food, health, shelter, etc. The low salaries, and especially the irregular payments, cause teachers to seek other means of achieving their needs.

The unavailability of basic materials in the school system is an area that needs to be addressed immediately. A trained and competent surgeon cannot perform an operation without proper tools, a trained carpenter cannot work without a saw, a hammer, nails, and a simple plane. Obviously, teachers must have basic educational materials in order to carry out their tasks.

On the other hand, when teachers were asked to list the most satisfying things about teaching, the following were identified: personal and professional development was the most frequently appearing trait–33 times. This was followed by individual- community relationship, appearing 19 times. This seems to confirm the notion that many people use teaching as a stepping stone in their professional development. After gaining professional development, many teachers go on to find another career.

The research attempted to determine the teachers' perceptions of various incentives. In this regard, teachers were given a list of measures to improve retention and were asked to indicate whether the measure would help a little, a lot, or would not help.

"The emphasis here is on identifying other priorities besides payment of higher salaries–which the government might not be in the position to implement now."

The provision of appropriate instructional materials on time was rated highest as an incentive that would help a lot. This was followed by providing higher salaries and payment of those salaries on time. Other incentives included providing housing at a reduced cost for teachers, reducing class size to less than 45, and providing allowances for rural and remote area teachers.

Governments, especially in developing countries, usually do not have the amount of money needed to pay higher teacher salaries. However, if the little money they have is wisely and systematically used, many of the problems of development could be resolved. For instance, while the idea of giving increments to teachers may be a good one, if it is not given systematically and fairly on the basis of merit, it may not be an incentive.

If increments are given to all teachers, the amount would be so large that government would not be able to find the money. Additionally, teachers who are hard-working and committed may become discouraged because their lazy colleagues would also be rewarded.

Many incentives have been identified by the teachers that could improve retention. However, government may not be in a position to provide all those incentives at the same time. Consequently, teachers were asked to rank the measures in order of their priority. The emphasis here is on identifying other priorities besides payment of higher salaries–which the government might not be in the position to implement now. In this regard, exposing teachers to new teaching materials was ranked as number one. This was followed by paying salaries on time, allowing teachers to pursue advanced studies, providing bonuses and allowances to teachers on the basis of merit, and providing instructional materials regularly to school, in that order.

In light of the findings of this research, the following recommendations are made:

1. Authorities should prepare a comprehensive teacher incentives system which would be based on teacher merit. In order to do this, a yearly evaluation of teachers, using objective instruments, should be prepared and tested. The many nonmonetary incentives for teachers discussed here should be considered and incorporated into an overall plan.

2. A roster of teachers should be updated on an annual basis. This roster will facilitate the easy selection of teachers for further research.

3. Basic instructional materials should be provided to the schools to facilitate the operation of the instructional program. Books and other reference materials are expensive for the students. Therefore, the Ministry should organize materials production workshops for teachers, professors, and scholars.

4. Teacher training–both preservice and inservice–should be continued, but on a lower scale. More emphasis should be placed on improving the conditions of service in the field.

5. The study disclosed that the overall lack of incentives affect the morale of teachers and their ability to discharge their duty effectively. Therefore, it is recommended that incentives be planned for teachers and awarded according to merit.

6. The Ministry of Education should make available sufficient books in the government's book store to afford students and teachers the opportunity to purchase the required books.

7. Many teachers are very concerned about the time it takes to place teachers on the payroll. This causes a decline in the morale of the teachers. It is therefore rec-

ommended that the Ministry of Education develop procedures to make possible the fast processing of names on the payroll.

8. The Ministry of Education should immediately adjust the salaries of inservice teachers graduating from colleges and the teacher training programs. A fair and comprehensive teacher incentive system should reward work for advanced training and studies.

Somalia

The Somali team was headed by the Director General for Educational Development in the Ministry of Education. The Director of the Secretariat for Donor Coordination served as the Assistant Country Team Leader.

A total of 63% of the current primary teachers and 53% of the current secondary school teachers reported that their present salaries (including community contributions) are insufficient to cover their living expenses. Over half of all the teachers and headmasters surveyed believed that salary improvement would have the greatest impact on teacher productivity. The provision of housing was the second most highly rated incentive. It was believed that not only would better salary and housing relieve teachers of the need for second jobs which detract from teaching but raise the status of teachers in the community. Other incentives favored by teachers included removing teachers who are not doing their jobs; distributing salaries on time; increasing promotion opportunities; and generally working to improve the status of teachers in the community.

Current teacher concerns with salary and status were echoed in the responses of why former teachers left the profession.

The recommendations arising from the data analysis are listed below.

1. It is clear that primary schools cannot retain teaching staff for more than a short period under current conditions. Despite recent increases, teachers' monthly salaries and allowances cannot support them for more than three or four days. Consequently, many primary teachers are compelled to quit their jobs. Others remain on the rolls but wither do not show up at all or are frequently absent. Those who do attend the school devote little time and effort to preparing and teaching the lessons.

Therefore, it is recommended that the Ministry of Education review the salary and allowance structure for the primary school teachers, and base them on the living standard in their area of placement.

2. The Ministry should explore options for providing housing and medical care for teachers, either through MOE subsidies or through community support.

3. The requirements for becoming a primary teacher have recently been upgraded. Whereas a primary teacher formerly needed only a primary school leavers' certificate, he or she must now be a secondary school graduate, with two years of professional and academic training at a teacher training institute in order to be hired as a teacher. The medium of instruction in a number of courses at the teacher training institutes has also been changed from Somali to English. Although the purpose of these changes was to upgrade the quality of primary teachers, a number of unintended side effects have resulted.

"Although the purpose if these changes was to upgrade the quality of primary teachers, a number of unintended side effects have resulted."

Finding teachers who can fulfill the new requirements and who are willing to work for such low salaries is extremely difficult. In addition, once they have completed their teacher training, the English language capability provides the graduates with greater job opportunities outside the teaching profession. As a result, many trained teachers never actually make it to the classroom.

It is, therefore, not cost-effective to provide two years of preservice training for secondary school graduates who may not stay in the profession for more than a short period. It is recommended that preservice training be reduced to a period of six months to a year.

4. Another factor which increases attrition among primary teachers is the Ministry of Education's policy for entrance into LaFoole College of Education. Each year, 300 of the most experienced and academically talented primary school teachers are admitted into LaFoole. This policy drains talent out of the primary schools since all College of Education graduates go directly into the secondary schools, and none return to the primary level.

Therefore, it is recommended that the Ministry of Education establish a mechanism of career development within the primary level that will provide incentives for trained teachers to remain in the primary schools. One such policy could be to develop a structured salary scale that would provide salaries for teachers who have completed two years at LaFoole College of Education that are equivalent to that of a secondary teacher, with step increases for each year of experience. Primary headmasters should also be recruited from the ranks of primary teachers who have completed training at LaFoole.

5. Inservice teacher training is a means of improving the professional and academic qualifications of primary teachers. A systematic inservice training program is essential in upgrading teacher quality. Greater emphasis should be placed on upgrading teachers' professional skills. It is important, however, to remember that the objective of such a program is to improve the professional quality of the teachers rather than to prepare them for higher educational levels (which may provide a greater temptation to leave the primary teaching profession altogether).

It is recommended that inservice training seminars provide greater opportunity for discussions among teachers.

6. Since supplemental reading materials in Somali are nonexistent, it is very important that both teachers' guides and student textbooks be received at the beginning of each school year. The Ministry of Education must improve the textbook distribution system so that instructional materials are received on time.

7. Improving the condition of school facilities, furniture, and equipment is essential if the quality of primary education in Somalia is to improve.

8. Community support and local participation in educational activities is a powerful tool for improving the educational system. In Somalia, some community support initiatives (primarily in the form of charging student fees in order to supplement teacher salaries) have been initiated recently. However, a comprehensive examination of such activities and their impact has never been attempted. Some educators have expressed doubts about the effectiveness of these activities and worry that the policy

will widen the existing iniquities between the rural and urban communities. It is undoubtedly true that schools in urban areas have a greater number of students and, therefore, fees paid by the parents result in much higher salaries for teachers in urban areas than for their rural counterparts. Ultimately, this may result in a large number of rural teachers moving to urban areas.

Hence it is recommended that the Ministry of Education carry out a study across regions to examine the impact of this initiative. If community support activities are found to play a significant role in the rural to urban migration of teachers, these iniquities could be overcome by providing subsidies from the Ministry of Education to the rural communities.

9. A system for evaluating teachers' performance and rewarding those who are doing a good job should be devised. Rewards may include cash awards, prizes, and certificates of recognition. In addition, the promotion system should be tied to both training and performance, as well as to scores on promotion examinations. At the same time, those teachers who are not attending their schools regularly or adequately performing their classroom duties should be removed from the staff.

Yemen

The Ministry of Education appointed the Director of Nonformal Education, as the Country Team Leader for the Teacher Incentives Project. A member of the Teacher Training department was Co-Team leader. The relative lack of experience of the Yemen team proved a constraint for the successful completion of the project. Despite this constraint, the *Status Review* was completed and the field data collection carried out.

A description of the survey sample and the statistically significant findings from the preliminary analysis of the teacher sample are given below:

Description of the Sample

Two hundred and eight current primary Yemeni teachers were interviewed during the survey. Of this number, 103 were men and 105 women. The sample was divided almost evenly between urban and village teachers. In addition, 25 predominantly male former primary teachers and 51 current secondary teachers were also interviewed.

"A system for evaluating teachers' performance and rewarding those who are doing a good job should be devised. Rewards may include cash awards, prizes, and certificates of recognition."

Teacher Characteristics

Most of the current teachers (88%) had 11 or 12 years of schooling. However, 68% of women teachers had graduated from secondary school in contrast to 45% of the men teachers. Sixty-seven percent of the teachers had received teacher training. Those who had received teacher training were predominantly located in cities (82%). Very few teachers (male or female) reported a second job.

Teacher Expectations

Most teachers found life as a teacher the same as they had expected (38%) or worse than they had expected (36%). More men (50%) than women (22%) reported their life as a teacher as worse than expected. In particular, men (36% compared to 20% of women) viewed their status in the community as worse than expected and the delay in salary payments as worse than expected (50% for men compared to 31% for women). Fifty percent of the teachers in villages (in contrast to 23% in cities) complained that classroom conditions were worse than expected.

Working Conditions

Men teachers handle slightly more class periods than women, and there appears to be no significant difference in the average periods per week taught in urban and rural schools. Fifty-two percent of the teachers reported that the age differences among students in their classrooms were too large and 65% reported that their class sizes were too large. Forty-three percent of the sample reported better support from their principals than they had expected. Fifty-two percent, however, of those who reported better support taught in city schools. Ministry of Education officials explained this by the fact that three-fourths of the schools (and almost all in rural areas) have only a head teacher and not a principal. Typically, head teachers have a full teaching load and, therefore, little time to assist their colleagues.

Teacher Incentives

Teachers in Yemen perceived the following types of incentives as those which would help them:

- Provision of textbooks on time
- Greater respect from the community
- Larger allowances
- Higher salaries for qualified teachers (a graduated salary scale)
- Payment of salaries on time

IEES Research Now Underway

IEES is tasked to conduct research on (1) teacher behaviors and school characteristics that encourage higher levels of student achievement and efficient school operation and (2) community-school relationships that are supportive of higher levels of student enrollment, retention, and achievement. Current plans are to concentrate research activities in Botswana, Nepal, and Indonesia. At present, research is actively underway in Botswana and a preliminary research agenda is being discussed with MOEC officials in Nepal. Participation in a research agenda that would make use of The Quality of Basic Education data set (already collected with financial support of UNDP) is being discussed with Indonesia.

Botswana

School Effects Research

The school effects research in Botswana is well underway. The school effects research was initiated in 1988 with a Classroom Observation Study and the administration of a Quality of Worklife (QWL) Questionnaire. These data formed the basis of three research papers already completed and two currently in preparation. The study was extended to 1989 to include a Teacher Questionnaire along with another administration of the QWL questionnaire and a second Classroom Observation Study. During 1989, the research was also extended to collect measures of student attainment and achievement. In both the 1988 and 1989 studies, attention was focused on availability and teacher use of instructional materials, pedagogical techniques of teachers, classroom characteristics, and how these factors differed across teachers, across geographical areas, and across levels of the education system.

Beginning of the year student attainment data (e.g., pretest data) will be collected in March 1990 using modified IEA tests. Then in June–July 1990, a Classroom Observation study, a Quality of Teacher Worklife Study, and a Teacher Questionnaire will be collected. Specific dimensions to be addressed in these instruments will be essentially the same as those addressed in the 1988 study.

The research is well-timed to address needs of the MOEC. The Ministry anticipates that findings from the research can contribute to planning and policy discussions associated with development of the National Development Plan (NDP) VII, scheduled to be completed in June 1990, and the Second National Commission on Education, which is expected to be convened in 1990. Both represent major points of educational planning and policy formation and offer important opportunities for IEES activities to contribute to educational development. In the meantime, the research is expected to yield results that can have even more immediate impact on teacher and headmaster training, on school administration, and on instructional supervision.

School Community Linkages/Headmasters' Role in School Effects

The second research initiative in Botswana, started in late 1989, investigates the headmasters' role in improving school quality and efficiency. Particular attention will be given to the headmasters' role in instructional supervision, in managing school-community relationships, and in maintaining school-Ministry communications.

Data will be collected through a questionnaire being administered to primary and junior secondary school headmasters and follow-up interviews as appropriate. The questionnaire will collect data on the extent that local communities are involved in school activities, the extent they provide monetary and non-monetary support to their local schools, the extent parents are involved with school personnel around issues of their children's school performance, and headmasters' judgments about how these community-school and parent-school relationships can be strengthened. The study is expected to yield very practical suggestions for greater community involvement in education, for headmaster training, and for MOEC school communications.

> ***" If universal primary education is to be achieved, the number of teachers will need to grow by 40 percent over the next ten years; about 24,000 teachers will need to be trained."***

While the study is seen as part of the community support research agenda, it is closely linked to the school effects research described above. At the same time, data on headmaster activities within the school and quality of headmaster worklife will be collected in a way that parallels data being collected from teachers in the School Effects Study.

The headmaster study will be conducted as a separate research initiative (from the school effects study) under the direction of IEES Resident Technical Advisor in Botswana, Shirley Burchfield, and IEES Research Director, David Chapman, with the assistance of Junior Secondary Education Improvement Project (JSEIP) COP Wes Snyder. It is anticipated that some of the headmaster data will be merged with and analyzed in conjunction with the teacher data from the School Effects study.

The close linkage of the School Effects and Community Support research agenda offer a model for IEES research in other countries. Components stand alone and offer important projects by themselves, but are closely linked in theoretical framework and design in ways that meaningfully increase the range of educational questions that can be addressed as data sets are examined together. Both studies emphasize the use of multiple measures (observations, surveys, interviews) across multiple criteria (classroom behaviors, affect, perceptions) across multiple groups (communities, headmasters, teachers, students).

The two research initiatives will enhance local capacity in two ways First, RTA Burchfield will involve members of the planning staff in instrument design, issues of data collection (though actual collection will be done by a private company), data analysis, interpretation, and reporting. Secondly, key MOEC officials and educators will be invited to a series of targeted policy seminars. These will serve the dual purpose of disseminating research findings and involving local personnel in formulating their interpretations and implications for practice.

Nepal

The key dilemma facing the MOEC in Nepal over the next decade is, on one hand, a politically mandated commitment to achieve universal primary education by the year 2000 and, on the other hand, evidence of quality erosion and serious inefficiencies in the primary education already being delivered. If universal primary education is to be achieved, the number of teachers will need to grow by 40 percent over the next ten years; about 24,000 teachers will need to be trained. Yet, at present, the Ministry is unable to fully staff the teacher training institutions now in operation. The situation is further complicated as there are presently four different programs to train primary teachers–all of which differ dramatically from each other in design, unit cost, duration, and financial sponsorship. The MOEC recognizes that one aspect of reconciling the demands of rapid system expansion with the need to maintain and improve the quality of the education being provided will be the more efficient use of the resources that

are available to the MOEC. Consequently, there is considerable interest in the MOEC in continuing the work with IEES. During January 1990, discussions were held in Kathmandu with representatives of the MOEC about the particular form that continuing collaboration might take.

MOEC leaders in Nepal have indicated strong interest in having the Ministry participate in the IEES research agenda, particularly as the research could inform the design and conduct of teacher education. Three special areas of research were discussed:

1. Of primary interest is research into the teacher behaviors and classroom characteristics that most encourage high levels of student achievement and retention.

2. A second area of interest was an investigation of the career patterns of teachers. It is projected that Nepal will need to increase the number of primary school teachers. If the projected demand for teachers is to be met, it will be important to identify (a) the incentives that will attract secondary school graduates into teaching and (b) the incentives most powerful in teacher retention.

3. A third area of research should be a study of headmasters. Headmasters play a particularly important role in educational quality because they are the ones responsible for instructional supervision, local school-community relations, and school-Ministry communications. All three of these factors are important to the quality of the education offered in the school. Research on headmasters can identify ways to support and help headmasters in these tasks. The research can offer suggestions for headmaster selection, training, and supervision.

Indonesia

In 1987, the Indonesian Ministry of Education, with financial assistance from UNDP and USAID's Educational Policy and Planning Project, undertook a major data collection as part of a study to investigate the Quality of Basic Education in Indonesia. Using a sophisti-cated sampling frame, data were collected on students, teachers, schools, and communities as the basis for investigating the teacher, school, and community characteristics related to effective schooling. While these data have been coded and cleaned, no comprehensive analysis of these data has yet been performed. However, the data directly address the types of questions of interest to IEES in its efforts to better understand the determinants of student retention and achievement. It is proposed that IEES assist the Indonesian MOE in analyzing these data, with particular attention to the examination of teacher and school effects related to student achievement and to school-community relationships that are most conducive to student retention and achievement. IEES Research Director Chapman will travel to Indonesia in mid-1990 to discuss research proposals with MOE.

What is IEES?

IEES assists developing nations to improve educational efficiency. The concept of educational efficiency subsumes notions of both "school quality" and "school effectiveness," since efficiency combines cost considerations with effectiveness issues. Since the goals of education in most countries include equity objectives, systems and schools in those countries cannot be considered effective unless they also are equitable.

In practical terms, improvements in efficiency require changes in resource allocation practices at the system or the school level or both. Changes in allocatory practices may in turn require basic policy change or implementation of policies long since developed. Increasing the share of the education budget devoted to primary schooling, for instance, requires policy change, while ensuring that textbooks reach the schools-or that teachers adhere to the participatory methodologies in which they were trained-does not. The distinction between policy change and change in practice is an important one since efficiency is determined by the latter but only facilitated by the former. Even where changes in practice are dependent on fundamental policy change, policy change remains a necessary but not sufficient condition for improving school efficiency.

> ***"The advantage of emphasizing efficiency criteria is that it is the only approach that bridges the gap between system levels."***

HOW DOES IEES WORK?

