UNE STRATÉGIE
DU DÉveloppement
Des RESSOURCES HUMAINES

COMMUNICATIONS DÉCOULANT
DU SÉMINAIRE-ATELIER TENU
À YAOUNDÉ, CAMEROUN,
DU 2 AU 5 FÉVRIER 1988
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Une stratégie du développement des ressources humaines

Communications découlant du séminaire-atelier
tenù à Yaoundé, Cameroun, du 2 au 5 février 1988

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Improving The Efficiency of Educational Systems

Project Summary

IEES

Improving The Efficiency of Educational System

February 1987
Introduction

The purpose of this document is to familiarize the reader with the rationale for the Improving the Efficiency of Educational Systems (IEES) Project, describe its structure, and illustrate the nature of the activities and accomplishments of the project to date. A detailed discussion is included on the policy impact of IEES activities in Somalia and Botswana, the two countries where the IEES Project has worked most intensively. This document concludes with a description of the structure and content of the project’s recently approved topical research agenda.

The IEES Project is an initiative funded in 1984 by Agency for International Development (AID). Its principal goal is to help developing countries improve the performance of their educational systems and strengthen their capabilities for educational planning, management, and research. To achieve this goal, a group of U.S. institutions has been chosen to work collaboratively with selected host governments and USAID Missions over the next ten years. The consortium includes the Florida State University, Howard University, the Institute for International Research, and the State University of New York at Albany.

Eight countries currently are participating in the IEES Project. Four are in Africa: Botswana, Liberia, Somalia, and Zimbabwe. The other four countries are Haiti, Indonesia, Nepal, and the Yemen Arab Republic.

The review of the IEES Project’s activities and accomplishments presented in this document suggest that the project is succeeding in meeting its goals of efficiency enhancement and local capacity development. The policy impact of the IEES activities provides strong support for the validity of the basic IEES conceptual framework, the derived strategy and methods, and for the emphasis that has been placed on the collaborative approach to the design, implementation, and evaluation of all project activities.

However, it should be recognized that the project success to date is more a foundation than a capstone. While the project’s achievements are impressive by themselves, their real significance is that they provide the project with experience and credibility that can be utilized over the remaining eight years of the project’s planned life. The nature of technical assistance and collaboration is such that, once successful relationships are established, the potential for future achievements is expanded exponentially. The challenge for the IEES Project now is to build on the foundation of its current achievement in such a manner that the conceptual and organizational structure of the project gain acceptance well beyond the IEES network of countries.
These sanguine comments are made in full recognition of the fragility of any project relative to fiscal reallocations and budgetary constraints. However, assuming support at the level proposed in the original contractual agreement, the IEES Consortium can be a significant partner in the USAID development strategy.

BACKGROUND

The conceptual framework of the IEES Project links the project’s purpose, its structural design characteristics (the rationale for specific activities), and specific evaluation criteria. This framework is itself rooted in the two major goals stated for the IEES Project:

- improved performance of the educational systems, and
- strengthened in-country capabilities for educational assessment, planning, management; and research.

1. Assumptions

The IEES Project is based on four major assumptions.

The first is that the developing nations will face an increasing scarcity of resources relative to emerging needs and demands in the education and human resources sector. While the nature and degree of this scarcity will differ from one nation to another among the diverse set of nations participating in the IEES Project, the problem of educational resource scarcity is common to all of them.

The second assumption, derived from the first, is that a policy emphasis on improved efficiency in the use of educational resources will become a major factor in educational planning. This emphasis is likely to focus on issues of increased effectiveness and cost contrainment. The political and demographic realities in most developing nations greatly restrict the scope for significant cost reductions and even, in some cases, of internal resource reallocation. The project will give special importance to activities aimed at controlling cost increases and encouraging, wherever possible, reallocation of both new and existing resources to their most productive use.

Third, a commitment to data-based analysis and decision making in the sector is essential to improving efficiency. Such a commitment should enhance the administrative efficiency of the system and improve the quality of decision making from the levels of national and local government officials to that of individual families and students.