Sector assessments undertaken with IEES assistance provide the baseline information necessary to derive the country strategies for improving efficiency. These country strategies detail issues related to specification of objectives, financing inputs, choice of mix of inputs, delivery of inputs, the use of inputs at the school and classroom level, and provide a decision map laying out policy and policy implementation alternatives. Government and USAID Mission staff work with IEES to plan activities that are directly linked to the implementation and evaluation of policy change and to monitoring system and school level efficiency. Capacity building in Education Management Information Systems (EMIS) emphasizes the collection of data needed to inform system performance, as well as data manipulation and policy analytic skills.

Within this efficiency orientation, IEES micro-level research is targeted to identifying the production relationships among inputs and the comparative advantage of government, parents, and community in providing specific inputs to permit the correction of policy. These country-specific studies provide further knowledge of the conditions at all levels of the system which promote effectiveness. In so doing, they hold potential for a major breakthrough in school effectiveness research.

The advantage of emphasizing efficiency criteria is that it is the only approach that bridges the gap between system levels. Capacity building activities and EMIS mean little if the focal point is the Ministry rather than the school. One device for maintaining a school focus is the greater use of interministerial advisory committees, the training of these committees in goal specification and the use of efficiency indicators, and provision for cross-country dialog among these committees.

The four major IEES activity areas (each designed to promote the major objective of enhanced application of efficiency in policy and practice) are:

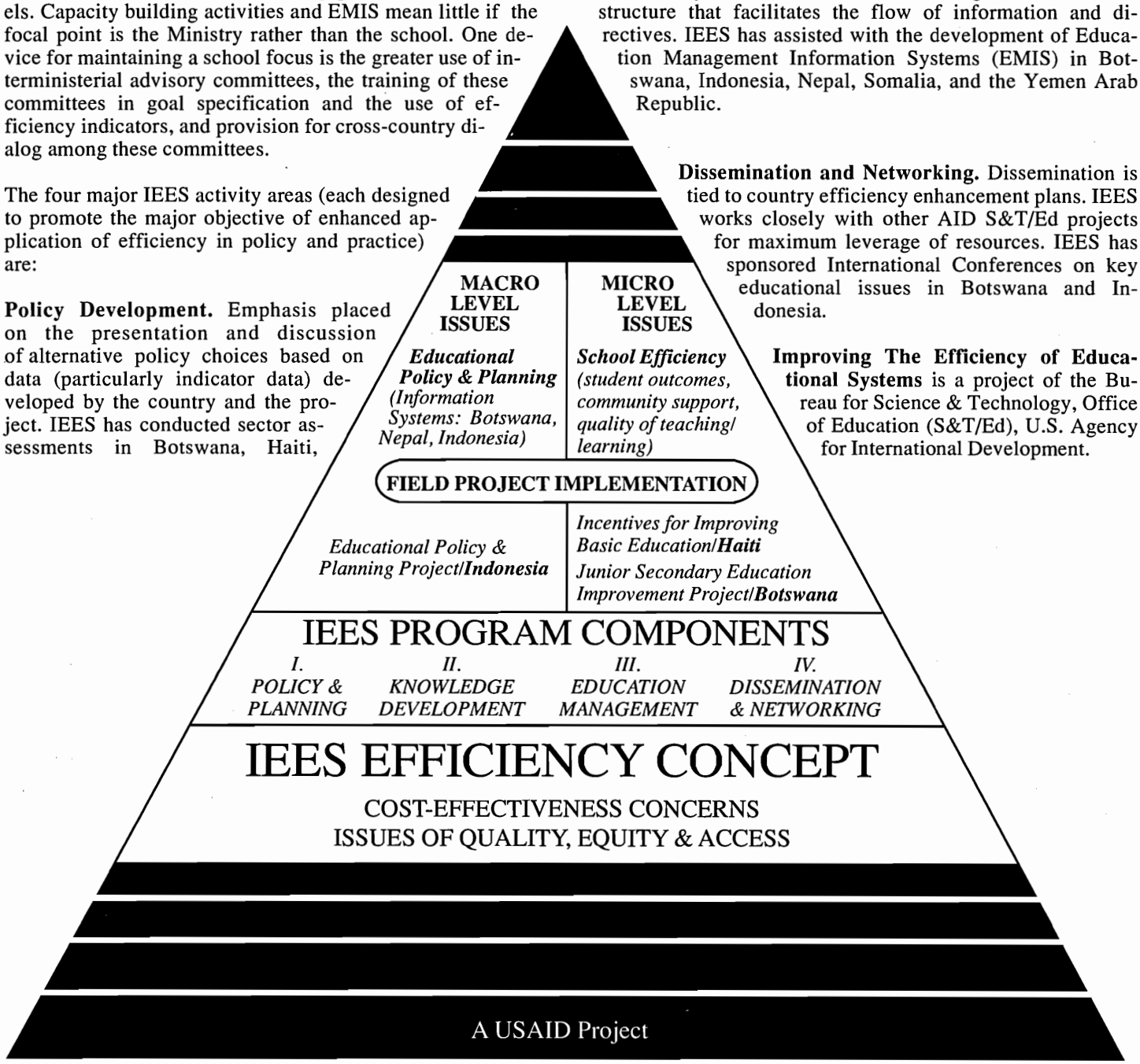
Policy Development. Emphasis placed on the presentation and discussion of alternative policy choices based on data (particularly indicator data) developed by the country and the project. IEES has conducted sector assessments in Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic.

Knowledge Development. IEES research and conceptual work is derived from the need to shape policy and practice reforms. IEES has sponsored policy research studies in Botswana, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic.

Educational Management. IEES assists in competency development for institution of management systems that tie central, regional, and school level managers into a linked structure that facilitates the flow of information and directives. IEES has assisted with the development of Education Management Information Systems (EMIS) in Botswana, Indonesia, Nepal, Somalia, and the Yemen Arab Republic.

Dissemination and Networking. Dissemination is tied to country efficiency enhancement plans. IEES works closely with other AID S&T/Ed projects for maximum leverage of resources. IEES has sponsored International Conferences on key educational issues in Botswana and Indonesia.

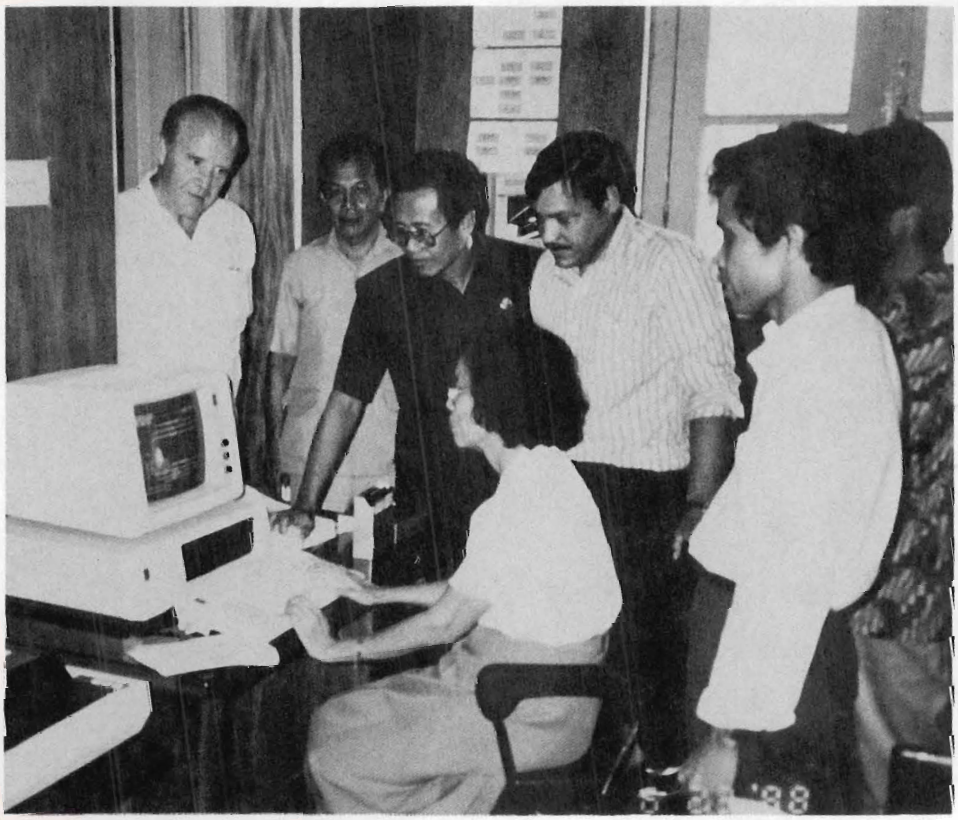
Improving The Efficiency of Educational Systems is a project of the Bureau for Science & Technology, Office of Education (S&T/Ed), U.S. Agency for International Development.



IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

WINTER 1990

BULLETIN



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BULLETIN
Improving the Efficiency of Educational Systems

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Improving the Efficiency of Educational Systems (IEES) is a ten–year initiative funded in 1984 by the Office of Education, Bureau for Science & Technology, United States Agency for International Development (S&T/ED, USAID). The principal goals of the IEES Project are to help developing countries improve the performance of their education systems and strengthen their capabilities for educational planning, management, and research.

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Strengthening Private Sector Education in Haiti

Following the IEES EHR Sector Assessment in Haiti (1984) and the accompanying studies of private education, IEES was asked by the USAID Mission to take charge of the design for the "Incentives for Improving Basic Education" (IIBE) initiative. IEES prepared this design in 1985. Several characteristics of the design process itself were innovative and laid a strong formulation for IEES assistance to private sector education in Haiti. These characteristics are briefly discussed here.

First, the design process was highly participatory, involving representatives from Haitian private education in setting of goals, specification of methodology, and drafting of budget.

Second, this experience caused leaders from the Catholic and Protestant education systems in Haiti to meet together officially for the first time, an accomplishment made doubly significant by the fact that it facilitated interfaith cooperation in resistance to the Duvalier dictatorship, which was then in its final days. Due to the commitment generated in this fashion, plans for IIBE were able to go ahead at a time when much else in the country was falling apart.

Third, the design of IIBE provided for a level of cooperation and mutual reinforcement between private and public sectors of Haitian education which was without precedent in the country. Given the uneven history of the Haitian government in education and the particularly dismal career of the Duvalier regime, private education leaders were understandably cautious about design elements implying any increased authority of the Ministry of Education over their work. All admitted, though, that the public sector had an important role to play in setting standards for education, accrediting schools and teachers, and furnishing instructional support. As a consequence, an additional IIBE component provided means for the Ministry to develop its capacities for accreditation, certification, standardized examination and legitimate quality control, something never before adequately accomplished by government agencies. This component, however, was subsequently terminated as the result of historical events leading to the cessation of AID assistance to the Haitian government.

"Despite these tumultuous political events, IIBE has endured and prospered. It has consistently fulfilled the goals set by its design and has far surpassed institutional development objectives. In part, IIBE has escaped the problems associated with frequent government changes because it is firmly based in the private sector."

Since its inception in 1986, IIBE has functioned in the uncertain environment of political turmoil and fear that has beset Haiti since the 1986 ouster of dictator "Baby Doc" Duvalier. The years since 1986 have seen the violent overthrow of four governments by the military, an attempted coup to depose President General Avril, and most recently, free elections which hopefully will lead to better government.

Despite these tumultuous political events, IIBE has endured and prospered. It has consistently fulfilled the goals set by its design and has far surpassed institutional development objectives. In part, IIBE has escaped the problems associated with frequent government changes because it is firmly based in the private sector. Of greater significance are the important needs being met by the project and the commitment of the Commission espis-copale des ecoles catholiques (CEEC) and the Federation des ecoles protestantes d'Haiti (FEPH) to primary education in Haiti, in partnership with USAID and IEES.

Educational opportunities for the vast majority of Haitians have always been limited. Curtailed access and poor quality characterize all levels of education in Haiti. Nationwide, approximately 60% of school-aged children

are enrolled in primary school. In rural and disadvantaged urban areas, the problems are even more acute: fewer than 30% are enrolled. Covering only 25% of the recurring costs of educational financing, the Haitian government has been unable to meet the demand for education and has chosen to concentrate its investments in urban zones. The private sector–consisting of the Church, Protestant missions, communities, and individual entrepreneurs–has responded to the need.

Approximately 70% of primary school enrollments in Haiti are in private sector schools. These schools receive little—if any—government subsidy. Inverting the common perception of private schooling, private sector schools in Haiti lack qualified teachers, serve the poorest strata of students, and have few material resources.

IIBE employs a dual strategy aimed at the improvement of the quality of private sector primary education:

1. Direct school support through the provision of materials and training which will also result in the identification of the most effective combination of inputs to improve school performance, and

2. The development of local institutions capable of organizing and serving the vast and fragmented private education sector.

Because IIBE was designed as a phased, long-term effort, it is too soon to assess the overall impact of the school support component. In 1989, it reached its full complement of students and has now activated its evaluation system. Work to date has primarily dealt with the procedures, ground rules and logistics of implementing the "menu methodology" (which permits individual schools to choose the package of assistance most relevant to their needs), as well as its elaboration and refinement to get it into an "evaluatable" state.

Activities already undertaken have had positive impacts on schools. These activities include:

- Provision of teacher and school director training—IIBE has provided training to approximately 2,000 teachers;
- Publication of the Timoun Lakay newsletter to private sector preprimary teachers and public officials (with so many additional requests from non-project affiliated sources that the production budget is exceeded);
- "Popularization" and dissemination of a national preschool curriculum for preprimary school teachers in Creole (not French) and development of practical activity and lesson plans;
- Development of a framework to assess school needs at grassroot levels;
- Development of a performance contracting mechanism in the schools, a methodology which has been incorporated into by the World Bank into its Fifth Education Loan plan;
- Development of a battery of student achievement tests (in French, Creole, and Mathematics), as well as teacher competency tests; and
- Creation of parent-teacher committees in the schools to encourage active community involvement and support.

The institutional development component has proceeded at a much faster rate, far surpassing expectations and, in the process, somewhat redefining both project focus and activities. Even at this date, however, it can be said with assurance that IIBE impact on Haitian education has been notable and promises to be profound.

INCENTIVES FOR IMPROVING BASIC EDUCATION (IIBE): THE HAITI PERSPECTIVE

Rosny Desroches
Director, Haitian Foundation for Private Education

In order to understand the importance of the IIBE Project for Haiti and the reasons for its rapid success, one has to recall the context in which it has been implemented. Designed as an educational project geared mainly towards the private education sector, but nevertheless with a component related to the public sector, the project became, almost one year after its inception, an initiative fully oriented towards the private

"Since the state was not interested in the education of the people, the masses sought a way to give their children access to formal education. The development of the private education sector then is a result of the peoples' endeavor to grasp the benefits of instruction."

sector. The question then is: why the private sector?

The Political system in Haiti. To answer this question, one has to examine first the nature of the state, the nature of the political apparatus in Haiti. Many scholars have attempted to describe the political system of Haiti. Some, like Mats Lundal, have said that it is a kleptocratic state. Others would say that it is an oligarchic state. Whatever description we use, what is true is that the various governments have been controlled by a minority, by an elite who did not really care for the majority, for their education, or for their well-being. The result is that the educational system, for almost one and a half centuries, has been an elitist one, conceived to educate a small minority whose function was to rule the country and to maintain relationships with the world abroad, specifically the Western powers.

Since independence in 1804 until 1950, the school attendance rate hardly went beyond 18%. But during the second half of the twentieth century, change began to tear the fabric of Haitian society. An embryonic educated middle class, related to the majority class by its social origin, was emerging and claiming its share of political power, if not the control of the political power. The Catholic and Protestant churches showed an increased interest in grassroots development and rural people, not only to baptize them and make nominal Christians out of them, but also to teach them. Literacy campaigns started in religious circles, specifically in the Protestant community. The wish to read the Bible and use hymn books appeared. The thirst for formal education followed.

The Private Education Sector. Since the state was not interested in the education of the people, the masses sought a way to give their children access to formal education. The development of the private education sector then is a result of the peoples' endeavor to grasp the benefits of instruction. The state could not remain indifferent to the pressure of these citizens. The state itself had to place more emphasis on education and to devote a greater part of the national budget to schools.

As a result of all this, from 1950 the school attendance rate started to grow rapidly. Between 1955 and 1970, public and private school enrollments increased at an annual rate of 3.5%, twice the rate that had been experienced during the 25 previous years. From 1970 on, the private sector proved to be even more dynamic than the public sector. Its annual growth rate reached 10.6%, while the public sector experienced only a 5.4% growth rate.

What is the secret of the dynamism of the private sector? It is no mystery. The scheme is always the same: Parents want to give instruction to their children. In a community, there are always one or two young people who have been to school, and have found no work, and will accept a token amount of money to teach. It is better than nothing. These are the potential teachers. There is a senior person in the village, often very enterprising, and enjoying moral creditibility in the community. He or she will sell the school project to the parents, raise some support, make a personal investment, find a sponsor, find a place, and so the school will start. The place is generally a residential house, a chapel, a temple, a community clinic or meeting room, a cockfight place, or even a nightclub. Sometimes, the place may be an orchard or grove or even a big tree.

"Without the existence of this dynamic private sector, school enrollment would follow the decline of the national economy, just as has happened in many African countries."

Characteristics of Private Schools. With such mechanisms as described above, schools will spread like mushrooms. What are the characteristics of these depressed private schools? The first characteristic has already been identified. It is dynamism. The private sector now represents 70% of the primary school enrollment in Haiti. Thanks mainly to this private sector dynamism, school attendance for children 6-12 has jumped from 18% to 65% from 1950 to 1990. The Protestant schools represent 50% of the private sector, the Catholic 30%, and the independent 20%. Private sector dynamism appears as a solution to the problem of school access in Haiti. During the 1980's, school enrollment decreased in many countries in the world, specifically in the sub-Sahara countries in Africa and other less advanced countries because of the fall of raw materials prices on the world market. Haiti also suffered severely from this economic decline (resulting in increased unemployment and decreased per capita income) during the period. However, primary school enrollment increased in Haiti during the decade. The total enrollment in school year 1979/80 was about 450,000. In school year 1989/90, enrollment exceeded 750,000 students. There was a slight decrease in enrollment during the difficult period of political unrest from 1986 to 1988. Since then, there has been a strong recovery. Without the existence of this dynamic private sector, school enrollment would follow the decline of the national economy, just as has happened in many African countries.

The second characteristic of the private sector in Haiti is its capacity to function at very low cost. The unit cost per student per year is US$36 for the lay rural private schools and US$103 in the rural public schools.

This apparent cost-effectiveness in the private sector is not altogether a positive factor, however, since it also means that the salary of the teacher is very low (an average of US$40 a month), with the consequence of a high attrition rate among teachers.

Two other characteristics of the depressed private schools—which are linked with salaries—are the low level of teacher competence and the resulting poor quality of teaching. An indication of this low quality of teaching and learning is the average number of years required to graduate in the Haitian primary school. In a lay rural private school, it takes an average of eight years to graduate the six-year cycle. What then can we say in conclusion about the private sector?

It is dynamic and flexible enough to meet rapidly people's needs in educa-

tion and to adjust to the economic possibilities of the community. But the quality of teaching is poor.

USAID Assistance to the Private Education Sector. This was the condition at the beginning of the 1980's when USAID decided to assist education in Haiti. This was a wise decision. It was evident to USAID that the development of human resources was a basic condition for economic growth in Haiti. An Education and Human Resources Sector Assessment was conducted in Haiti in 1984 through the Improving the Efficiency of Educational Systems (IEES) Project and the Haitian Ministry for Education. The data compiled by this assessment showed the vitality of the private sector and confirmed the hypothesis previously made by both UNESCO and the World Bank that, in the case of Haiti, the strengthening of the private sector is an important way to contribute to the development of education.

USAID then asked IEES specialists to work, on one hand, with a mixed committee of Catholic and Protestant educators and, on the other hand, with the Ministry of Education to prepare the IIBE Project.

WHAT ARE THE MAIN FEATURES OF THE IIBE PROJECT?

The program goal of the IIBE Project is to promote Haitian economic development and popular participation in development activities by strengthening the country's human resource base. Within this general program, the project has two objectives:

a) To improve the quality of private primary schools located in deprived rural and urban areas; and

b) To serve as a catalyst for efforts within Haitian private primary education to organize itself and to take charge of efforts to improve the quality of the schools.

In order to reach these objectives, the project consists of three main components:

a) School support,
b) Institutional development, and
c) Research and development.

This paper addresses mainly a) School Support and b) Research and Development.

School Support

From a financial point of view, this component represents he most important element of the project. It is oriented towards 259 schools spread over the country, with a total enrollment of 60,000 pupils under the guidance of 1,800 teachers. Those schools represent 15% of the private sector and belong to the three main sub-sectors: Catholic, Protestant, and Independent.

IIBE is designed for six years and brings educational and material resources to the schools for an amount calculated on the basis of $25 per child per year. This contribution represents 25% to 50% of the previous school annual income.

"Two categories of resources are made available to the schools. Some are compulsory, such as training and performance incentive grants. The other resources are optional.."

The basic conditions to accept a school in the program are:

- Limited financial resources in the school.
- Willingness to sign a performance contract.
- A minimum level of competencies possessed by the director, both in education and in school management.
- Commitment to pursue the financial efforts in order to maintain the educational gains of the program.
- Acceptance of the orientation given by the National Educational Reform in process, which puts emphasis on use of Creole as a means of education, study of the physical and human environment as subject matter, development of understanding versus mere rote learning, and participatory and active methods of teaching.

Two categories of resources are made available to the schools. Some are compulsory, such as training and performance incentive grants. The other resources are optional. They are:

- Text books sold at subsidized prices.
- School furniture (blackboards, desks, etc.)
- Instructional materials
- Pre-primary education program
- School feeding programs
- Renovation and supplemental constructions
- Management fees.

A final item was originally included on the list: income-generating activities. The Board responsible for the implementation of the Project Policy, however, decided to drop this item because the amount available per school was found not to be sufficient to support income-generating activies. Moreover, the success of such a program would require a monitoring system which would be both too costly and time-consuming to implement.

Institutional Development

This component relates to the second IIBE objective: to develop the capacity of the private sector to sustain efforts towards improving the quality of teaching and school management. The conception and preparation of IIBE was an opportunity for educators coming from the two main structured sub-sectors of the private sector, the Catholic and the Protestant, to meet on a regular basis in order to share ideas and concerns. These educators, responsible for large networks of schools, soon realized how important it was to consolidate their institutional bases in order to become organized and reliable partners for potential donors. As a

result, in 1986 the Federation of Protestant Schools of Haiti was formed, and a few months later, a Commission for Catholic Education was created by the Bishops. These institutions were incorporated and opened regional offices. The large majority of the Catholic and Protestant schools, which represent 75% of the private education sector, are members of either the Catholic Commission or Protestant Federation.

During the first three years of IIBE, these two institutions played an important role in its management. They acted as partners with IEES at Florida State University (FSU) which was in charge of implementation, as contracted with USAID. FSU created the Center for Technical Services with a Director, specialists in education, and a support staff. The Catholic and Protestant sectors organized a technical and administrative service, maintaining close cooperation with the Technical Service Center and providing educational services to their respective constituency.

According to the IIBE design, the Haitian Ministry for National Education was supposed to intervene at two levels: 1) as manager of the school support components for the lay private sub-sector, and 2) at the level of the Research and Development component. The tragic events of November 1987, leading to the bloody termination of the electoral process, resulted in the suspension of direct aid to the Haitian government by external assistance agencies. The IIBE elements that included the participation of the Ministry were then transferred to the supervision of the Technical ervice Center and the Protestant and Catholic sectors. As a consequence, a lay sector was created at the IIBE central office to manage the resources for the lay private schools.

The decision making body for policy and implementation for the IIBE Project is a board which includes representatives of USAID, FSU, Protestant, and Catholic sectors. The constant process of dialogue in mutual respect has been one of the important factors for the success of IIBE.

Creation of FONHEP. One of the major achievements of IIBE, as far as institutional development is concerned, has been the creation of FONHEP, the Haitian Foundation for Private Education. The excellent experience of cooperation that took place between Catholic, Protestant and lay educators during the preparation and the implementation of IIBE encouraged the Catholic Commission and the Protestant Foundation to initiate a joint venture by creating this foundation, whose objective is to contribute to the development and improvement of education in the private sector. With the creation of this foundation, three years after the beginning of the Project, Haitian partners were equipped to become more involved in its management. In July 1989, a cooperative agreement was signed by USAID and FONHEP giving FONHEP responsibility for the management of the School Support and the Institutional Development components. IEES/FSU is responsible for Research and Development and provides technical assistance to FONHEP to help in the implementation of the other components. FONHEP technicians also participate in the Research program at both conceptual and practical levels. FONHEP has a board, an executive office, including technical teams, administrative services, and a group of field representatives.

"In July 1989, a cooperative agreement was signed by USAID and FONHEP giving FONHEP responsibility for the management of the School Support and the Institutional Development components."

Institutional development activities affect the Catholic Commission, the Protestant Federation and the lay private sector. These now have regional offices throughout the country which initiate and supervise their activities, such as surveys, training, distribution of support, and control. These activities reach more than 3,813 schools and more than 531,177 students. The personnel in these offices receive training in education, as well as in school, office, and project management. These regional structures not only have administrative and technical personnel, but also have legislative bodies that set policies and make decisions. Considering the lack of stable institutions in the Haitian society, such developments represent momentous gains not only in education, but also in the socio-political field.

WHAT HAVE BEEN THE RESULTS?

The IIBE Project began its fifth year in July of 1990. What have been the outcomes? First among these has been the improvement of the physical conditions of the schools. Eighty-two school buildings have been renewed or expanded. Two hundred forty-six schools have been equipped with desks, blackboards, and cabinets.

As far as school management is concerned, great progress has been made, thanks to training seminars organized for the school directors. Both student and teacher files are in better shape. In some instances, they are organized for the first time. The accounting system in the schools has been improved, and above all, the directors have learned how to monitor and supervise the work of their teachers, especially the lessons preparation. This involvement of the directors made a big difference on the quality of teaching.

The most important results are found in the field of teachers' performance. All the teachers in IIBE schools have attended training sessions. During the first year of IIBE assistance, they received one month of training. In the following years, they receive an additional one or two weeks of training. In order to measure the value of this opportunity, one must remember that only 2% of the IIBE school teachers have ever had the opportunity to attend a teacher training college.

The IIBE training covers two aspects:

a) reinforcement of academic knowledge, and

b) development of professional skills.

Pre- and post-tests have been administered to the teachers during these sessions. Has this training improved the quality of teaching? It is too early to draw firm conclusions. In 1991, we will begin an exercise of internal

evaluation based on the data accumulated during the first four years. We are able, however, to present some provisional results. First of all, we have found that the results obtained by the teachers on the post-tests administered at the end of the training sessions have correlated positively with the marks obtained by the students at school. This correlation is particularly high in Mathematics. One of the factors that seem to affect positively student achievement is lesson preparation by teachers. The correlation is .32. One of the main objectives of training sessions is to help the teachers in lesson preparation.

A provisional conclusion that we are able to draw from the analysis of the data is that the improvement of the teachers' knowledge and skills does not produce any significant effect, unless the organizational structure of the school encourages the application of the know-how that has been gained. It is then very important to train and to motivate the school directors and the people responsible for school clusters.

Regarding the performance incentive grants which are given to those who meet the IIBE conditions, we can say that it is an excellent means of motivation. The distribution of these grants has created some tensions, however, because of the misunderstandings and frustrations regarding this concept. Nevertheless, these grants, in view of the low salaries of the teachers, are a necessary condition for motivation and progress. Finally, the fact that textbooks and school supplies are available to the students—that instructional materials are now in the schools—is an important factor in improving student performance in the IIBE schools.

Improved Student Achievement. We do have indications that the support—both pedagogical and material—provided to the schools does result in positive outcomes. The results obtained by the students on the tests administered in the fourth grade of IIBE schools during two years have indicated improvement in student achievement. From school years 1987/88 to 1988/89, the percentage of students that have successfully passed the standardized tests, prepared and administered by FONHEP technicians, increased from 43% to 47% for boys and from 55% to 60% for girls. Moreover, when we compare these results with those obtained by a control group of schools (with the same socio-economic characteristics as the IIBE schools), we have more evidence of the impact of IIBE. Indeed, only 28% of the students of these non-IIBE schools have succeeded in the same tests for school year 1988/89. Two years are too short a period to enable us to draw peremptory conclusions from the data presented above. However, these are encouraging indications which we hope will be confirmed in the future.

In addition to the good results in learning outcomes, positive outcomes have occurred at the level of institutional development.

"The results obtained by the students on the tests administered in the fourth grade of IIBE schools during two years have indicated improvement in student achievement."

IIBE and FONHEP have gained rapidly an important place and solid credibility in educational circles in Haiti. The magazines Chandel, Timon Lakey, and the Bulletin of the Federation of Protestant Schools are well received and widely read by educators. There is a great demand for IIBE publications, such as the guide for teachers and school directors, distance training materials, and instructional materials. IIBE has been able for the first time to obtain three million dollars from the Fourth World Bank Education Project, in order to give a small grant to 7,000 private teachers over a period of three years. Another two million dollars will be channeled through FONHEP from the World Bank for specific activities, such as surveys and training for the private education sector in 1991. A joint Education Project, involving FONHEP and three Canadians NGO's, financed by CIDA (Canadian International Development Agency), is now under study for implementation by 1991. FONHEP will be closely associated with the Fifth World Bank Project. What all this means is that IIBE serves as a kind of pilot project for private sector assistance and that it is the engine that is pulling the private sector in Haiti.

It is not without interest to mention that FONHEP is involved in many actions launched by the Ministry of Education, by UNESCO, UNICEF and UNDP in support of education in Haiti. One initiative is especially worth mentioning. It is the Socio-Economic Fund that is in the process of being established with the help of the World Bank and UNDP in order to help Haiti face the severe economic crisis it is going through. FONHEP is one of the five NGO's, along with three Governmental Ministries, that have been chosen to be members of the Board for this Fund. Twenty percent of this fund will be devoted to education.

CONCLUSIONS

By way of conclusion, I would like to say, on behalf of the Haitian Foundation for Private Education, which represents the Bishop Commission for Catholic Education, the Federation of Protestant Schools, and an important number of independent school directors, that we are grateful to USAID for the very appropriate support that the Agency has given to private education in Haiti through the IIBE Project. We are grateful not only for the material support, but also for the expertise of the devoted consultants, the institutional support of both IEES/FSU and USAID Port-au-Prince and, moreover, for the spirit in which the project has been implemented. This is not a spirit of assistance between a donor and a beneficiary, but rather it is a spirit of partnership between co-workers who are struggling together to eradicate ignorance in this part of the American continent. We are grateful also for the outstanding men and women of vision that we have had the privilege to work with during the conception and the implementation of IIBE.

It is our conviction that if things continue in the same spirit, this project will be a turning point in the history of cooperation between U.S. and Haiti. It has been a good choice to intervene in education. It is becoming more and more evident that men and women, with their cultural, moral, and intellectual

potential, are the real engine of development. It has been a good choice to intervene in private education, not only because is private education more flexible, more dynamic and potentially more efficient, but also because in the case of Haiti, the strengthening of the civil society is an important way to work towards the building of a democratic society in which the state will respond to the needs of the majority—not to the interest of the few. Moreover, it is our conviction that the IIBE Project can become a pilot project at the world level. It is an example of a project implemented in the spirit of the Education For All Conference, recently held in Thailand; a spirit whereby all cooperate together for education, public and private, bilateral and multilateral donors, industrialized and developing countries.

On the Haitian side, we are committed in this joint venture with conviction and great expectations. We hope that the level of commitment that we have experienced so far on our partner's side will continue. Indeed, to work together for education is not only a good thing to do, not only a moral duty, it is an intelligent way to work towards a prosperous and integrated American continent and towards a sustainable and peaceful world.

STRENGTHENING PRIVATE SECTOR EDUCATION: RESEARCH AND DEVELOPMENT IN HAITI

Incentives for Improving Basic Education (IIBE)

Karen Tietjen
IEES/FSU Coordinator for Haiti

This article reproduces a presentation delivered at the November 17, 1990, "Workshop on Private Sector Initiatives in Basic Education: LAC Activities and Ideas for the Future" and derives, in part, from "Privatization by Default", a paper presented at the CIES Conference in March 1990 by K. Tietjen and P. Easton.

IIBE is concerned with establishing policy options to improve the quality of private sector education in Haiti, be it through fund-raising schemes/tuition policies, testing programs, or government certification.

Until recently, the private education sector in Haiti had been largely ignored by external assistance agencies, and little empirical data on its composition, organization and structure was available to allow formulation of assistance policies. We are still uncertain as to the number of schools in the private sector.

"The Research and Development component of the IIBE Project aims at opening the "black box" of private sector education in Haiti in order to identify constraints to access of quality education and to develop solutions to these constraints. This has become particularly important within the last few years: the Government of Haiti will not have resources to expand public primary education and the interest of donors in working with the private sector has heightened."

The Research and Development component of the IIBE Project aims at opening the "black box" of private sector education in Haiti in order to identify constraints to access of quality education and to develop solutions to these constraints. This has become particularly important within the last few years: the Government of Haiti will not have resources to expand public primary education and the interest of donors in working with the private sector has heightened. AID was the pioneer in assisting private sector education in Haiti. It is joined now by the World Bank and other external assistance agencies interested in strengthening private education in Haiti.

This presentation describes the Research and Development component of the IIBE Project. It discusses what the process of research has revealed about the private education sector and some of the implications for the IIBE Project research component.

As the IIBE Project is the first national-level donor effort aimed at assisting the private education sector in Haiti, the entire program can be viewed as a research effort, making disaggregation of the three project components (School Support, Institutional Development, and Research and Development) somewhat difficult. The following, therefore, is a simplified description of the IIBE research program.

IIBE research is aimed at school quality improvements at the primary and pre-primary levels of the private education sector and at exploring school financing options. IIBE works with 259 schools and 60,000 primary school students in rural and disadvantaged schools—not a bad laboratory for research.

The purpose of the IIBE Research Component is three-fold:

1. To develop an overview/description of private sector education and to enhance understanding of what goes on in the classroom: who is taught, who teaches, what is taught, how it is taught, and who pays and how much.

2. To identify the most effective combination of education inputs; i.e., those elements that have the greatest impact on school quality and student achievement in order to develop an efficient support package for the schools.

3. To develop the most effective means of delivering support services, e.g., training programs, curricula development, and instructional materials.

Similarly, the research divides into three types:

1. **Baseline data collection.** Through quantitative and qualitative surveys, a database has been developed that places the school in a social context; identifies its characteristics, attributes and endowments; examines its financing needs and funding sources; and determines the financial demands made on parents. Data collection is conducted by a cadre of school monitors and enumerators trained and employed by IIBE. Data has been collected on financing through 3 individual surveys: 1) household finance, 2) school accounts, and 3) donors, e.g., churches.

2. **Analysis of school quality indicators.** Multivariate analysis is used to attempt to isolate the effects of educational inputs on teacher and student performance. Our sample group consists of 75 schools and 4,000 students.

"These inputs are based on the "menu methodology" through which schools choose those inputs which they feel they need the most."

These inputs are based on the "menu methodology" through which schools choose those inputs which they feel they need the most. Selection of the inputs and other variables and indicators—we have identified 200—are then compared with test results. As there were no standardized tests that could span the diverse curricula used in the private sector, the IIBE Project developed a battery of tests for students and teachers. This approach is used at both primary and pre-primary level.

3. **Applied Research and Development.** This research leads to the selection of the methods and materials used to carry out IIBE's school support activities. This is an often overlooked element of the research program. If these efforts are successful, the tangible products are quickly mainstreamed into IIBE schools and thus may not be appreciated as research results. IIBE has produced an extensive amount of school materials for teachers and school directors, some of which have been adopted by the Government's National Pedagogical Institute. Further, annual training programs (which reached 1,800 teachers in 1990) are designed, based on a "rolling" research plan. Batteries of tests and other data collection instruments have also been developed and used.

What are the results of IIBE research so far? We are currently conducting the preliminary analysis on the first three years of data. Rosny Desroches has mentioned some research results in his paper—strong links with school organizations, teacher training, and improved student performance. At this point, further discussion of results would be premature. Instead, I would like to discuss the process of research in the private sector and to focus on some of the implications of our research for the private education sector, as well as the impact of the private sector on our research. Perhaps this discussion can be understood as a cautionary tale as donors begin to interest themselves more in private sector education.

There are, in general, two basic assumptions underlying current interest in private sector education:

1) Private education, being responsive to market forces, is assumed to provide more cost-effective instruction; and

2) Private education will promote equity of distribution; that is, it is assumed that school access will be expanded in response to private demand and product differentiation.

Essentially, this is the neoclassical economics interpretation of education. The IIBE Project is more or less based on these assumptions, which posit a free market model in the allocation and selection of resources and consumer sovereignty. In Haiti, however, the private education sector does not resemble a free market which is predicated on freedom of choice and consumer information. The "imperfections" in the private education market in Haiti thus have implications for our research and for the theories on which it is based.

Although there is a strong demand for education among Haitian parents—because they believe it is the only ticket out of poverty—

effective demand is constrained by the parents' ability to pay for school fees and the other associated expenses. Most private primary schools in Haiti receive some sort of subsidy which defrays operating expenses and reduces tuition; nonetheless, there are many parents who still cannot afford to send their children to school. Many parents are forced to send their children to "schools" that are little more than baby-sitting services. This raises questions about school quality and about the parents' ability to choose schools that can provide education for their children.

The issue of what constitutes a "school" is a crucial one in Haiti. In attempting to select schools for participation in the project, we confronted this problem; many schools are not aimed at providing instruction, but rather at school feeding, youth programs, or day-care. Parental understanding of, and therefore the demand for quality education is low among Haitian parents. The school often serves as a symbol or a ritual for Haitian parents. They believe in education, but ignorance of what goes on in the classroom or what should result is widespread, and prevents parental quality control of the learning process. For example, parents persist in insisting on instruction in French for their children, although few teachers in rural areas have mastered the French language and even fewer children speak it. Classes taught in French often result in very little real instruction for students. Yet parents know that those with jobs or who have "succeeded" generally speak French. They do not understand that there is a good chance that their children will not attain literacy if poor instruction continues in what is, essentially, a foreign language.