The final major assumption of the IEES Project is that the development of long-term, flexible, coordinated planning, based upon valid and realistic data that are competently analyzed, will have the greatest effect on promoting the social and economic development of the participating nations.
2. Design

The structural design of the project focuses upon those components for which a careful orchestration of external assistance can enhance a country's capacity to use its resources more efficiently. These are education and human resource sector assessments and updates, planning, research and development training, evaluation, and networking. The ultimate goal of IEES is the further development of existing national capacities to conduct these structural activities. Only when each nation can manage its own IESS-type of program effectively will the work of the IEES Project by complete.

The structural components are implemented with the following characteristics:

1. Collaboration. Host country participants are full partners in the design, conduct, and evaluation of all IEES activities educational outcomes.

2. Comprehensiveness. IESS activities are designed and conducted within the context of the full EHR system and with attention to wider social and economic determinants of educational outcomes.

3. Coordination. This requirement constitutes both a strategy and a goal. The Project attempts to promote coordination of educational policy within and among government agencies, between the government and the private sector.

4. Continuity. Through the placement of Resident Technical Advisors, the recurrent use of personnel increasingly familiar with local conditions, and the sponsorship of activities linked to each other in reinforcing sequences, the projects develops a continuity of commitment to each of the participating nations.

5. Conceptually-based. The activities of the IEES Project are directed toward the goals of the project, to improve the efficient of education systems and to increase local capacities. They are undertaken with a common methodology that will be open to testing and revision through the joint efforts of IEES and host country personnel.

On going evaluation of the IEES Project enables frequent checking of whether the project is progressing toward its stated goals. To assess progress, it will be necessary to identify an appropriate set of indicators, measurements, and milestones. It will also be necessary to consider whether the project is focusing on the optimal components and the extent to which these are being implemented properly.
3. STRATEGY

The IEES implementation strategy is based on an analysis of assistance to education in the developing world over the past quarter century. The primary lesson drawn from this analysis has been that a sustained, systematic, and multi-dimensional approach to the programming of human resource development assistance is required if such aid projects are to produce a lasting impact on the performance of educational systems. Reflecting these insights, the IEES strategy lays special emphasis on several key themes:

1. Long-term commitment. The project is designed to deliver a package of technical assistance and other resources over a continuous ten-year period.

2. Sector approach. Assessment of the current status of the education system and its relationship to national development goals is used as a framework for the conception and design of all project activities.

3. Resource constraints. In many developing countries, budgetary constraints have severely limited the level of government resources available for education. The IEES Project takes account of these constraints and attempts to help participating countries make optimal use of existing resources and, where possible, to generate new ones.

4. Capacity building. Particular emphasis is placed on strengthening national capabilities for analysing and planning the efficient allocation of human and fiscal resources within the education sector.

5. Systematic Technical solutions alone are not sufficient to improve education systems. Each country has a unique socio-cultural context, and it is only through meaningful collaboration with host country personnel that feasible strategies for educational improvement can be developed. The IEES Project has build-in mechanisms to ensure close cooperation with host country, USAID, and other donor personnel in all phases of work.

4. Activities

The IEES strategy is implemented in terms of five major component activities.

1. Education and Human Resource (EHR) Assessment. In most participating countries, an initial comprehensive assessment of the education and human resource sector is undertaken in collaboration with host country and Mission personnel, and subsequently updated on a regular basis. This system-wide analysis of major indicators of educational performance is designed to inform long-range education and human resource planning and to provide practical training in data collection and
analysis. At the same time, the conclusions and recommendations draw from the assessment permit the host government to identify areas of particular need or potential for educational improvement and enable IEES (as well as the donor community) to identify the forms of assistance that promise to have the greatest impact on education efficiency.

2. Training. The project provides training designed to improve host country capability to analyze and plan the efficiency allocation of human and fiscal resources within the education and human resource sector. Training will be both in-country and in the United States. Where appropriate, local personnel and training institutions will be utilized.

3. Research and Development Support. Systematic support is given for the design execution of medium-scale Research and Development (R-D) projects with maximum participation by relevant host country institutions. Research themes are derived from needs identified in the sector assessment or during the implementation of field projects. The R-D projects focus primarily on current inefficiencies in the educational system.

4. Field Projects for Educational Innovation. One or more major field projects aimed at increasing the efficiency of selected subsectors of the educational system may be implemented in each participating country. These projects will address priority needs identified in the sector assessments and are designed in collaboration with the host country and the USAID Mission as a means of meeting mutually-defined objectives; The projects may involve either dissemination and implementation of new educational methods (such as those developed during the R-D phase of the overall project) or enhancement of the institutional capacities of host country structures for educational planning and administration.

5. Knowledge Building and Exchange Network. IEES also contributes to building an in-country knowledge base for future educational planning and decision making and to developing an exchange network among educational researchers and practitioners within the country. Appropriate host country institutions will assist in managing these activities. An in-country clearing house will collect and make available to host country educators the result of educational research relevant to national problems and priorities, reports of seminal work done elsewhere in the developing world, and other documents generated or collected in-country during project activities. Workshops, seminars, and conferences will be organized to promote exchange networks for improved linkages among host country educators, with colleagues in other participating countries, and with support institutions in the developed nations.
It should be noted that the sector methodology, as refined by IEES personnel in cooperation with staff of the AID Bureau for Science and Technology, Office of Educational, emphasizes two major analyses of capacity.

The first, the economic and financial analysis, assesses the aggregate economy and national budget in terms of fiscal absorptive capacity. Special attention is directed toward the ability of projected EHR ministry budgets to absorb the recurrent cost anticipated from existing and planned EHR programs and projects. In addition, this section of the sector assessment concerns itself with issues of manpower supply and demand and the private versus social benefits derived from expanding or enhancing the various levels and forms of education.

The second capacity analysis concerns the management environment within the nation. The emphasis here is on the present status of management skills, the needs for improvement or expansion, and the ability of existing or planned educational and training programs to meet the emerging needs.

The remainder of the report focuses on specific EHR subsectors and, where agreed upon with host counterparts, issues of unique or special interest to the host government. To date such special issues have concerned language constraints, Koranic educational, and the role of the private sector in providing or supporting education and training activities.

The discussion of a subsector proceeds from historical setting, national goals, and current status, to analysis, identification and specification of issues, and formulation of conclusions and recommendations for EHR policy and practice. The IEES sector assessment methodology focuses on five major analytical issues:

- External efficiency
- Internal efficiency
- Access and equity
- Administration and supervision, and
- Costs and financing

This common framework across subsectors promotes both improved comparative analysis and a more integrated development of conclusions and recommendations.

5. Publications and Training Materials

The IEES Project is publishing two monographs to improve decision-making about the sector. One will assist government professionals to evaluate the efficiency of their educational programs. It will describe procedures for determining the effects of different instructional arrangements on internal and external efficiency and on access and equity. Another monograph is being developed to elaborate the indicators of educational efficiency.
AID and IEES staff have advanced the use of sector assessments for national programs of education and human resources development. To capitalize on this experience, a handbook with guidelines for conducting and using a sector assessment is being developed for interested governments and donors agencies.

The Economic Development Institute of the World Bank and IEES staff are jointly developing a training program for mid-level government planners. It is intended to enhance the analytic and planning capacities of ministries of education. Technical officials will be trained in responding to policy crises and will be introduced to new and simple analysis and research techniques. These will include using microcomputers to analyze case studies that correspond to software containing a national educational data base. This program, being developed in both French and English, has been tested at the Centre Inter-africain de Recherches et d'Etudes Superieures (CIRSSSED) of the University of Benin in Togo. It is now under final revision, and will be available soon for staff development in participating countries.

ACCOMPLISHMENTS

This section presents a detailed summary of the status of the IEES Project in Somalia and Botswana. Somalia and Botswana are emphasized here because they represent a mature example of the nature of the IEES Project and its potential policy impact.