The premise that parents will send children to the highest quality school which they can afford, therefore, may not hold in Haiti. The lack of understanding of, and hence, demand for quality education eliminates the essential concept of consumer choice and sovereignty in the marketplace. Parents do not have the resources to buy quality education nor are they able to demand it. This suggests that there is a need within the private education sector for some regulatory or "consumer protection" mechanism.

The free market model also underlies the "menu methodology" developed for IIBE school resource selection. This methodology is premised on the idea that the schools themselves know best what inputs they need in order to improve educational quality. This may not be true. We have found that school choice of inputs may be motivated by considerations other than quality, such as attempting to attract more students by acquiring prestige items which may have less than optimal instructional value. Of course, this tendency wreaks havoc on a research plan attempting to isolate impacts on school quality.

"Most private primary schools in Haiti receive some sort of subsidy which defrays operating expenses and reduces tuition; nonetheless, there are many parents who still cannot afford to send their children to school."

Another difficulty is that the IIBE research schools are so poor that research results may suffer from the "black hole" syndrome, i.e., the schools are starting from such a low base that even high levels of support may not result in quality improvement. Other methodological quandaries also occur: How should we measure quality improvements? Is student performance the only measure of improved school quality? If we measure student performance, what tests should be used?

Finally, research is necessarily characterized by the spirit of self-evaluation and introspection. IIBE research efforts have been challenged on this point at several levels within the project. Following the performance contracting procedure, teacher performance in IIBE schools is evaluated prior to paying a bonus. Occasionally, teachers whose performance is sub-standard have objected to performance evaluation procedures. Given the shockingly low salaries of most primary school teachers in the private sector, the loss of the bonus payment represents a considerable reduction in income. Thus, given the environment, the performance bonus payment scheme may not be the best means of assisting school quality research. Another problem is that the collection of data on school and teacher performance by school monitors may be compromised by their personal political considerations. There are inherent contradictions in the roles of school monitors — as data gatherers/ evaluators/trainers — which impedes evaluation. Finally, busy project staff charged with school support activities sometimes views the research and evaluation tasks as peripheral to project activities. Instilling the spirit of research — introspection and analysis of what the project is doing — should be considered an essential task in institutional development.

This candid discussion of the challenges of IIBE private education sector research is not intended to discourage, but rather to inform donors and education specialists that private sector education in Haiti may not conform to conventional assumptions and theories. Indeed, the real achievements of the IIBE Project research program to date have been:

1) The increased knowledge of private sector education in Haiti which can inform both theory and intervention development.

2) The participation of all stakeholders - teachers, parents, and project staff - which has been key to implanting a successful and productive research program.

IEES/FSU has been fortunate indeed to work so closely with dedicated local institutions and individuals which provide access and insight into the rural educational environment in Haiti.

A FRAMEWORK FOR TRACKING AND ANALYZING TRENDS RELATED TO EDUCATIONAL EFFICIENCY

The IEES monograph Indicators of Educational Effectiveness and Efficiency (1988) has provided direction and impetus for a number of activities designed to track educational performance. The following is an excerpt from a recent IEES report on the development of such a system. This task has been undertaken by an IEES team consisting of Joy DuPlessis, Peter Easton, Dwight Holmes, and Howard Williams.

IEES has undertaken the development of a framework for tracking and analyzing trends related to educational efficiency. The overall purpose of this activity is to develop a system for monitoring educational efficiency and related social and economic trends in countries working in partnership with IEES to improve educational efficiency—initial work will focus on Nepal, Indonesia, and Botswana. The initial scope of work identified this activity as "primarily... an internal evaluation exercise" to be performed essentially for project management. However, it was quickly seen that the model and the results should be shared with host country counterparts in hopes of supporting and encouraging development of their educational management information systems in the directions suggested by the IEES monograph, *Indicators of Educational Effectiveness and Efficiency*. Moreover, given the general institutional development orientation of IEES, the activity is being designed in a way that supports host country capacity building. The principal concern of the model is to determine within-country trends over the ten-year period corresponding to the life of the IEES Project (1984-1994), rather than to perform cross-country comparisons.

"The data assembled will serve to demonstrate the importance of the areas in which IEES is working and the appropriateness of its methods to the main problems of country educational systems."

These trends will include events or changes that may be partly attributable to IEES activities, though no explicit effort to investigate or demonstrate causality is proposed. The data assembled will serve to demonstrate the importance of the areas in which IEES is working and the appropriateness of its methods to the main problems of country educational systems.

Given the emphasis on within-country analysis of trends, it will not be necessary either to use the same set of indicators for each country or to guarantee that similar indicators used in more than one country have the same meaning in each case.

The set of indicators may change from country to country on two grounds; (1) for validity reasons, which would dictate the choice of measures most directly related to the particular purposes and goals of each country's educational system; and/or (2) for reliability and feasibility reasons, concerning data quality and availability.

The research team has developed a common framework for the various country indicator sets. The nature of this framework is discussed below. IEES intends to develop a roughly similar set from country to country to facilitate discussion with and among country representatives and EMIS specialists concerned with this effort.

A Framework for Tracking and Analyzing Trends

What is meant by the notion of a framework for tracking and analyzing trends related to educational efficiency? Seven essential elements of the framework are proposed for discussion:

1. Conceptual definitions for principal terms and concepts that will be used, such as "indicator", "efficiency", and "quality";
2. Articulation of the underlying model relating the indicators to each other;
3. Choice of indicators: Criteria and methods;
4. Data collection: Procedures and instruments;
5. Data analysis: Procedures and methods;
6. Other technical and methodological issues;
7. Other organizational and institutional issues.

The remainder of this overview is devoted to discussion of these topics.

Conceptual Definitions
A long definitional discussion will not be pursued here, but some groundwork needs to be laid. This domain is to be considered an "open file"—that is, it will be reexamined periodically either to refine understanding of the concepts being used or to add to or otherwise modify the list. Three foundational concepts are examined here: "indicator", "educational efficiency", and "educational quality".

Indicator. An increasing amount of literature about indicators for educational systems has appeared recently, provoked by concern with educational accountability in this country and by the OECD Indicators Project in the rest of the industrialized world, and by attempts of assistance agencies to improve educational management and to soften the blow of diminished educational resources in many countries.

There is no uniform definition of the notion of an "indicator", however. Chapman (1990) terms them "proxies used to represent the underlying reality of a system or program" and notes that they are necessarily an oversimplification of this reality. Cobbe (1989) makes a distinction in an IEES monograph between raw data, statistics, and indicators; noting that the latter "should permit immediate—or nearly immediate—inferences about the performance of the [educational] system from the point of view of the objectives of the system."

Oakes (1986) defines an educational indicator as "a statistic about the educational system that reveals something about its performance or health"; and Smith (1988) further suggests that it "either assesses or is related to a desired outcome of the education system or describes a core feature of that system." Odden (1990) points out that an "indicator system" is considerably more than a single indicator or statistic. It should "provide measures of various components of the educational system, as well as information about how those components work together to produce the condition of the system and changes in the condition of the system over time."

Most researchers identify indicators with composite indices of the operations of the educational system which are designed to reveal some critical aspect of its operation. Johnstone (1984) goes so far as to restrict the term to rather complex compounds of data providing a highly synthetic picture of the system.

Such an approach seems unnecessarily restrictive. The essential notion is simply that of particularly meaningful data which point to and describe a significant characteristic of the educational system. In some cases, a single type of data may do this. Nuttall (1990) calls these "primary indicators". In other cases, more processed composites of raw data or statistic may be used ("secondary indicators" in Nuttall's terms). Note also, as Bottani (1990) says, that "indicators do not explain, they only point."

Educational Efficiency. This activity adopts the definitions and uses in the IEES monograph (Windham, 1988), with one major proviso. Injunctions to maximize the ratio of educational outputs or outcomes to educational inputs tend to glaze over three fundamental issues:

> ***" The essential notion is simply that of particularly meaningful data which point to and describe a significant characteristic of the educational system."***

First, technically speaking, the concept of efficiency is only meaningful if you correctly specify (and measure) the outputs or outcomes in question. Desired educational outputs/outcomes are not simple, and they may vary significantly from one country or region to another. They may involve affective as well as cognitive results, group as well as individual effects, and distributional as well as summational considerations. Policy makers may in reality try to maximize an entire vector or set of outcomes, including (conceivably) the desideratum that the relative position of one group improve relative to that of another. This issue is typically circumvented by imposing at the outset a conventional series of objectives and desired outcomes—generally those in vogue with major assistance agencies.

Second, efficiency is a ratio, not an absolute magnitude. Applying the perfect competition and general equilibrium postulates of neoclassical economics, it is generally assumed that efficient methods that are applicable at one resource level are generalizable across all other ones as well. This may not be true; and, if not, reliance on this assumption may be misleading for assessing educational efficiency. Also, and for related reasons, as Cobbe (1989) points out, an efficiency criterion can be substantively ambiguous, particularly if a short-term view is adopted. For example, cutting inputs by one-half might "mathematically" improve efficiency in short-run perspective, yet have ruinous longer-term effects.

Third, educational systems need to be efficient both in generating and in expending resources, and these two objectives are not always perfectly compatible. A system which produces less outputs per unit of input, but manages to generate or elicit more nput—e.g., community or private financing—may be better adapted to accomplishing national objectives than a more "efficient" one.

Educational Quality. Fuller (1988) chronicles four different phases in the definition of educational "quality"—from an initial stress on the mix of material outputs, through a period of increased emphasis on the importance of individual abilities and perceptions, to a phase of growing awareness of the non-school-related and political objectives that "educational quality" campaigns may fulfill. Cobbe (1988) identifies educational quality with the "value added" by the system, though this makes it nearly synonymous with the efficiency concepts discussed above.

Easton's paper on the efficiency and quality of vocational/technical education in Indonesia (Easton, 1989) notes two main tendencies in efforts to operationalize the notion of educational quality:
"On the one hand, quality is defined as embodiment or approximation of characteristics that are socially accepted as proof of excellence. Thus, if all teachers in an academic secondary school have Master's degrees, the group will be considered a high quality staff. On the other hand, quality is defined as proven ability to produce results—in short, the argument that 'a tree is known by its fruits.'"

Moreover, "educational quality" in the former sense is very often invoked in evaluations and policy studies for two reasons worth noting.First, as a substitute or proxy for efficiency measures, because genuine output data are so frequently unavailable; and second, because this open-ended concept is felt to capture more of the multiple and sometimes unquantifiable dimensions of educational outcomes than stricter input-output measures.

Articulation of the Underlying Model

The second element in the conceptual framework for a system of educational trend indicators concerns articulation of the underlying model. Two points are made repeatedly in current literature on educational indicators: first, that indicators "do not explain, they simply point", and second—partly as a consequence—that one needs to take some care to think out the underlying model of educational process on which the indicators are based, and which will serve as a basis for interpreting them. The model need not be very complex. The Rand Corporation scheme presented in Odden (1990) includes only three types of inputs, four types of processes and three categories of outputs. But most authors maintain that some such model is implicit in any set of indicators anyway, and that it is best to get the subject out in the open and examine it.

It is therefore worthwhile giving some thought to the model of educational processes that this project will be using. Most IEES studies and documents employ some form of a "CIPP" framework (in fact "CIPOO" insofar as the "product" is differentiated into "output" and "outcome"). This is not really a model in the sense meant above, but simply a set of categories (based albeit on a sort of manufacturing analogy) for thinking about educational processes. The question remains, "What kinds of 'inputs', 'processes', and so forth will be put in the model?" The stages by which we arrive at an underlying model are proposed in greater detail below.

Choosing Indicators: Criteria and Methods

The next step is choosing the indicators to be tracked for each country. That choice will be made by both conceptual and practical criteria. Before discussing the criteria, however, there is a prior question concerning the "population" of possible indicators from which the choice will be made. In order to avoid overly or artificially constraining that initial set (and therefore all the choices made from it), an inventory of a large number of potential indicators will be made, cross-classifying them by conceptual category or cluster. The choice criteria can then be applied to this stratified grouping.

Chapman (1990) suggests that "the appropriateness of particular indicators is judged in terms of their fidelity with the underlying reality they represent, the extent to which the indicators are relevant and understandable by the data users, and the extent to which data on these indicators can be collected and analyzed in a cost-effective manner."

"The second element in the conceptual framework for a system of educational trend indicators concerns articulation of the underlying model."

Conceptual Criteria. These essentially involve considerations similar to the ones governing the articulation of the underlying model. Since only a relatively few indicators will be systematically monitored, one wants to be sure that they relate to "key" aspects of the educational system. What does "key" mean, however, and who decides which indicators meet this criterion?

Considering the first questions first—the word "key" essentially means that the aspects of the educational system in question are judged (by appropriate parties and in an appropriate manner) to be particularly expressive of its current state or level of quality or particularly critical to its performance in achieving (their) priority objectives. Two technical issues are at stake here: one concerns validity, and the other has to do with causality.

The validity question involves the degree to which particular indicators chosen validly represent the underlying characteristic of the educational system that one wishes to measure; an argument that can be made/tested on either conceptual (construct validity) or empirical (concurrent validity) grounds. The causality issue concerns the degree to which these underlying characteristics are in fact related in some cause-and-effect manner to achievement of the given system performance objectives.

On both grounds, use can be made of the literature reviewed by Fuller and others that seeks to identify key factors in improving educational quality in LDC schools. Obviously research in the countries in question has the greatest face validity, but is frequently hard to come by.

Who Decides?

The second questions asked is "Who decides?" Whose judgment about the most "expressive" aspects of the system is used? Whose objectives are used as a reference point? To what degree and in what manner is host country counterpart judgment elicited or referenced here? And if so, which parties in the host country will play this role?

To the degree that host country views are elicited/consulted, it is evident that the potential for variation in the indicators from one country to another could significantly increase, even though there are certainly international paradigms of educational development that exert major conceptual influence n early everywhere.

Moreover, there is also potential here for variation over time. The notion of a key or critical aspect of an educational system has a time-bound quality and is strategy-related—aspects that are thought to be critical at one point in time may not be at another period.

Practical Criteria. These are essentially of two kinds: (1) data availability considerations, and (2) data quality considerations. Data availability considerations are relatively straightforward, but it is useful to examine them carefully. A hierarchy from more to less available provides gradations like the following:

- easily-accessed international publications
- more remote international publications
- national publications which are easily accessed in-country

- national publications requiring specially authorized access in-country
- international data bases requiring special search or access
- national data bases requiring special search or access in-country
- in-country dispersed or raw data form requiring considerable collection or collation effort

Note that the time period must also be specified in determining availability. Data for a given indicator may be fairly accessible for the 1988-1990 time period, for example, but much more difficult to obtain for the 1984-1987 period.

Data quality is a problem of major dimensions that is nonetheless avoided in most discussions of educational indicators or management information systems in LDCs. This issue is also absolutely central to the development of any tracking system. Chapman (1990) is one of the few writings to treat the topic straight-on.

The underlying question concerns the margin of error in data.The basic principle is that all information contains elements of error and any responsible presentation of data should include an estimate of this margin or at least a discussion of the sources of error. The sources of error are threefold, and can compound each other: reliability, validity, and sampling (representativity). Validity errors have already been discussed. A few remarks on the other two follow:

Reliability. Missing information, fanciful estimates, miscopying, falsifications, misunderstanding of instruments, and a legion of other miscues increase the margin of error in the data (or, technically speaking, increase the variation that there would be in the results of successive efforts to determine the same information by separate means). It is important to get some handle on this issue.

In a certain sense, the problem may be compounded by the use of composite indicators (e.g., if the estimate of enrollments has a margin of error of +/- 10% and the information on numbers of classrooms has a +/- 20% confidence interval, the range for the pupil/classroom ratio computed from this data could vary by as much as +/- 29% around the true value).

Representativity or sampling error. What population do the data represent with reasonable accuracy? Often data presented as national in scope have been collected only on a distinctly non-random subset of locations or units, perhaps because of poor response rates. This situation does not necessarily invalidate the information in and of itself. Decent data on a particular subset (which is usually representative of something, even if not of the whole country) is immensely better than no data, and may be very informative, provided that one takes account of these limitations.

"The notion of a key or critical aspect of an educational system has a time-bound quality and is strategy-related—aspects that are thought to be critical at one point in time may not be at another period."

At first glance, it seem impossible to get information on—and take account of—these sources and margins of error. Given that the whole topic has potential for undermining the credibility of any information system, one could then understand the inclination to scrupulously ignore it. At the same time, there is no wish to throw the baby out with the bath water. One must remember that "the best is an enemy of the good." The main point is to start taking some account of source and margins of error, to be ready to exclude the data that seems most suspect in this regard, and to begin pushing for inclusion of margin of error information along with any data collection or analysis activity.

Collecting Data:
Procedures and Instruments

Some of the initial procedures have been suggested above:

1. Perform a first census of potential indicators.
2. Articulate a first version of the underlying model of educational processes.
3. Make a first selection of the indicators implied by that model, and group them by category and cluster, with cross-references where appropriate.

The next step involves developing a matrix with these indicators on the y-axis, the countries on the x-axis, and information on the availability and (to the degree possible) quality of the data in the cells. This information will be obtained through both publications and accessible data bases. Determinations will be made for each country—with the assistance of the IEES Resident Technical Advisor (RTA)—of data availability and quality at the local level.

On this basis, a preliminary selection of indicators for each country will be made and discussed with host country counterparts by the RTA in order to solicit their comments, suggested amendments, etc. Once the choice is verified in this way, data collection can proceed.

Procedures for Analyzing Data

Odden (1990) points out that "the missing ingredient in most education indicator systems is analysis of the data that are included in them." Hopefully, the prior design of a simple conceptual model for the indicator system will facilitate the task of analysis. The fact is that indicators "only point". How then should they be interpreted? Two resources seem critical:

Qualitative and process studies. Fuller has pointed out numerous times in his writings on school quality in LDCs that the "black box" approach to analysis of educational activities just won't do anymore. One of the principal resources in interpreting and "triangulating upon" the data in the indicator set would be any available studies of school processes in a spectrum of typical situations. Here the work will count heavily on the IEES research activity in the concerned countries—and internationally—to encourage and support this kind of research.

The spectrum of participant insight. Much of the qualitative perspective that can help in interpreting the indicator data is in fact contained in the experience of the various groups

of people concerned with information management in the country in question—from members of IEES teams, through host country planners, to educational administrators and school personnel. It seems important, therefore, to develop as part and parcel of the efficiency indicators project, a strategy and proposed methodology for consulting at least a sample of these people and involving them in the interpretation of data.

Analytic Ambitions. How much can IEES expect to get out of the indicator data and where can IEES anticipate going with it? Simple summary descriptions of educational systems and their change over time is obviously one primary objective (though that task looks a little less "simple" and self-evident when one realizes that only selected dimensions of the system will be studied, and that they will likely be taken as representative of much larger topics). This data can provide a context for thinking about the appropriateness of the IEES model and the set of IEES activities in each country. Beyond this, it may be well to allow directions for analysis to be influenced to a considerable degree by the two supplemental sources of qualitative insight mentioned above.

Other Technical and Methodological Issues

There are, of course, particular technical principles to respect in developing an indicator set in each country. The question of examining the interrelation of indicators via a simple model and "clustering" them to facilitate cross-referencing and triangulation has already been mentioned. Practical considerations make this approach even more important. There are certain to be a number of holes in the dataset actually obtained over time for each country. If indicators are clustered in a defensible way around a number of major themes or model elements, it will be easier to compensate for these gaps without losing the main thrust of the analysis. Put in another way, it is prudent to "vary the portfolio."

Likewise, the indicator set should also constitute an expandable system. Over time it may be added to, which should be possible if the scheme already adopted clearly demonstrates conceptual interrelationships and places in which new indicators might fit. The twenty or thirty indicators adopted per country might include a certain number that are common across countries and another number that are particular to the country in question. The activity will start from the indicator list in the IEES monograph. This preliminary list does not include any "context" indicators, however, and this topic will need further examination.

As suggested above, it is not essential that all indicators be national and system-wide, as long as one takes good account of the actual population referenced. In fact, there are often better information systems within individual projects than for the country as a whole; and those projects may function as a testing ground for development of better indicators or EMIS's to be later generalized. Cobbe also points out that a useful tool for education ministries is to carry out, on a regular basis and in a sample of locations, studies of school processes that are more detailed—and perhaps more valid and reliable as well—than the standard set of monitoring data obtained nationwide. This general issue should be explored and used to best advantage in our indicator system.

"There is obviously a great deal of overlap between this activity and EMIS work in each of the collaborating countries, particularly in the five-year perspective."

As Cresswell has emphasized, information collection systems say precious little about how information is actually used—a topic very muchworth investigating. It lies outside the scope of this particular research effort, but IEES will pursue this through other research projects.

Other Organizational and Institutional Issues

There is obviously a great deal of overlap between this activity and EMIS work in each of the collaborating countries, particularly in the five-year perspective. Methods for cross-fertilization in years 2 through 5 should be carefully examined. The organizational issue now is how to structure decisions about model specification, indicator choice, and subsequent feedback and interpretation of data.

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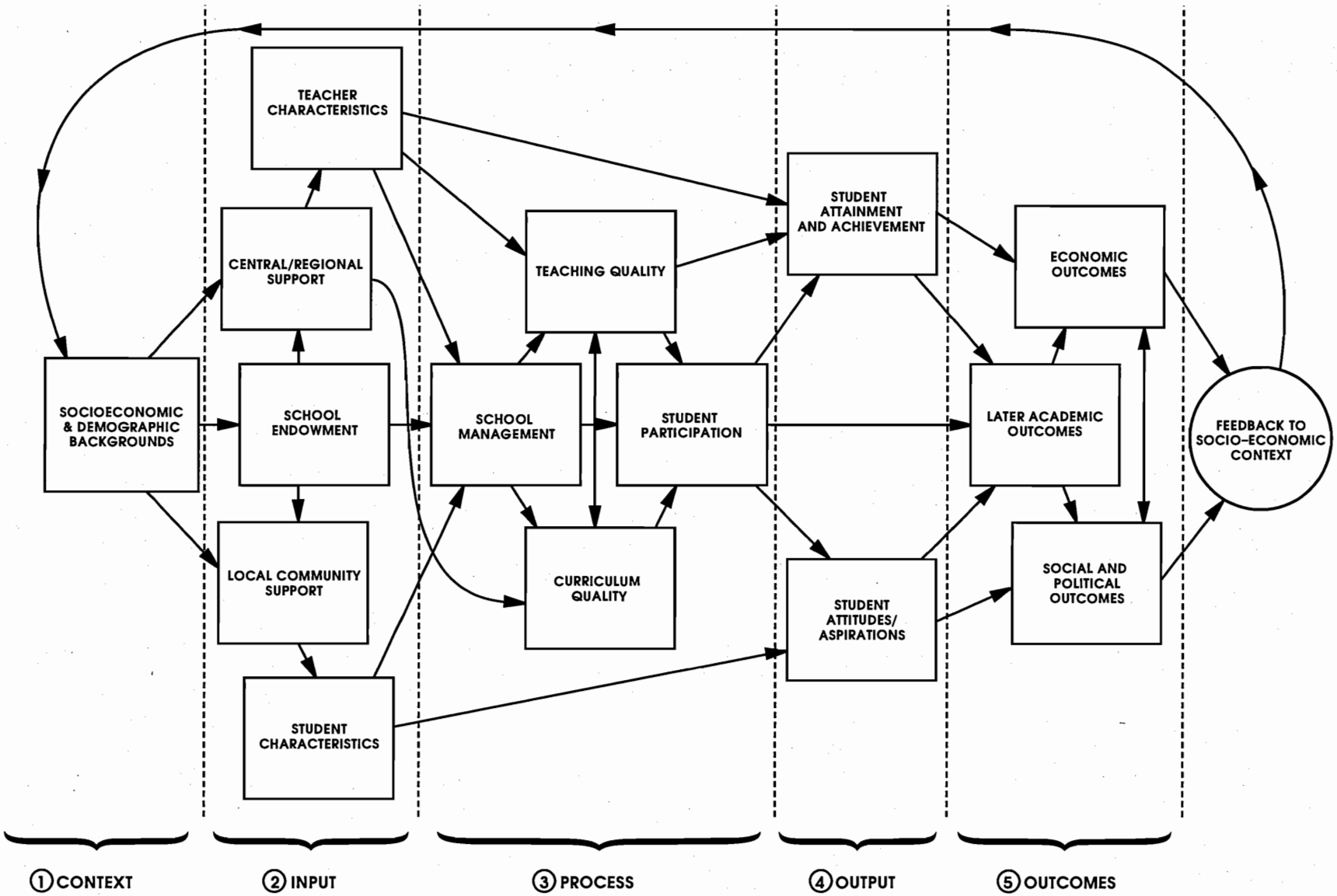
A Framework for Tracking and Analyzing Trends Related to Educational Efficiency



ASSISTANCE TO BASIC EDUCATION IN MALAWI

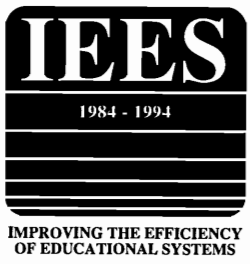
IEES Consultant Jim Cobbe (Economics, FSU) assisted in the preparation of a PAIP (Program Assistance Initial Proposal) for a basic education program in Malawi, January—February, 1991. The proposal focuses on primary education (the first eight years of education, officially for children aged 6 to 13 in Malawi), with a particular emphasis on increasing the persistence of girls in primary school.

"Education in Malawi is relatively underdeveloped, and displays one of the most rapidly tapering educational pyramids in anglophone Africa."

Malawi is one of the poorest countries in sub-Saharan Africa, despite rapid economic growth from independence until the end of the '70s. It has been badly affected during the '80s by adverse terms of trade, drought and other natural calamities, disruptions to its transport routes to seaports caused by the security situation in neighboring Mozambique, and a huge influx of refugees from Mozambique (on the basis of refugees per 1000 indigenous population, Malawi shelters the largest concentration of refugees of any country in the world — the number of refugees probably exceeds 10 percent of Malawi's own population).

Education in Malawi is relatively underdeveloped, and displays one of the most rapidly tapering educational pyramids in anglophone Africa. In 1986/87, for each student at the University of Malawi, there were 12 pupils in secondary school and 470 in primary school; in the same year, for each final–year bachelor's degree candidate at the University of Malawi (there were 251 in all), there were 30 pupils in secondary form 2, 249 in primary standard 7, and an amazing 1,060 in primary standard 1. Girls are less likely to enroll in school than boys in Malawi, and they drop out of school at a more rapid rate than boys. Census data (from 1987) show that late entry is a serious and pervasive problem. In 1987, fewer than 20% of five to nine–year–olds had as yet ever attended school, with essentially no difference between boys' and girls' attendance rates at these ages. For boys, this percentage (that had ever attended school) increased to about 57% at ages 10 to 14, and over 70% at ages 15 through 29 — with essentially no difference between the percentage for 15 to 19–year–olds as opposed to 25 to 29–year–olds, suggesting not much change in school attendance patterns for boys since the 1970s. For girls, the pattern is different, the percentage ever having attended school rising to 54% at ages 10 to 14 and 15 to 19, but falling to 49% at ages 20 to 24 and 42% at ages 25 to 29. This suggests that the proportion of girls who do attend school has been rising, although there is a clear gap between boys and girls.

An analysis of age–specific enrollment rates for 1988/89, combined with available information on dropout behavior, suggests that the gap will continue to narrow. If the enrollment patterns of 1988/89 were to stay unchanged, eventually about 80% of boys, and 70% of girls, who were six–years–old in 1988/89, would attend some school. However, the majority would not stay in school long enough to attain permanent literacy and numeracy — and dropout rates for girls are higher than for boys. On the basis of these and other analyses, the PAIP team leaned toward the view that access to primary education in Malawi is less of a problem than retention or persistence is, and that an appropriate strategy for USAID would be to concentrate on improving quality in the lower primary standards (which typically are very overcrowded and receive few resources per pupil) and reducing private costs of attendance for girls in those standards. The hope is that the combination of reduced private costs and higher quality will reduce repetition and dropout, maybe encourage earlier starts in school, thereby raise the proportion of girls (and also incidentally boys) who complete enough primary school to attain permanent numeracy and literacy (roughly estimated in Malawi to be standard 5).



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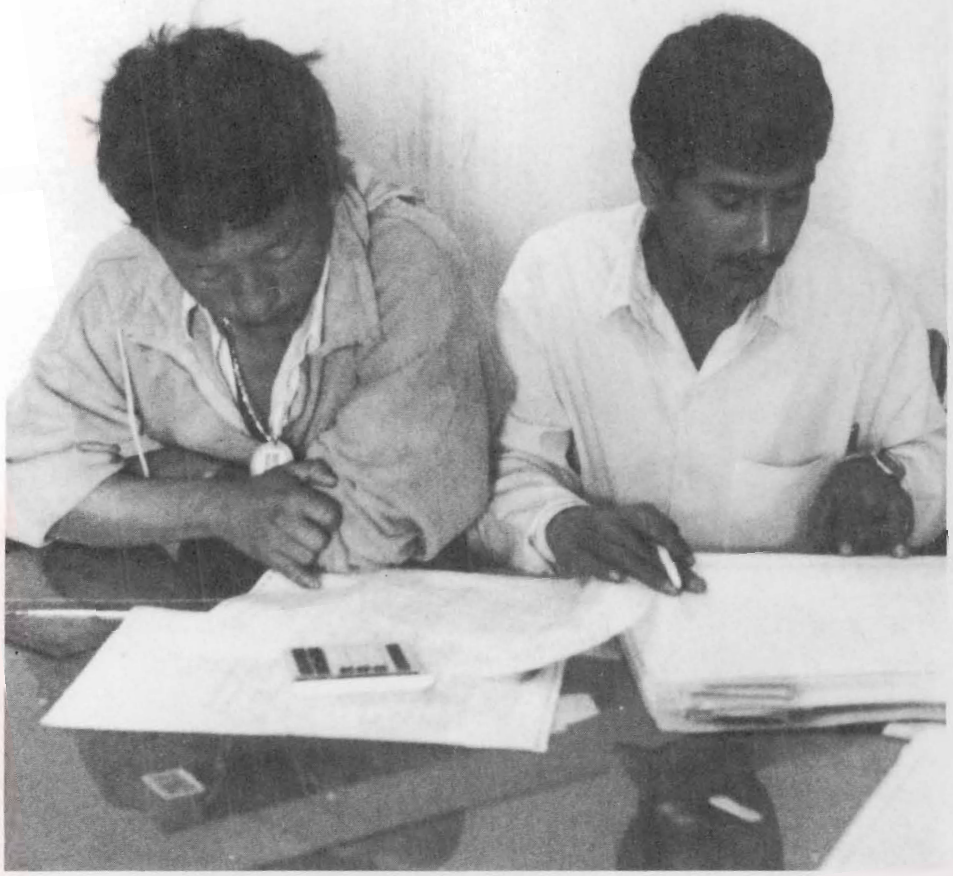

On The Ground: Implementation of Educational Change Initiatives

IEES
1984 - 1994

A USAID Project

I•E•E•S
BULLETIN
Improving the Efficiency of Educational Systems

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Improving the Efficiency of Educational Systems (IEES) is an initiative funded in 1984 by the United States Agency for International Development (AID). The principal goals of the IEES Project are to help developing countries improve the performance of their education systems and strengthen their capabilities for educational planning, management, and research.

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ON THE GROUND:
IEES Experiences in the Implementation of Educational Change Initiatives

This issue of the *IEES Bulletin* focuses on IEES experience in the implementation of educational change initiatives.

IEES works with educators in developing nations to focus both on macro-level issues of educational policy and planning and on micro-level issues of school efficiency, such as student outcomes, local educational financing, and the quality of the teaching-learning process. This integrated view of educational efficiency is essential to the accomplishment of efficiency goals and is a distillation of the lessons learned by AID in partnership with educators in many nations over the last quarter century.

This experience has demonstrated that educational planning efforts without concrete field applications rapidly become ineffective. At the same time, field implementation work may be impeded and frustrated by structural inefficiencies that require attention to broader policy implications, and which national educators can alleviate only by carefully conceived initiatives in the realm of planning. These two dimensions of IEES assistance—educational planning at the macro-level and educational change initiatives at the micro-level—are thus highly interdependent and equally critical.

> ***"IEES works with national educators to focus both on macro-level issues of educational policy and planning and on micro-level issues of school efficiency..."***

The interdependence of these two dimensions also indicates the importance of the respective roles played by national educators, IEES, and USAID Missions in implementation. IEES provides experienced staff and support infrastructure for intensifying AID contributions to educational efficiency in countries which invite such assistance. IEES can also provide seed monies for related short-term programs and resources for research. Missions may provide additional support for the macro-level agenda of targeted policy study and planning, as well as funding for major field efforts.

Bilateral initiatives are large-scale, multi-year activities that are planned with host countries, funded by Missions, and undertaken by IEES. IEES accepts responsibility for the implementation of selected activities in countries where the proposed initiative is congruent with the fundamental IEES goals. Such work represents an integral extension of basic IEES methodology. They also constitute a natural complement to macro-level policy and planning efforts, since the focus of bilateral initiatives is likely to be closer to the level of the teaching-learning process.

IEES experience has demonstrated the conceptual and technical value of efforts such as the Junior Secondary Education Improvement Project (JSEIP) in Botswana, Improving Incentives for Basic Education (IIBE) in Haiti, and Educational Policy and Planning (EPP) in Indonesia. In particular, these projects have afforded an opportunity to:

- *create impacts that reach far beyond Ministry offices* and extend to the micro-level, through work with both public and private sector schools;
- *examine the implications of educational efficiency concepts* at the local level in realistic developing country settings through program

implementation and sustained data collection efforts; and

- *develop practical long-term solutions to local educational problems* in collaboration with host country educators, thus maximizing appropriateness of strategy.

Essential consistency of goals between such educational change initiatives and the IEES agenda is the key criterion for choosing such field involvements. Coordinated implementation of IEES and implementation activities in a country brings an integrated strategy to bear on educational goals and thereby multiplies the overall impact on the efficiency of the educational system. Bilateral initiatives are therefore treated as an integral part of the strategy of activities in countries which invite IEES to work with them to improve educational efficiency. Careful monitoring ensures that implementations consistent with country objectives and IEES design.

IEES has demonstrated critical capacity for working with countries and USAID Missions to manage bilateral projects. Each of the initiatives undertaken indicated strengths that IEES has acquired in effective management of such large-scale and long-term undertakings:

- *in Haiti*: the ability to conceive and implement an innovative program in a high-risk political environment;
- *in Botswana*: the ability to diagnose and adapt to the managerial and environmental pitfalls of a large multi-faceted project; and
- *in Indonesia*: the ability to coordinate centrally-funded activities and the bilateral project in an integrated approach to educational policy development.

Lessons Learned

A number of lessons learned from IEES implementation of educational change initiatives over the last five years can be systematically applied to future implementation.

"Each of the initiatives undertaken indicated strengths that IEES has acquired in effective management of such large-scale and long-term undertakings"

IEES experience has demonstrated the importance and feasibility of using host country staff in leadership and technical roles for tasks of implementation, evaluation, and policy analysis. This is consistent with the IEES objective of ensuring long-term impact on educational policy. Institutionalization and capacity-building depend on developing a national cadre of personnel both for the project support and for policy-making. Experience has shown that employment of national technicians is very cost-effective. Beyond their considerable technical competence, these staff bring insights and understanding of issues, provide access to strategic institutions, and enhance the ability to interpret project data and adapt methods to host country environments. Experience in implementing bilateral efforts has yielded a variety of formulas for identifying and employing national professional staff. To ensure maximum synergy between field implementations and central policy concerns, IEES maintains close working relationships with both country decisionmakers and Mission staff.

Experience has demonstrated the importance of understanding and sharing the objectives of national institutions and Mission personnel. By establishing this supportive role, IEES works with Mission personnel to integrate IEES objectives within the change initiatives and to assist in the development of Mission educational strategy. In working with the Ministry or local organizations, IEES has the greatest impact where it is able to demonstrate the congruence of its tenets with fundamental host country programmatic concerns.

IEES participation in the design of the educational change initiative is important in order to promote the close conceptual and technical coordination of the field activity with country objectives and basic IEES tenets. Each effort defines goals for educational change which are particular to each nation, and these are closely coordination with the overarching and inclusive IEES principles of efficient resource allocation. Such efforts provide varied operationalizations in each country of the basic project

concerns with educational efficiency. Conceptual congruence and mutual reinforcement between central IEES planning activities and field initiatives can be further strengthened by the role of IEES staff in designing and implementing plans for formative and summative evaluation. Such a structural policy linkage between the two can help to overcome the centrifugal effect of large field implementations, which naturally tend to concentrate their energies on the daily demands of implementation and the particular characteristics of their environment.

Central IEES staff thus have a critical analytic and conceptual function to perform. They can be responsible for stimulating and assisting field personnel to step back from daily management concerns on a regular basis, to reflect on the accumulated data, to compare their findings with those reported elsewhere, and to identify the "lessons learned" in the field by these efforts to operationalize the efficiency objectives of IEES at the micro-level.

IEES experience has demonstrated the critical nature of the personnel selection process for ensuring successful implementation of educational change initiatives and their conceptual congruence with central IEES methodology. The position of Chief of Party (COP) is the most critical in this respect. The COP, national counterparts, and IEES personnel, together with oversight staff from the USAID Mission, for a management team responsible for planning, implementation, and evaluation.