1. Somalia

The activities of IEES staff members in Somalia predate the signing of the formal contract for the IEES Consortium; two members of the IEES staff were participants in the original EHR Sector Assessment team in Somalia in June-July, 1983 (Appendix 5.2). The assessment team reported to a Somali government committee chaired by the Ministry of National Planning. The committee also included representatives from the Ministries of Education, Culture and Higher Education, Labour and Social Affairs, Finance, Agriculture, and Livestock, Range, and Forestry, as well as the Chamber of Commerce and the Somali Institute of Development Administration and Management. Draft versions of the assessment were reviewed in-country in July 1983, and a fully-edited draft copy of the assessment was delivered to the government in September 1983. Following a November, 1983, visit to Somalia to collect responses to the preliminary version of the assessment, the revised assessment was published in January, 1984, as a Somali government report.

The assessment's dramatic impact on policy review in Somalia was due to two factors. The first was the close cooperation of the government officials and representatives of major donor agencies in the planning, conduct, and review of the assessment. The second was the concurrent vital interest of the Somali government in resolving the severe inefficiencies in the country's EHR system, an interest heightened by the internal and external pressures weighing on the national economy in 1983-84. While the direct effect of the assessment on individual changes in policy varies, the assessment played at least a facilitating
and sometimes decisive role in policy change. The major changes that coincide with, or followed, completion of the assessment are indicated in Appendix 5.3.

Of all the recommendations from the assessment, the one that met with most support was the need for study and reform of the government’s system of administration and management. In late 1983, agreement was reached between U.S. Ambassador Robert Oakely and Somali Minister of labour and Social affairs Abdi Warsame Issak for the Ministry conduct a Civil Service Study (CSS) with technical assistance from the U.S. The study would involve direct participation by the Ministries of the Finance and of National Planning. To support the CSS, AID/W’s S&T Bureau, in cooperation with the USAID Mission in Mogadishu, supplied a team of technical experts to work with the Ministry of Labour and Social Affairs (MLSA) technical staff.

The CSS team consisted of five members from SUNY Albany and one from FSU. The study, conducted in Somalia from February to May 1984, was begun subsequent to the selection of the IEES Consortium, but prior to issuance of the IEES contract on June 11, 1984. However, the editing and distribution of the draft CSS report in June 1984, was the first external task undertaken by the IEES Consortium after the contract was signed. The final report was published as a document of the MLSA in September 1984. As shown in Appendix 5.4, nine recommendations in four policy areas were presented. In addition, detailed recommendations with suggestion for sequencing and timing were provided for each of the four policy areas.

Between the preparation of the June and September versions of the CSS report, a major reassignment of government staff occurred in Mogadishu (Appendix 5.5). Of greatest relevance to the project was the replacement of all senior staff in the MLSA. It is indicative of the strong Somali government commitment to the issues raised in the CSS report that the new MLSA minister, Abdiqassim Salad Hassan, moved rapidly to organize a National Symposium on Civil Service Development. The symposium, held September 25-27, 1984, was opened by a strongly supportive speech by the President of Somali, Siad Barre.

The symposium was attended by senior-level representatives of all ministries of the government, autonomous agencies, representatives of the Somali Revolutionary Socialist Party and the People’s Assembly, as well as heads of private business firms and organizations. Government participation was at level of Permanent Secretaries, Vice Ministers, and Ministers. A total of 130 officials attended. Noteworthy was the active participation by the Ministries of National Planning, Commerce, Education, and, of course, Labour and Social Affairs, as well as most of the members of the Central Committee.

Abdiqassim Salad Hassan, MLSA minister, reviewed the Somalia Civil Service Study, noting that the government was Committed to bringing about greater efficiency in the civil service as a means to achieve national development objectives. The minister congratulated USAID on providing technical experts who had assisted ably in preparation of the report. He then announced five action priorities for the government:
1. increase administrative effectiveness, professional competence, and unified government operation;

2. introduce sound personnel practices and employment policies at all organizational levels;

3. establish functional control while ensuring established procedures are followed;

4. establish sub-units on a structural basis related to function;

5. streamline the civil service and make remuneration commensurate with performance so as to promote greater government efficiency.

Concurrent with the Somali government's response to the CSS was the consideration of a management training project by the USAID Mission. With the assistance of IEES staff, the Mission designed the Somali Management Training and Administrative Development (SOMTAD) Project, which is scheduled for implementation in 1986. The SOMTAD Project will provide both formal and job-site management training for government and private sector staff, while enhancing the training and research capacity of the Somali Institute of Development Administration and Management.

Since the symposium, the government has proceeded to trim the civil service. Most workers who are displaced are eligible for one year of salary plus training opportunities and/or land for agricultural development. In addition, the pay reform plans recommended in the CSS are being actively discussed by the Somali Parliament.

IEES Project field activities in Somalia began with a Secondary Headmasters Workshop in February 1985, and a Microcomputer Training workshop in June 1985. A Resident Technical Advisor (RTA) was placed in Somalia in May 1985, and the 1985-86 IEES Country Implementation Plan was finalized in discussions with the IEES Coordinating Committee in Somalia in that same month. In 1985-86, approximately 14 person-months of short-term technical assistance were provided to Somalia, in addition to the ongoing services provided by the RTA.

Two major events have recently affected the impact of IEES activities in Somalia. First, during the summer of 1986, the World Bank decided to postpone further loans to the education sector in Somalia. During that same time period a concept paper prepared by USAID/Somalia (based on the IEES Concept paper developed at FSU in January 1986) proposing AID funding for a primary education improvement project, was not approved for development as a project by AID/Washington. The combined effect of these decisions was to seriously reduce the funds which MOE had anticipated would be available for educational development activities. In response to these events, the IEES activities outlined in the Year Three Country Implementation Plan were reprogrammed to assist the MOE to develop a transitional strategy for improving the quality of primary educational until other sources of external donor funding could be secured.
Due to the funding changes described above, the donor coordination activity described in the IEES Country implementation Plan was changed to the development of a transitional strategy responding to the loss of anticipated donor funding for educational development. Douglas Windham of SUNY and Sivasailam Thiagarajan of IIR assisted the MOE to develop this transitional strategy. The purpose of the strategy was to identify a course of activities which the MOE could pursue that simultaneously will increase teacher effectiveness and student learning in the present school environments and also establish a core instructional format for the complementary improvements that should result from the full implementation of the existing primary educational reform. The emphasis of their work was to identify a strategy that could be accomplished within the constraints of Somalia's available financial and human resources. Their report was developed in-country with the assistance of Frances Kemmerer of SUNYA and Jerry Messec of FSU, reviewed with appropriate MOE personnel, edited, and final copies were made available to the MOE and other appropriate groups.

A Teacher Incentives Study undertaken by Frances Kemmerer of SUNYA in August and September, 1986, was devoted to collecting the background information and analyses necessary for the effective participation of Somalia MOE personnel in the IEES Policy Research Initiative on Teacher Incentive Systems. In addition, Kemmerer assisted in the development of the transitional strategy as described above. She prepared a paper, Incentives for Primary Teaching in Somalia, which serves as a base for development of the teacher incentive research now being conducted under the IEES Policy Research Initiative.

In August and September, 1986, Jerry Messec of FSU assisted the MOE in a study of the educational materials distribution system to develop specific strategies for improving the existing system. The proposal recommended strategies in support of the proposed transitional strategy for primary education and discussed longer-term strategies for developing a national system for instruction materials distribution, as well as immediate action steps to be taken within existing fiscal constraints.

While in-country Messec, Kemmerer, Thiagarajan, and Windham also participated in a training seminar on proposal writing organized by the RTA, for MOE Department Heads and staff. The training seminar also served as an opportunity to present the recommendations for the transitional strategy for improving the quality of primary education which was being developed concurrent with the materials distribution planning activity.