The incorporation of focused policy studies into implementation design provides another means for examining the larger implications of activities and for reinforcing the linkage between the central IEES planning agenda and particular field involvements. The technique has been used with success in Indonesia, where provisions in the design of Educational Policy and Planning (EPP) have led to the conduct of series of studies on concrete manifestations of educational efficiency (such as the costs and benefits of vocational/technical education) which both enrich local understanding of the efficiency implications of the bilateral project and furnish lessons and insight of broader international interest that IEES can then disseminate. In Haiti, teacher "performance incentive grants" have been tested as a means to increase teacher motivation and stability in resource-poor private primary schools. A policy study based on this ongoing project experience could provide formalized means of reflection on the wider implications of a project activity, often not adequately addressed by the formative evaluation process, and would reinforce the conceptual linkage between the Haiti Improving Incentives for Basic Education (IIBE) Project and overall IEES strategy.

"They can be responsible for stimulating and assisting field personnel to step back from daily management concerns on a regular basis, to reflect on the accumulated data..."

Finally, experience also indicates how critical careful program budgeting and analytic accounting are to fiscal control of bilateral efforts and to policy judgments concerning the relative cost-effectiveness of the methods being experimented in the field. IEES has developed, in connection with JSEIP, IIBE, and EPP Projects, methods for program budgeting and cost-accounting of field activities.

IEES efforts at fiscal control of implementation begin at the design stage, where accurate estimates of the costs of recommended inputs are made. A life-of-project estimate of expenditures is required over all categories and these projections are monitored closely on a monthly basis. Self-contained and analytic accounting systems provide the basis for cost-effectiveness judgments for planning and evaluations.

Experience with such planning and implementation acquired over the first five years of IEES makes it uniquely qualified to ensure productive integration between change initiatives and educational efficiency concerns.

ON THE GROUND:

Improving Incentives for Basic Education (IIBE) in Haiti

What was the original purpose of IIBE?

IIBE in Haiti was planned with a two-fold purpose: to identify by means of research those educational inputs which provide the most effective support for the large number of disadvantaged and impoverished private schools in Haiti; and to develop the means of organizing the vast and fragmented private educational sector.

IIBE strategy, aimed at the improvement of private sector primary education, has involved direct school support through the provision of materials and training, as part of the more general task of identifying the most effective combination of inputs to improve school performance. IIBE has also worked to develop local institutions capable of organizing and serving the private education sector which comprises over 65% of primary school enrollment in Haiti.

Institution-building efforts have included introduction of an Educational Management Information System (EMIS) which provides simple, but essential, means of managing school budgets and maintaining a school supply ordering system, as well as building school profile data and monitoring the overall system.

> ***"The creation of three new organizations (one Catholic, one Protestant, and the third a broad, secular foundation) representing the interest of the neglected private sector in Haiti is seen as a major accomplishment..."***

How has IIBE changed since implementation and why?

The IIBE institutional development component has proceeded at a much faster rate than originally anticipated, resulting in the redefining of both the project's focus and some its activities. The creation of three new organizations (one Catholic, one Protestant, and the third a broad, secular foundation) representing the interest of the neglected private sector in Haiti is seen as a major accomplishment, with potentially profound impact on Haitian education. Clearly, there was a need in Haiti for a structure to serve as both a voice and a forum for the diverse, poorly-funded schools and school systems which did not fall under government jurisdiction. The IIBE support provided to the private sector has leveraged additional investment from USAID and the World Bank along with, more importantly, significant commitment from many involved persons and organizations. This strong and positive response from the private sector has led the project to assume more ambitious activities to support development of private sector education.

What are perceived as the most successful aspects of IIBE? What has contributed to this?

Clearly, at this stage, the most successful aspect of IIBE in Haiti has been the development of an institutional private sector in education and its collective organizational capacity. In additional to this, there have also been notable achievements in the effort to improve school quality, such as developing effective teacher training workshops, designing student achievement tests in French, Creole and mathematics, creating parent-teacher committees in the schools, and assisting in the dissemination of school curricula.

The cornerstone of IIBE has been the fact that it is run by and for Haitians, responding to needs which they (rather than assistance agencies or external consultants) have deter-

mined are important. Research and formative evaluation conducted by the project have had major impact on policy decisions in the private education sector, no doubt because both data collection and analysis have been conducted by Haitians and that data analysis is ultimately of greatest import to them, both the research agenda and the work itself is determined and directed by Haitians.

Parallel to this, and a further reason for the project's success in these areas, is the perception among private school teachers that the project's activities are relevant and useful to them. The Haitians associated with IIBE have shown a high degree of commitment and devotion to education—often motivated by their affiliation with the religious organization that operates the schools. In surveys, teachers have cited the contacts they now have with fellow teachers having similar problems—often scattered in remote schools and isolated villages—as being one of the most valuable aspects of the teacher training sessions. Unlike public sector teachers in Haiti, private sector teachers have little opportunity to meet with other teachers outside their own school—in part because of the rural isolation, but mainly because the private education sector in Haiti is not united by an integrated or single school system.

Team-building strategies are the core of the project's teacher training workshops, and this has been identified as a major reason for their success and popularity. The teachers appear to be more comfortable working in groups; the sessions are highly interactive and participatory, and emphasis is on hands-on practice. Teachers are able to work together in planning presentations and problem-solving activities; they also see that they are part of a larger movement—the formation of a private sector institution concerned with the problems of the non-government, mostly poor and rural schools.

Perhaps the strongest witness to the success of the project is the fact that many teachers, after completing the project's training program, are sometimes hired away by schools that can pay better salaries (both public and better-endowed private schools), and that teachers not associated with the project often request admission to the training program.

"Team-building strategies are the core of the project's teacher training workshops, and this has been identified as a major reason for their success and popularity."

What has been the most difficult aspect of the IIBE, in terms of achieving its purpose? How has this been dealt with?

The biggest challenge to overcome was undoubtedly the fact that the private sector in education was previously not only unorganized and disparate, but was also strongly divided along religious lines (Catholic and Protestant). Establishing a means for these two groups to communicate between themselves and also with the other, non-affiliated, private schools (run by individual entrepreneurs) was an essential task. Added to this were the usual coordination and logistical tasks which are required between assistance agencies such as USAID/Washington, USAID/Haiti, and contractors (Florida State University), and the IIBE Project administration. Progress has been made due to the energetic efforts of Haitian educators in encouraging those operating the private schools to organize for their mutual benefit, and also because USAID made plans to devolve considerable authority to the local Haitian administrators.

What might be done differently if the project were to begin again? What lessons have been learned from this experience?

Prior to listing any of the lessons learned from this project, one caveat is in order: the creation and situation of an educational private sector initiative must vary from country to country, and Haiti's context may well be unique. Although there are some well-to-do private schools serving the urban elite, it is the poor and rural segments of the Haitian population who depend on the private sector.

The immensity and complexity of the task of working with the private sector in Haiti was greatly underestimated in the beginning. If IIBE were to begin again, surely it would pay great dividends to make a more realistic initial assessment of the lay sector. Early discussions tended to regard the private sector as monolithic, that is, as if it were analogous to the centralized public sector. Intervention strategies often do not take into account the

coordinating infrastructure that must be put in place to access the diversified private sector. In Haiti, the private sector was far from being unified, fragmented by different religious affiliations, independent missions, and lay schools run by private citizens. These groups originally had no recognized mutual self-interest. Consequently, the creation of a unified private sector structure became a primary objective; and institutional development the primary focus in order to develop the private educational sector. However, this leads to another conclusion: a national private sector organization cannot be wished into existence by an assistance agency. It must be created by the work of those committed to its goals. The process is a lengthy one and any attempt to force or hasten collaboration surely would have failed. Private sector agencies are naturally protective of their autonomy and, in Haiti, quite suspicious of any government intervention.

Ultimately, national organizations must grow out of and be based on grass-roots support. This necessarily takes much time to cultivate. It also requires funding and this is where assistance agencies can help. From the outset—when such efforts are still in the design stage—it must be the local representatives who identify needs, determine the agenda, design the project structure and who make the many implementation, policy and budgetary decisions.

Another area where experience might lead to changes is the issue of teacher incentives. It was originally thought, that, given the depressed wages of the teachers participating in IIBE (salaries are up to ten times lower than their counterparts in the public schools) and the quality improvements involving additional time and effort, tangible incentives or houses should be offered as compensation to ensure full participation. Low wages virtually ensure that teachers must pursue multiple employment, which, in turn, lessens the time and attention they can give to teaching. Many of the benefits accruing to teachers in the public system are not available to private sector teachers. There is no system of promotions in the private sector and schools are too poor to provide housing, training or travel, or other benefits. Bonus payments based on performance were thought to be useful.

Performance contracts were used with both schools and individual teachers as incentives for participation in IIBE. Although the criteria for teacher assessment are generous, this system experienced institutional, structural, and social difficulties. It has affected the power structure of many schools and has had the effect of transforming aspects of teacher performance into a cash economy. The performance concept is an unfamiliar one in rural Haiti and has been difficult to implement in some cases. Attempts to deny payment to teachers have met with strong resistance. This mechanism is being examined and alternative means of providing incentives to teachers are being explored by Haitian private sector educators.

ON THE GROUND:

Junior Secondary Education Improvement Project (JSEIP) in Botswana

What is JSEIP?

JSEIP was designed to improve the quality of classroom instruction at the junior secondary level (years eight and nine). The question facing Botswana educators was: if at the national level there is a will to change and improve the instructional program, is this will likely to be translated into real changes in the classroom? JSEIP has offered maintenance support for the junior secondary expansion, but its central purpose is a higher quality program—which neces-

sitated changes at the classroom instructional level.

How has JSEIP changed since implementation and why?

JSEIP has been represented by ten resident technical advisors and a number of short-term advisors in three distinct areas of effort: curriculum development, preservice teacher training, and inservice teacher and administrator training. The JSEIP advisory team is affiliated with three major Ministry of Education entities: the Department of Curriculum Development and Evaluation, the Department of Teacher Education/College of Education at Molepolole, and the Department of Secondary Education. Though all three agencies are part of the Ministry and national mission, each may be said to have its own set of predominant constituents, agendas, and priorities. The placement of project staff in selected departments was planned to provide an "integrative force" to focus the Junior Secondary (JS) instructional program development effort. This "integrative force" would be over and above the general support of the management and maintenance of the JS program, which was inherent in the assignment of Project Advisors to the various MOE Departments. This "integrative" strategy initially proved to be problematic as implementation proceeded.

The government of Botswana has traditionally accepted expatriates in line and staff positions in areas of trained manpower shortage. Although the JSEIP staff are fielded to provide technical assistance to the MOE, there was an organizational tendency for the MOE (and, consequently, for Project Advisors) to define the role and activities of individual project team members in terms of the dominant routine and crisis agendas of each respective department to which they were assigned. This tendency resulted in a dispersion of the effort for developing the JS instructional system and, subsequently, in an overload of the project's capability to effectively coordinate the JSEIP effort.

"Lessons learned, as project implementation got underway, have led to two JSEIP model updates thus far."

First Model Update. The original design of JSEIP, drawing from project success in other settings, such as Korea, has remained appropriate and well-considered. Lessons learned, as project implementation got underway, have led to two JSEIP model updates thus far. The first update (1987) came as a consequence of the internal midterm review. The results of the first update may be summarized as follows: 1) project effort was to be focused more closely on the curriculum development effort, as a means of concentrating project impact on student achievement; 2) project staff work plans were to reformulated to reflect this focus, and project coordination would be given full-time status; and 3) key decision makers in the Ministry and USAID were to be continuously informed of project status in order to support this more focused role.

Second Model Update. The second model update (1988) was a consequence of adapting component evaluation to the management requirements of JSEIP. Project management was recognized as the essential catalyst for: 1) assisting technical advisors in negotiating and conducting activities which were primarily in support of project goals, and secondarily responding to routine administrative needs; 2) working with the MOE to rationalize the provision of counterpart staff, to maintain the project effort; and 3) projecting and articulating the school-level impact of the project.

This latter evaluation activity was conducted by the new Project Coordinator (Wes Snyder) over a period of three months. This included extensive discussions and negotiations with MOE, USAID, and JSEIP project staff regarding expectations and potential of the project, establishing priorities, determining support requirements and timetables, and negotiating project staff work roles which explicitly delineated project responsibilities.

The results of the second JSEIP update may be summarized as: 1) project effort was explicitly defined in terms of the curriculum development effort; 2) project staff work roles and activities were planned in terms of

the curriculum development effort and school level improvement, and in facilitating their MOE units in supporting the development and acceptance of the curriculum; and 3) the Project's primary affiliation would be with the MOE's Department of Curriculum and Evaluation.

The Department of Curriculum Development and Evaluation, established just a decade ago, is responsible for the Nine-Year Primary and Junior Secondary Curriculum. It was assigned complex and multiple functions during the rapid national development process (Meyer and Nagel, 1989). The challenges facing the Department in fulfilling its mission are reflective of those originally faced by JSEIP, especially those of focus and coordination. The details of developing curriculum, or negotiating for its implementation with other departments in the Ministry, and of evaluating its effectiveness in the schools has diluted the concentration of effort in what is arguably the education system's most important task. The Department is now moving toward a more explicit organizational structure to achieve its mission through coordinating the activities of its central units, namely those involved directly with the curriculum, establishing consensus about the directions and options available to managers and personnel, and by loosening its control over those units less directly involved in its curricular mission (Nagel, 1990).

Consensus Building. Consensus building to define the role of curriculum in the improvement of the JS system have been bolstered by 1) an increasingly visible track record of curriculum development, 2) supplemental work in related departments, 3) organizational studies, 4) targeted school level research, and 5) community consultation conferences.

By the end of 1990, the English and Setswana language curricula will be fully developed and organized. Significant progress has been made in Science, Social Studies, Design and Technology, and Art, which will reach completion in 1992/93. JSEIP support for preservice and inservice teacher training has accounted for these curriculum developments in orientation and training and in field-testing of the curriculum materials.

"By the end of 1990, the English and Setswana language curricula will be fully developed and organized."

Five organizational studies of the Department of Curriculum Development and Evaluation have analyzed the organizational dynamics, constraints, and opportunities in the curricular system (Meyer and Nagel, 1989; Nagel, 1990), explicated regulations and policies regarding curriculum development (Allen, 1989), and analyzed and recommended policies and procedures regarding testing and examinations (Nitko, 1989; Nitko, 1990)

Community Consultation. The Community Consultation process generated direct interaction between central agencies and local communities about critical educational problems. Three major conferences have been held, each in different settings (Gaborone [Capital of Botswana], Selebi-Phikwe, and Maun), during 1988 and 1989. To focus discussion, these conferences were structured around topics of 'Curriculum, Communication, Education, and Work,' which capture the critical issues regarding development of effective curriculum and support for improved instruction (Noel, 1989; Meyer, 1990)

School-level Educational Research Finally, a school-level educational research program was initiated by JSEIP. This program provides observations and analyses of teach-student behaviors, effect, and performance which can serve as a knowledge base for policy and curriculum development. Various scenarios can be tested against this research database to ascertain likely outcomes and areas of investment for program and instructional improvements.

Curriculum in the Classroom, the first such research carried out in Botswana, will soon be published by Macmillan Botswana.

The balance of JSEIP activity through 1991 and plans for post-JSEIP efforts focuses on completion of the curriculum development efforts already underway, integration of the newly developed JS program with the Primary program, and developing and implementing a diffusion strategy for the adoption of the full nine-year program in Botswana.

ON THE GROUND:

Education Policy and Planning (EPP): An Integrated Information System in Indonesia

What is EPP?

Educational Policy and Planning (EPP) Project assists the Ministry of Education and Culture in Indonesia with the establishment of an integrated information system to strengthen its capacity for policy analysis and policy formulation. This includes development of analytic skills to use information, administrative procedures to collect information, and data management equipment to store and manipulate information. Emphasis is given to the Information Center (Pusat Informatika) of the Office of Educational and Cultural Research and Development (abbreviated in Indonesian as Balitbang Dikbud). However, since the effectiveness of the Pusat Informatika in generating information and serving the various principal units of the Department depends on the ability of those units to use and interpret information, the project includes efforts to strengthen their capabilities as well. This includes the Secretariat-General, the Directorate-General of Basic and Secondary Education, and the Directorate-General of Higher Education, as well as selected regional offices (Kanwil) of the Department.

The project was divided into two phases. Phase One, lasting approximately 1985-1987, was largely a period of investigation and formulation of detailed plans for development of an improved information system.

"Phase One consisted of experimental and exploratory efforts designed to generate both experience with and the understanding of key organizational, management and institutional issues".

There are five elements of the project strategy:

1. *Increasing the capacity of MOEC staff* to generate, process and analyze educational and cultural information, as well as to undertake policy research, analysis and long term planning;

2. *Strengthening the internal management and organization* of Balitbang Dikbud, effectively linking its proposed three main components of education research, policy analysis and information system;

3. *Special studies to support research and analysis* of key issues affecting the development of the educational system and the implementation of the Repelitas (4 five-year plans) and which are seen by the relevant implementing agencies within the Department as directly related to their on-going programming, budgeting and implementation activities;

4. *Upgrading the capacity of the Pusat Informatika* within Balitbang Dikbud to serve the policy research, analysis and planning needs of Balitbang Dikbud itself including the development of an information system to meet those needs;

5. *Further development of planning and information systems* at the provincial and district levels.

How has EPP changed since implementation?

The design of EPP anticipated the need for mid-course change and adjustment and allowed for this in two phases.

Phase One. Phase One consisted of experimental and exploratory efforts designed to generate both experience with and the understanding of key organizational, management and institutional issues. These experiments and studies resulted in specific policy recommendations and a plan for an improved and expanded information system for policy analysis.

1) Increased Capacity for Policy Analysis. The training of Department staff to undertake policy analysis began under Phase One through a combination of in-country training courses, short-term M.A.-level and Ph.D. training overseas, on-the-job training during the course of undertaking specific policy studies, and in-country executive seminars. Consultation visits to the U.S. and other third world countries were included.

Department staff were trained overseas to the MA level and the Ph.D. level in policy-related disciplines. In-country training in statistical analysis, forecasting, research methodologies, and policy analysis was provided to staff involved in policy studies supported by the project. Finally, there were in-country short courses to introduce basic tools of policy analysis to senior management and other Balitbang Dikbud staff. Funds for this were built into the project budget and candidates were selected on the basis of the level of their involvement and participation in the EPP research activities.

Training also included staff from the Directorates-General and from selected provincial Kanwil offices. Short-term in-country training, with particular emphasis on data analysis and identification of policy issues, was provided to staff members from the Secretary-General's office. In addition, staff from the Directorate-General of Primary and Secondary Education also received short-term training in quantitative analysis and information management.

Because the increased emphasis on policy analysis required a different kind of staff within Balitbang Dikbud, consideration was given to ways in which new full-time staff were recruited into the agency.

During the initial six months of the project, the EPP Working Team in held discussions, both within Balitbang Dikbud, with the EPP Steering Committee, and amongst other agencies in the Department, to elaborate and refine this plan. The Steering Committee reviews and approves the EPP training plan annually, so that modifications may be made based on experience over time. For both in-country and overseas training, the annual training plan includes a statement of training objectives and their relationship to the project purpose, identification of the type of training and the expected implementation schedule, identification of the expected number of participants and their present role and agency, and an estimated budget for training activities indicating what kinds of costs will be met by the GOI and AID.