The long-term IEES strategy for Somalia consists of three stages. The stages are organized by chronological sequence, but simultaneous activities may occur in more than one stage. In Stage I, intensive training activities will be conducted with the goal of enhancing the institutional capacity of the central administrative units of the Ministry of Education (MOE). The primary counterpart units for the IEES project are the Department of Education Development and the Planning Division. Training opportunities also will be provided for staff in the areas of teacher training, curriculum development, and primary and secondary school administration and supervision. Activities will be offered both in management
skills and specific technical skills. Specific training opportunities will be identified each year on the basis of the IEES Country Implementation Plan for Somalia.

Stage II will continue the emphasis on institutional capacity development, but will shift from formal training to collaborative on-the-job activities. The three major areas anticipated for collaborative exercises are (1) planning, (2) research and development (including field experimentation), and (3) project design and implementation. In each of these exercises, one or more technical advisors from the IEES Project will work with a MOE team of professionals under the direction of a senior MOE staff member. Project design work will include both those project activities for which government funds are allocated and those for which external donor support will be sought.

Based on the results of Stage II activities, IEES will assist, as deemed appropriate by the MOE, in the implementation of projects and other planned modifications in the educational system. In Stage III, the focus of activity will be on the classroom and the school. Activities will be planned to improve the ability to affect the internal utilization of resources and the external relevance of the educational product. Some of the areas planned for Stage III involvement are in-service teacher training curriculum and instructional materials development, dissemination and utilization of materials, and the examination of alternative instructional technologies, such as interactive radio instruction.

Efforts to improve the efficiency of the educational system in Somalia are sensitive to differences in efficiencies due to personnel versus those due to program design. To the extent that the inefficiencies are due to ineffective personnel, the capacity-building activities of IEES contribute directly to efficiency improvements as key people receive better training.

To the extent that the inefficiencies are due to poorly devised strategies and programs, efficiency will be improved through IEES assistance in designing and implementing new programs. Five program implementation activities are participated over the life of the project.

1. Assist the Department of Education Development to design and implement a computer-based personnel management system and an improved budgeting and forecasting system;

2. Assist the Departments of Primary Education, Secondary Education, and Examinations to design and implement improved student tests;

3. Assist the MOE to design and implement a materials distribution system;

4. Assist the Inspectorate to devise a system to monitor school quality; and

5. Assist the Department of Teacher Education to develop and implement an in-service teacher education program.
The Transitional Strategy for Improving Primary Education is the culmination of the IEES efforts to improve educational efficiency in Somalia. It builds upon the recommendations of the EHR Sector Assessment and the Quality Enhancement Study, as well as the concept paper developed in early 1986 for improving primary education. Strong government and donor community support for this strategy indicated both the degree of commitment for the reform of primary education and also the careful work IEES RTA and technical advisors have accomplished to build this support. This strategy potentially offers dramatic improvement in both quality and access of education for Somali children. It is supported by the continued commitment of IEES to build a functional EMIS to serve educational analysis and planning. The recent successes in shifting the operational training for this EMIS to Somali counterparts points to the efficiency of the IEES training program as developed in the Country Implementation Plan, as well as to the dedication and work of Somali counterparts in the MOE Planning Department.

2 Botswana

As in Somalia, project activities by IEES staff members in Botswana predate the contractual initiation of the IEES Consortium. An EHR sector assessment was conducted in Botswana in October-November 1983, with a revised version of the sector assessment report published as a Government of Botswana (GOB) report in June 1984. That report was coordinated for the GOB by the Ministry of Finance and Development Planning (MDFP) and the interministerial Steering Committee in cooperation with the United States Agency for International Development (USAID). The sector assessment report was seen as establishing a foundation or base-line document which could be extended and revised as new issues arose or new data became available. Because of the close collaborative work between the IEES personnel and the staffs of the government EHR agencies and of the other major donor agencies in Botswana, the EHR sector assessment has had a dramatic policy impact and has led to significant new initiatives.

Since the sector assessment, the IEES Project has provided technical assistance in the areas of planning, research, and evaluation, to both the local USAID Mission and the GOB.