"In-country training in statistical analysis, forecasting, research methodologies, and policy analysis was provided to staff involved in policy studies..."

2) Institutional Organization and Management of Balitbang Dikbud. A second step in Phase One of EPP was a review of the internal management and organization of Balitbang Dikbud itself. Balitbang Dikbud has been given a mandate with increased emphasis on policy analysis. This mandate entails a new internal management system and new relationships with other agencies within the Department. Technical assistance was provided from EPP to assist the Head of Balitbang Dikbud to review the management of the agency. Issues addressed during this period included the relationship of the educational research centers of Balitbang Dikbud with Pusat Informatika and the proposed policy research and development groups. The respective functions and responsibilities of these units were examined, and recommendations made on ways in which the transition to a new internal management system could best be achieved.

Internal staff seminars at Balitbang Dikbud were organized to present the management plan approved by the Head of Balitbang Dikbud, and to help develop new skills and procedures.

3) Special Studies. The EPP Steering Committee, assisted by the Working Team and the Technical Assistance Team, identified and approved special study topics to receive project support during Phase One and Two. Two special studies were completed during Phase One.

The first study undertaken focused on the monitoring and evaluating programs undertaken during the Fourth Five-Year National Development Plan (Repelita IV). This

study determined the information needed to monitor and assess progress under the Repelita, with special attention to the long-term policy implications of the progress achieved. A preliminary model to analyze progress in implementing Repelita IV was developed in 1985.

A second study planned a centralized departmental information system, serving the needs of the operational agencies of the Department. Because of the number of agencies involved, the amount of data required, and the presence of on-going systems of information collection, substantial investigation, consultation and experimentation was required before an acceptable integrated system could be planned. This special study defined information needs, reporting requirements, administrative arrangements and hardware necessary to ensure the flow of information. This was used in planning activities supported by other donors to improve the management and administration of the Department, including the information system.

Two other important studies, The Quality of Basic Education in Indonesia and The Cost and Quality of Vocational Education are discussed below.

4) Increased Capacity of the Pusat Informatika. The project identified information needs for policy analysis and planning within the Information Department, as well as key decision points within the present planning system, and the information needed at those points. In addition, EPP conducted further investigation of the nature of the information generated at the provincial and Kabupatan (district) level and ways to improve its relevance and accuracy.

Overseas training in information systems and computer sciences to the M.A. and the Ph.D. level was provided. In-country or regional technical training in computer skills, data processing techniques and information systems management was also provided. Training included staff from the Directorates-General and other main units, Kanwil and Kandep offices. Basic skills required by Pusat Informatika include computer programming, information and library sciences, and computer operation and maintenance.

"The project identified information needs for policy analysis and planning within the Information Department, as well as key decision points within the present planning system..."

5) Development at the Provincial Level. EPP assisted in a review of the needs of provincial offices (Kanwil) in the present planning process to determine what kinds of decisions are or can be made at that level. EPP identified information needs for policy and planning purposes at both the provincial and national level. The objective was to see how provincial planning capabilities can be strengthened and how the present centralized planning process could move toward a level of decentralization giving greater scope to provincial initiatives without sacrificing the quality or the cohesion of a national system.

Three provinces were selected for this work on the basis of the size of population, capacity of Kanwil and Kandep staff, nature of problems faced in educational development, and potential linkages with other AID projects concerned with policy analysis, planning and information systems. Efforts at the provincial level involve development of improved methods of data collection and processing, simplification of information flows, and greater scope for provincial innovations in planning and programming. These efforts began initially in only two provinces (Jawa Barat [West Java] and Sulawesi Selatan [South Sulawesi]), with work in Nusa Tenggaran Barat beginning approximately one year later.

The project also supported in-country short courses in educational planning, administration and evaluations with emphasis on program evaluation techniques. Further training was offered in data processing and management, including support to 30-week awards in computer programming.

Phase Two. Phase Two of EPP derived lessons learned from the work of Phase One. The results of Phase One included the following:

1. The Project Steering Committee reviewed and clarified the relationship between Balitbang Dikbud and the Directorates-General, indicating at how policy analysis should be brought to bear on long-term planning and the annual cycle of preparing budgets and guidelines for program implementation.

2. An annual training plan was developed and approved by the Steering Committee, specifying training objectives and their relationship with the project purpose, kind of training to be offered and anticipated schedule, numbers of expected participants and their agency, and estimated budget.

3. A plan was developed specifying how the different sections of Balitbang Dikbud relate to one another and how their activities were coordinated in order to fulfill the mandate of Balitbang Dikbud for policy analysis, research, and mid- and long-range planning.

4. The Steering Committee specified the special studies which remain to be completed during Phase Two, based upon the needs and concerns of the Minister, Secretary-General and the various Directors-General.

5. The Steering Committee approved a comprehensive information system plan and strategy, including details on system architecture, and required capabilities, a time-phased plan for developing and implementing the information system, a recommended system configuration (including recommended equipment for province-level offices of the Ministry), and an estimated budget for implementing the system; the plan addressed and provided recommendations for such issues as (a) the role of the Kanwil in planning, determining targets and monitoring progress, (b) the relative merits and tradeoffs involved in centralized versus decentralized planning, (c) whether the information system should be the sole source of data on programs for the Directorates-General, (d) roles and responsibilities in the information system, (e) policies and procedures that might require modification, (f) changes in data required to support planning and analysis, and (g) the interrelationship of the Ministries of Finance, Education and Home Affairs and Bappenas (Ministry of National Development) in determining and setting educational policy.

"By the beginning of Phase Two, the Department placed candidates in long-term Ph.D. training in policy research and related analysis fields."

Phase Two Project implementation began full operation in 1986 and included the following activities:

1) Expanded Capacity for Policy Analysis. By the beginning of Phase Two, the Department placed candidates in long-term Ph.D. training in policy research and related analysis fields. Training continued throughout Phase Two.

2) Improved Internal Management of Balitbang Dikbud. The management study to assist the internal administration and organization of Balitbang Dikbud was completed during Phase One. Recommendations from that study were reviewed by the leadership of Balitbang Dikbud and a plan of action implemented, including the formation of a policy analysis group (PAG).

3) Special Studies. The initial group of studies to be undertaken through the life of the project was specified by the Steering Committee at the end of Phase One and are being carried out during Phase Two. Approximately five major policy issues will be examined and research findings presented to the Department by the end of the project, although more, smaller studies have evolved during the identification process.

4) Improvements in the Information System.

a. Training. Training in data collection and data analysis techniques, identification of policy issues, and information management systems development continues throughout Phase Two for staff from the Information Center and from other agencies. This increased institutional capacity supports and complements the increasing demand for more reliable and up-to-date information in a data-driven policy-making process.

IEES-assisted Educational Policy and Planning (EPP) has now expanded the national Educational Management Information System from 6 pilot projects to all 27 project districts throughout Indonesia. This greatly expanded system of collecting and analyzing educational data will support improved decision-making at both local and national levels. Pilot project staff are now capable of not only data collection and summary tabulation, but can also carry out analyses and policy research at the provincial level.

b. Planning, Design and Development. Technical assistance is provided to assist Balitbang Dikbud design and develop an information system that is capable of supporting the policy and planning needs of the Department. This includes assistance in system design, data collection design and administration, hardware and software selection, application program development and data center operations.

c. Commodities. Equipment to support the activities of the Ministry was identified in Phase One for installation during Phase Two. This consists of an upgradable minicomputer at Balitbang Dikbud, with two micro-computers, and microcomputers for selected provinces. This is in accordance with the approved information system development plan resulting from Phase One.

5) Development at the Provincial Level. During Phase One, EPP began the further development of information systems for planning and policy purposes in 3 provinces, Jawa Timur, Sumatra Barat, Nusa Tenggara Timur. To improve the use of data for planning purposes at the provincial level, the project supports the placement of micro- or minicomputers in the three pilot provinces. Based on a review of this work consideration was given to expanding to selected new areas (up to three additional provinces) on a phased basis.

Special Policy Research Studies

Special policy research studies continue and others will be initiated after approval by the EPP Project Steering Committee. Topics for these studies have emerged as a result of reviews of current and completed research, prioritization of the research agenda and assessments of policy research requirements for the preparation and implementation of Repelita V.

Improving the Quality of Basic Education in Indonesia. The conceptualization, instrumentation, piloting and design phase of this study was completed in 1987. The implementation phase was initiated in 1988 with the printing of questionnaires, the training of research teams and the start of data collection in the 3 pilot provinces (West Java, Nusa Tenggara Barat, and South Sulawesi). This EPP long-term study, Improving the Quality of Basic Education in Indonesia, has collected one of the richest data sets on the quality of basic education in developing nations and is currently being sought by major technical assistance agencies. The study provides an exceptionally complete and comprehensive data base for the investigation of those factors that most enhance educational effectiveness, efficiency, and quality at the primary level.

> ***"This EPP long-term study, Improving the Quality of Basic Education in Indonesia, has collected one of the richest data sets on the quality of basic education in developing nations..."***

The Development of Manpower Planning Models. A variety of computer models were developed and utilized to prepare Medium Term Manpower Plans for the 3 EPP Pilot Provinces: South Sulawesi, West Java, Nusa Tenggaran Barat. These models covered teaching and non-teaching staff requirements for primary education, junior secondary education and senior secondary education. After testing of assumptions and parameters in the pilot provinces, a data-based medium term manpower planning computer model was developed and demonstrated in training workshops to representatives of the 27 provinces and to MOEC's Planning Bureau, for use in the preparation of Repelita V.

The Model Development Group is in charge of this ongoing activity and has also initiated work on an integrated supply demand National Manpower Planning Model. This model and the corresponding software have been demonstrated for external agencies, e.g., Bappenas, and continues to be tested and perfected. In addition, appropriate software is being developed for regional manpower projections to complement the National Model. The Model Development Group is assisted by BRIDGES/Research Triangle Institute (RTI) and the two EPP Resident Technical Advisors.

Long-Range Planning – Indonesian Education 2000. The overall goal of the EPP Project is to improve the quality of education in Indonesia through improvement of the policy formulation process and the preparation of long-term plans based on more complete and timely information and better analysis of that infor-

mation. The aim of this Long-Range Planning policy research study is to determine the role of the educational system in the context of future national development. Its goal is to develop the ground work for a new 25-year educational plan to be developed during the Repelita V period. This study will receive a substantial increase in funding in EPP Amendment #2.

Longitudinal Tracer Study of Vocational/Technical School Graduates. Vocational/Technical Education has undergone a marked quantitative expansion during the Repelita IV period. Hundreds of new VOTEC schools have been built, dozens of new specializations and study programs have been developed to provide the skilled manpower necessary for Indonesia's entrance into the "take off" stage of sustained industrialization. Enrollment has correspondingly expanded by almost 100% from 550,000 to 1,080,000 students. Despite these impressive quantitative gains, the level of GOI funding has remained the same. Concerns have emerged over the management, quality, overspecialization and high cost and low returns of formal vocational/technical education. Besides the preoccupation with the internal efficiency and effectiveness aspects of such programs, other external efficiency questions have been raised about the "relevance" of certain study programs, the level of preparedness of graduates and their employability and experience in the labor market.

Repelita IV emphasized the need to prepare senior secondary vocational/technical graduates for mid-level technical work and to develop their entrepreneurial skills for self-employment. EPP is conducting longitudinal tracer studies (1990-1992) to collect data and investigate the level of actual graduate activity in the economy with respect to methods of gaining employment, employment tracks (types and length of employment), entrepreneurial activity, post-secondary education and training, earnings, or actual on-the-job performance. The longitudinal studies are complemented by school quality, school costs and funding, and employer surveys in concert with a focused, critical review of the relevant policy issues in the Quality and Efficiency of Vocational/Technical Education Study.

"The momentum of EPP has been maintained by the excellent working relationship with Indonesian counterparts."

What has contributed to EPP success?

The convergence of two events has contributed to the achievements to date in Indonesia. First, the IEES Sector Review in 1985 coincided with the Indonesian realization of the magnitude of lost revenues due to the drop in oil prices on the international market. This fall in expected revenues led to drastic budgetary expenditure cuts. This event, therefore, created a policy context that was sensitive to issues of efficiency.

Secondly, the results of the IEES Sector Review provided important contributions to the national five-year planning preparations of Repelita V, thereby enhancing the credibility of IEES while demonstrating its value as a vehicle for promoting data-based policy making. These events have helped to create the participation, collaboration and ownership that has characterized IEES work with EPP.

The momentum of EPP has been maintained by the excellent working relationship with Indonesian counterparts. Despite changes of personnel, the transitions have been smooth—with little loss of momentum in progress towards goals. This successful working relationship has been promoted by the strong EPP staff. The EPP COP ensures maximum coordination and realizes maximum leverage resulting from the close integration of the EPP and central IEES resources. EPP success in Indonesia is also attributable to IEES personnel and EPP consultants with previous Indonesian working experience who have been continuously employed by the Project and, thus, have remained closely involved and committed to efficiency goals.

As a result of the readiness of the Indonesian policy context, as well as the productive combination of the counterpart and EPP, it has been possible to build and maintain successful multi-ministerial and multi-donor involvement. The multi-ministerial bridges that have been developed include the Balitbang Dikbud Planning Unit, BAPPENAS (Ministry of National Development), the Ministry of Labor and Manpower, and the Ministry of Finance.

Unlike many development assistance projects, EPP has successfully maintained a balance between the capacity building component, i.e., participatory research, ownership, and transfer of skills, and quality of research and technical assistance. EPP has worked down from the national level to the provincial level, and even as far down as the Kabupatan (district) levels. At the Kabupatan level, EPP work has involved research on EMIS and data collection for the Vocational Education project. Consequently, IEES and EPP have influenced policy dialogue, the policy process and outcomes at all levels. The policy planning capacity at the national level has improved markedly.

What problems has EPP encountered?

IEES and EPP efforts toward efficiency goals in Indonesia have been regarded as successful, even though problems have at times slowed progress. These have been a result of both staffing problems and internal events. EPP has insisted on Indonesian-experienced staff and has faced difficulties in securing full-time senior staff, due partly to idiosyncratic reasons and partly to the high standard of requirements for filling the positions. The Indonesian educational sector is a huge establishment relative to the IEES and EPP resource leverage and this fact has also created special problems. Geographically, Indonesia's archipelago of islands is spread over an area as large as the U.S., a fact which makes the careful monitoring of activities both difficult and expensive. As these problems have been identified and addressed, the potential impact of EPP has increased.

What lessons have been learned?

Based on the summaries presented above, the following lessons learned can be drawn from EPP experience in Indonesia:

- Project success is dependent on an effective Chief of Party. This person must be able to coordinate activities, maintain continuity of consultants, establish a cooperative rapport with a wide array of parties, and, most importantly, maintain a participatory and low profile approach to involvement.
- There is a need to broaden the base of project-effort without diminishing existing relationships. Progress towards efficiency goals requires building bridges to many educational subagencies.
- Continuous monitoring of activities is critical to assure consistency between overall goals and objectives and the way in which they are operationalized within the specific policy context of Indonesia.
- Utilizing personnel with broad Indonesia country experience and maintaining their continued commitment over the life of the project has proven to be absolutely critical for success.
- Apparently slow progress at times should not provoke negative responses. Well-considered project responses to immediate problems will result in movement towards efficiency improvements. This context requires project staff with a culturally-sensitive and consistent management style.
- Close supervision of extremely complex project activities is essential to assure integration and management support. Clear articulation of goals and strategies and firm adherence to plans with Indonesian counterparts are required to ensure both short-term and long-term goals.

"Indonesia's archipelago of islands is spread over an area as large as the U.S., a fact which makes the careful monitoring of activities both difficult and expensive."

EPP success is evident at a number of educational levels and through a number of products. There has been a striking improvement of the policy analysis and planning capacity specifically within Balitbang Dikbud, but more generally within the MOEC as a whole. The products of EPP research activities have been planned and conducted jointly by IEES and MOEC policy researchers and have resulted in a series of published policy issues working papers which now serve as vehicles for policy dialogue and decisionmaking in the development of the coming 5-year plan. Finally, there has been successful implementation of the educational management information system at the national, provincial, and district (Kabupatan) levels in the six pilot provinces of South Sulawesi, West, Central and East Java, Nusa Tenggaran Barat, and West Sumatra.

Joint IEES and IIEP Research Activity: Strategies For Improving Educational Quality Through Better Use of Information

IEES and the Institute for International Educational Planning (IIEP) are now developing plans for a joint research activity. The overall objective of this activity is to identify and disseminate strategy for enhancing educational quality and efficiency through the better use of information in policy formulation, planning and management. The specific objectives of the activity are:

1. to identify and synthesize lessons learned from current research and practice on the use of management information systems (MIS) in improving educational quality and efficiency;

2. to use this information to develop short-term training that will assist educational leadership in developing countries to more effectively manage and use information to improve the efficiency of their education system; and,

3. to conduct focused research to validate, elaborate, and extend the strategies for quality improvement identified in the preceding activities.

The joint activity arises from the recognition that many developing countries have experienced serious declines in quality over the last 15 years, that many of these countries do not have new resources to invest in education, and that improvements to educational quality will be accomplished only through more efficient use of present resource levels.

> ***"Stage One will involve a synthesis of the lessons learned from recent IEES experience and research..."***

Research and Training Plan

The activity will be organized in two stages. These stages are designed to be cumulative but, at the same time, to stand alone as useful products of the work. The work will be reviewed by an advisory committee at the completion of each stage to ensure that it remains well-targeted and appropriate to the missions of IIEP and IEES.

Stage One: Learning from Experience and Research

Stage One will involve a synthesis of the lessons learned from recent IEES experience and research in collecting, analyzing, and using quantitative information in decision-making at various levels of the education system in developing country contexts. Stage One activities will be conducted in four steps.

Step One. In step one, five ***Country Studies*** will be conducted, each authored or co-authored by a country representative familiar with information use in their country. Country authors will collaborate in the writing task with an international consultant. Countries will be selected to illustrate particularly interesting strategies for using education management information systems to enhance school quality. The emphasis in the case studies will be on analysis rather than description. Each case study will follow the same general format, which will emphasize attention to the human factors and non-monetary incentives that operated to encourage and sustain the use of information in the case under study. For example, one case study might examine efforts to decentralize information analysis to encourage use at administrative levels closer to the school. Another might examine strategies for using disaggregated data to better target the activities of district level inspectorate.

Step Two. In step two, five ***Issue Papers*** will be commissioned, each authored by a researcher recognized for work in information use in developing country contexts. Emphasis in

these papers will be on synthesizing current experience and available research on strategies for improving educational quality through better management and use of information. For example, one paper might examine incentives for information use. Another paper might consider effective strategies for fostering wider debate over alternative policy options within developing countries.

Step Three. In step three, a comprehensive synthesis paper will be prepared by IIEP and IEES co-directors. This paper will synthesize conclusions from the Country Studies, the Issue Paper, a review of available research, and relevant work of the Improving the Efficiency of Educational Systems (IEES) Project, the USAID S&T/Ed BRIDGES Project, IIEP, and education ministries in other countries. The ***Summary and Generalizations Paper*** will yield a set of conclusions, generalizations, and recommendations about how information can be used to improve quality and efficiency.

Step Four. In step four, expert assessments of the generalizations paper will be solicited and a means of validating the appropriateness of the generalizations, the clarity of presentation, and the potential usefulness of the recommendations. Five experts in international educational development will be commissioned to read and provide written comment on the paper. Their comments will be used as the basis for revising the paper and, if appropriate, will be included in the subsequent publication.

The Country Studies, Issues Papers, and the Summary and Generalizations Paper will be disseminated by IEES to developing countries which are working to improve educational efficiency. They will be published by IIEP (possibly in collaboration with a commercial publisher) for worldwide distribution. The anticipated audience for this volume is Ministry of Education policy makers, planners and EMIS managers in developing countries; assistance agencies involved in supporting efficiency enhancement projects; researchers concerned with the use of information in decision making and quality enhancement; and, university students in the area of international development.

> ***"The* Summary and Generalizations Paper *will yield a set of conclusions, generalizations, and recommendations about how information can be used to improve quality and efficiency."***

Stage Two: Training With a Feedback Loop Leading to Focused Research to Improve Practice

In Stage Two, training materials will be developed and used with educational leaders in developing countries interested in the more effective use of quantitative data in improving educational quality and efficiency. The training materials will be based on the generalizations about effective management information systems and will include specific case studies developed in Stage One. Three regional or subregional training programs will be offered as part of this activity. Concurrent with the training will be the conduct of focused research studies designed to validate, elaborate, and extend the strategies identified in Stage One.

Training. The training in Stage Two will be implemented in a way that contributes to further development of the Summary and Generalization Paper and the training materials. As each workshop is presented, participants will be encouraged to relate the generalizations and previous findings to the ongoing experience of their own countries. The examples and issues presented by participants about their own countries will be recorded and developed into further case studies which will then be incorporated in subsequent training. This procedure helps ensure (1) that examples are current, (2) that the training draws from a wide range of country experiences, and (3) that the relevant experiences of trainees are recognized and respected.

Research. The findings from Stage One and the insights provided by the trainees during the training phase of Stage Two will serve as the basis for identifying a set of issues in need of further research. The focus of the research will be on aspects of information system development and use which are not well represented in current research or practice but which are judged important to effective use of quantitative information in improving educational efficiency. While specification of specific topics must await the outcomes of the preceding project components, selection of

the research topics will be based on the following criteria:

1. The issue must have the potential for affecting the operation of the education system in the short- and medium-term perspectives.

2. The research must have the potential of yielding broadly generalizable finds.

3. The research must be well-targeted and focused on well-defined issues.

4. It must be able to be accomplished within an 18-month period of time. For practical purposes, this will tend to limit the research to focused surveys of key groups in selected developing countries to validate findings emerging from the first two stages.

Results of this research will be used to further revise the training materials, thereby increasing the relevance and comprehensiveness of the training. Additionally, the methods employed in the study will be offered as examples of how countries can conduct their own research to support information use.

This research effort will be directed by Lars Mahlck of IIEP and David Chapman of IEES, with additional assistance as appropriate, depending on the number and scope of the studies. The research will be completed in two years.

IEES–Sponsored National Research Studies

IEES assists with research studies as part of specific national strategies for efficiency improvements. These studies are conducted in addition to the central IEES agenda. Recent research studies conducted in nations working in partnership with IEES to improve educational efficiency are noted below.

Botswana

Barth, J.L. "Botswana Social Studies Methods". Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Ives, L. "Art Teachers' Guide Material." Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Ministry of Education. "Therisana Ka Thuto: Community Consultation on Basic Education for Kagisano." Gaborone, Botswana: Department of Curriculum Development and Evaluation.

Moahi, S., & Bowers, J.E. "RTC Research Notes Series". Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Mullaney, R. "Field Based In-service Teacher Education in Botswana: A Report of Current Policies and Practices in Secondary Schools." Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Nesbitt, R., LeBlanc, W., Moanakwena, P., Carter, J., & Scheffers, L. "Junior Secondary English: Workbook (Form 1 Trial Series)". Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Nesbitt, R., LeBlanc, W., Moanakwena, P., Carter, J., & Scheffers, L. "Junior Secondary English: Teachers' Handbook (Form 1 Trial Series)". Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Prophet, R., & Rowell, P. "Curriculum-in-Action: Classroom Observations in Botswana Junior Secondary Schools." Gaborone, Botswana: Department of Curriculum Development and Evaluation, Ministry of Education.

Sigman, V.A., & Randal, M. "The World of Educational Innovations." Gaborone, Botswana: Department of

Curriculum Development and Evaluation, Ministry of Education.

Ghana

Cobbe, J. "Economic and Financial Analysis of the Ghana Education Sector."

Cobbe, J. "Macroeconomic Overview of Ghana."

Chapman, D. "Primary School Teachers in Ghana."

Guinea

Plank, D. "Economic Analysis of the Educational System of Guinea."

Tietjen, K. "Training, Monitoring, and Evaluation Needs Assessment of the Education System of Guinea."

Indonesia

Cobbe, J. "Education Indicators for Policy Purposes in Indonesia."

This paper initiates the identification and development of a series of indicators of educational quality, equity, and efficiency that could serve as the basis for a resource allocation model for utilization at both the national and provincial levels and in Indonesia.

Kemmerer, F.N. "A Review of the New Teacher Policies."

This review of new teacher policies in Indonesia related to teacher incentives and inservice/preservice training was prepared as a first step in what is envisioned as an ongoing formative evaluation and policy adjustment process. Its purpose is to predict any unintended effects of the proposed implementation strategies, identify unresolved policy issues, and outline the research necessary for ongoing policy review.

McMahon, W. W., & Boediono. "Universal Basic Education: An Overall Strategy of Investment Priorities for Economic Growth."

This paper is a comprehensive analysis of social rates of return to investment at all levels of education in Indonesia and of the nature of unemployment on both urban and rural areas. The analysis suggests an investment strategy of fastest increase in junior secondary general education in order to maximize education's contribution to both growth and equity goals.

McMahon, W. W., & Boediono. "Planning Human Resources in Indonesia."

This paper outlines a strategy for human resource development policy analysis and planning in Indonesia that encourages efficiency in the education and training components of the human resource development system. Specific elements and means of implementation of the policy analysis and planning strategy are developed.

McMahon, W. W., & Boediono. "An Efficiency-Based Management Information System: A Framework for Accessing and Analyzing Indonesian Education Data."

This paper identifies the set of education indicators relating to inputs, processes, outputs, and ultimate outcomes of the education system needed for analysis of educational efficiency in Indonesia. Data is used to establish trends and to make comparisons among different provinces, and to make international comparisons in order to monitor and improve the effectiveness in the use of resources.

McMahon, W. W., & Boediono. "Social Rates of Return and Labor Market Analysis by Province in Indonesia."

This paper compares the efficiency of the human resource development process by comparing the results of cost benefit analysis on the one hand and manpower supply and demand analysis on the other. It seeks to bring the information offered by each approach to bear, and thereby to consider questions of economic efficiency for use in refining manpower planning, education, and human resource goals.

McMahon, W. W. "A Specific Program for Refinement and Phasing in of a Computerized School Aid Formula for Indonesia."

This discussion paper suggests a basic resource allocation formula appropriate to Indonesia's situation and illustrates the formula's computer application and relation to the LOTUS worksheet data being collected for use in the economic cost analysis.

McMahon, W. W. "The Economics of Vocational and Technical Education: Do the Benefits Outweigh the Costs?"

This paper is an economic analysis of the optimal degree of vocationalization of the curriculum. Evidence is presented that a proper balance between vocational and general curricula is efficient. Growth-related criteria for the most efficient combination are considered, as are the political and equity implications of overexpanding separately tracked schools.

Theisen, G. "Indonesian National Curriculum Reform Strategy Paper."

This policy research report analyzes the current state of primary, lower and upper secondary curriculum and makes recommendations for reforms that will support Indonesia's progress toward "industrial take-off" in the next 25-year plan. This paper will be discussed at the Annual Planning Conference (Rakernas) and, thus, will help to shape Indonesia's Curriculum Policy for the coming years.

Overview of Botswana IEES/JSEIP Research

The following is an overview of IEES and Junior Secondary Education Improvement Project (JSEIP) Research.

Date	Questionnaire	Variable Sets	Sample Characteristics	Sponsorship
Feb. 1987	**Ethnographic**	Implementation of intended curriculum	3 schools	JSEIP
June 1987	**Headmaster Interviews Policy Questionnaire**	School awareness of national policy	26 schools	JSEIP
June 1988	**Botswana Classroom Observation Protocol** (version 1)	Classroom characteristics, teachers' use of instructional materials, pedagogical behaviors, student engagement/ involvement in learning activities	212 teachers in 36 schools	JSEIP/IEES
June 1988	**Quality of Worklife Questionnaire**	Complexity, interest, control, information flow, efficacy	212 teachers in 36 schools	JSEIP
June 1989	**Botswana Classroom Observation Protocol** (version 2)	Classroom characteristics, teachers' use of instructional materials, pedagogical behaviors, student engagement/ involvement in learning activities	212 teachers in 36 schools	JSEIP/IEES

Date	Questionnaire	Variable Sets	Sample Characteristics	Sponsorship
June 1989	**Botswana Teacher Questionnaire** (version 1)	Performance efficacy, career satisfaction, teachers' criteria of success, teachers' use of time, teacher-community relationships, instructional supervision, teachers' SES, attributions for students' success, pedagogical practices related to effective teaching	549 teachers in 50 JSS	JSEIP/IEES
June 1989	**Quality of Worklife Questionnaire**	Complexity, interest, control, information flow, efficacy	619 teachers in 50 schools	JSEIP/IEES
June 1989	**Ethnographic Study** ("Free to Learn")		2 schools	JSEIP
June 1989	**Student Attainment** (IEA)	Mathematics/ reading comprehension	Form II students in "X" schools	JSEIP/IEES
Nov. 1989	**Student Attainment** (IEA-T1)	Mathematics/ reading comprehension	Form I students in "X" schools	JSEIP/IEES
April 1990	**Student Attainment** (IES-T2)	Modified mathematics and reading comprehension	Form I & II 600 students in 44 schools	IEES/JSEIP
June 1990	**Botswana Classroom Observation Protocol** (version 3)	Classroom characteristics, teachers' use of instructional materials, pedagogical behaviors, student engagement/involvement in learning activities	549 teachers in 50 schools	IEES
June 1990	**Botswana Teacher Questionnaire** (version 2)	Performance efficacy, career satisfaction, teachers' criteria of success, teachers' use of time, teacher-community relationships, instructional supervision, teachers' SES, attributions for students' success, pedagogical practices related to effective teaching	549 teachers in 50 JSS	JSEIP/IEES

Date	Questionnaire	Variable Sets	Sample Characteristics	Sponsorship
June 1990	**Quality of Worklife Questionnaire**	Complexity, interest, control, information flow, efficacy	619 teachers in 50 schools	IEES
June 1990	**Ethnographic Study**	Language use in the classroom	2 schools	IEES
June 1990	**Ethnographic Study**	Language use in subjects other than the intervention	2 schools	JSEIP
June 1990	**Keypunch Headmaster data; Keypunch Headmaster Quality of Worklife**			IEES

PLANNED DATA COLLECTION ACTIVITIES IN BOTSWANA
Combined JSEIP and IEES-Sponsored Research

Oct. 1990	**Student Attainment** (posttest)	Math/reading comprehension	44 schools	IEES
Oct. 1990	**Quality of Worklife Questionnaire**	Complexity, interest, control, information flow, efficacy	teachers in 44 schools	JSEIP
Feb. 1991	**Student Attainment** (ABC/posttest)	Math/reading comprehension	44 schools	IEES
June 1991	**Botswana Classroom Observation Protocol** (version 3)	Classroom characteristics, teachers' use of instructional materials, pedagogical behaviors, student engagement/involvement in learning activities	teachers in 44 schools	IEES/JSEIP
June 1991	**Botswana Teacher Questionnaire** (version 2)	Performance efficacy, career satisfaction, teachers' criteria of success, teachers' use of time, teacher-community relationships, instructional supervision, teachers' SES	teachers in 44 JSS	JSEIP/IEES

NOTE: Number of teachers and schools varies across published studies, depending on the particular variables included in the study.

Improving the Efficiency of Educational Systems Project Documents

Improving the Efficiency of Educational Systems (IEES) is a ten-year initiative funded by the Agency for International Development (AID), Bureau for Science and Technology, Office of Education. The principal goals of the IEES Project are to help developing countries improve the performance of their educational systems and strengthen their capabilities for educational planning, management, and research.

IEES publications are disseminated to promote improved educational practice, planning, and research within developing countries. All IEES publications are held in the Educational Efficiency Clearinghouse at the Florida State University.

I. IEES MONOGRAPHS

The Evaluation of Efficiency in Educational Development Activities (April 1986)

Indicators of Educational Effectiveness and Efficiency (February 1988)

Education and Human Resources Sector Assessments (August 1988)

II. IEES TRAINING MATERIALS

Microcomputer Applications for Education Planning and Management (4 Modules) (December 1986)

Policy Analysis Workshop Training Manual (3 Vols) (January 1988)

Policy Analysis Workshop Training Manual(French) (January 1988)

JSEIP: The World of Educational Innovations (Computer-based Educational Game) (January 1989)

Introduction to Computer Applications in Educational Data Processing (June 1989)

Manpower Planning Project Training Workshop (3 Volumes) (January 1989)

A Guide to Educational Training Materials: A Review of Training Materials from IEES and Other Assistance Agencies (June 1989)

(see IEES Field Papers [VIII below] for other training materials)

Education Management Information Systems: Final Report (May 1989)

Teacher Incentive Systems: Final Report (May 1989)

Strengthening Local Education Capacity: Final Report (May 1989)

III. COUNTRY DOCUMENTS

BOTSWANA

Botswana Education and Human Resources Sector Assessment (June 1984)

Botswana Sector Assessment Executive Summary (June 1984)

Botswana IEES Country Plan (June 1985)

Botswana Sector Assessment Update (March 1986)

HAITI

Synthse: Evaluation de Secteur de l'Education et des Ressources Humaines d'Haiti (June 1985)

Resume: Evaluation de Secteur de l'Education et des Ressources Humaines d'Haiti (August 1985)

Haiti Education and Human Resources Sector Assessment (English with French Summaries) (March 1987)
- Volume I
- Volume II
- Volume III
- Volume IV

Haiti Country Implementation Plan, Project Years 3-4 (June 1987)

INDONESIA

EPP Policy Study (MIS Report) (1986)

Microcomputer Applications for Education Planning and Management: A Modular Training Program (December 1986)

Indonesia Education and Human Resources Sector Review (April 1986)
Volume I
Volume II
Volume III

Indonesia Country Implementation Plan (May 1987)

EPP Policy Study: A Guide to Medium-Term Manpower Planning for the MOEC Executive Summary (May 1987)

The Economics of Vocational and Technical Education: Do the Benefits Outweigh the Costs? (July 1987)

Universal Basic Education: An Overall Strategy of Investment Priorities for Economic Growth (November 1987)

Planning Human Resources in Indonesia (March 1988)

An Efficiency-Based Management Information System: A Framework for Accessing and Analyzing Indonesian Education Data (November 1988)

Policy Research Brief: Improving the Quality of Basic Education in Indonesia

Policy Research Brief: The Quality and Efficiency of Vocational/Technical Education in Indonesia (July 1988)

Potential Resource Recovery in Higher Education in the Developing Countries and Parents' Expected Contribution (July 1988)

A Specific Program for Refinement and Phasing in of a Computerized School Aid Formula for Indonesia (July 1988)

Social Rates of Return and Labor Market Analysis by Province in Indonesia (February 1989)

EPP: Vocational and Technical Education in Indonesia: Theoretical Analysis and Evidence on Rates of Return (July 1989)

A Review of the New Teacher Policies (January 1990)

Indonesian National Curriculum Reform Strategy Paper (March 1990)

Education Indicators for Policy Purposes in Indonesia (May 1990)

A Review of Teacher Education Issues in Indonesia (June 1990)

LIBERIA

Background Papers in Liberian Educational Development (October 1986)

The Feasibility of Integrating Programmed Learning with Conventional Instruction in Liberia Primary Education (November 1986)

Liberia Education and Human Resources Sector Assessment (September 1988)

NEPAL

Nepal Country Workplan (June 1986)

Nepal Country Implementation Plan (March 1988)

Nepal Education and Human Resources Sector Assessment (May 1988)

Improving the Efficiency of Primary Education (January 1990)

SOMALIA

Somalia Education and Human Resources Sector Assessment (January 1984)

Somali Civil Service Study (July 1984)

Enhancement of School Quality in Somalia (August 1985)

Strategies for Enhancing the Quality of Education in Somalia (January 1986)

The Distribution of Instructional Materials in Somalia: Strategies for Improving the Textbook Distribution System of the Somali Education System (August 1986)

Incentives for Primary Teaching in Somalia (October 1986)

SOOMALI-ENGLISH/ENGLISH-SOOMALI Technical Term Dictionary of Economics (December 1986)

The Integrated Strategy for Improving the Primary Education in Somalia (January 1987)

Somalia Country Workplan 1987-88 (October 1987)

Somalia Country Implementation Plan for IEES Activities (Update) (April 1988)

EMIS Status Report (April 1988)

YEMEN ARAB REPUBLIC (YAR)

YAR Education and Human Resources Sector Assessment (January 1986)

YAR Sector Assessment Executive Summary (Arabic) (January 1986)

YAR Country Plan (February 1986)

Proposal for the Design of an EMIS for the YAR (July 1986)

YAR Country Implementation Plan (May 1987)

IV. IEES FIELD PAPERS

IEES Field Papers are brief outlines, guides, or summaries produced by consultants or staff as part of the long-term IEES assistance strategy. Some of these papers are products of USAID-funded and IEES-administered field projects now underway. These papers are copied and disseminated in their original, unedited form because of their potential usefulness to technical staff, planners, and decisionmakers in developing nations and to agencies assisting those nations.

BOTSWANA

Workshop Outline on Writing Test Questions (November 1986)

Instructional Design Course, Unit Three: Aims and Objectives (June 1987)

Instructional Design Course, Unit Four: Events of Instructions (November 1987)

Instructional Design Course, Unit Six: Teaching Methods, Techniques and Learning Activities (November 1987)

Instructional Design Course, Unit Seven: Lesson Notes and Lesson Plans (November 1987)

The Chalkboard: A Primer on Effective Chalkboard Use (September 1987)

Some Issues in Designing a "Practical Science" Curriculum (September 1987)

Summary of the Microteaching Clinic at Molepolole College of Education (September 1987)

Education Program Evaluation Guidelines for Botswana (1988 Edition)

Reading with Understanding: Guidelines for Teachers (1988)

LIBERIA

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