During May 1984, a team helped the Mission identify its next major education effort, the Junior Secondary Education Improvement 1985 Project (JSEIP). The purpose of this project is to increase the quality and efficiency of an expanded basic educational system and to strengthen the capacity of the MOE to develop, manage, and support that system. The same team assumed two other responsibilities while in Botswana: (1) review of the sector assessment with GOB counterparts and USAID personnel in order to correct any errors or omissions; and (2) design of an IEES Country Implementation plan laying out the activities that the project would undertake over the next five years in support of improving educational efficiency in Botswana.
The IEES Project helped prepare the Project Paper for JSEIP between September and November 1984. On April 19, 1985, the JSEIP Project Agreement was signed by representatives of USAID and the GOB. With knowledge that it was the intention of the USAID and the Mission in Gaborone to ask the IEES Consortium to implement JSEIP, consortium members successfully recruited candidates of fill eight of the ten full-time technical assistance positions by late 1985. The two remaining positions were filled in 1986.

From April to May 1985, a three-person IEES team assisted the GOB to conduct an EHR Sector Assessment Update to prepare for JSEIP. It focused on three areas (the economic and financial status of the EHR sector, teacher training, and the primary and secondary education curriculum) in which either substantial change had occurred since the original assessment or in which the assessment had provided inadequate detail.

The attention focused on economic and financial issues was justified because of the dramatic changes which had occurred in the Botswana economy over the preceding 18 months. In addition, development of the Fourth National Development Plan provided more detailed and current information for projected development and recurrent expenditures.

Continued policy concern for educational quality, and changes in the primary and secondary education system, prompted a decision to update the areas of teacher training and curriculum. The timing of this analysis was especially propitious because of the initiation of a new junior secondary curriculum, the planned change in the structure of secondary education (moving Form III from the junior to the senior secondary cycle), and the changes in the teacher training system (such as opening Molepolole College of Education and restructuring programs at the University of Botswana).

Work on the Sector Assessment Update took place under the direction of a GOB Reference Group chaired by the MOE and including the Ministries of Finance & Development Planning, Home Affairs, and Local Government & Lands, as well as the University of Botswana, and USAID. The Reference Group reviewed a draft of the Botswana Education and Human Resources Sector Assessment Update (June 1985) in November 1985, and it was published as a GOB document in March 1986.

Concurrent with the conduct of the Botswana Sector Assessment Update, a two-person IEES team joined GOB officials to develop an IEES Country Implementation Plan for 1985-86. The planning team's work in Gaborone was directed by an interministerial Reference Group chaired by the Principal Planning Officer of the MOE. Members of this Reference Group, who represented four ministries and the Office of the President, guided the team during its work, reviewed a draft version of the plan prepared while the team was in Gaborone, and made suggestions and recommendations which were incorporated into the final document. The Botswana IEES Country Implementation Plan, 1985.
The central objective of the Botswana plan is to identify priority activities for IEES assistance in order to: (a) improve the efficiency of resource allocation in the EHR sector, and (b) strengthen the institutional and individual capacity of the sector to support a fully integrated approach to educational planning and management.

The plan is designed to assist Government in achieving its priority targets in the sector and to clarify the interrelationships among all proposed IEES activities in Botswana with respect to these targets. The plan includes proposed activities related to collaborative research and knowledge building, training for capacity building, and networking for improved communication. These proposed activities focus on the major goals of Government and of the IEES Project within an overall integrated strategy.

In June 1985, funding from the IEES Project was provided to support short-term training for a staff member of the Botswana Research and Testing Centre. This individual attended a one-month course entitled "Statistical Analysis and Computer Applications" at the Educational Testing Service in Princeton, New Jersey.

Because Botswana has a completed and approved IEES Country Implementation Plan, there exists and agreed-upon schedule for specific IEES activities. Activities for the period between July 1985, and September 1986, focused on the following areas:

- Computer systems design and applications.
- Evaluation training and applications.
- School management training.
- IEES Country Plan revisions.
- Sector Assessment Updates.
- Knowledge building and networking.

School Management Training. A training course for secondary headmasters was designed in September 1985, and one for primary head-teachers in October 1985. An IEES specialist spent one month preparing the syllabus and instructional materials for each of these one-week courses. The materials contain all instructions for their use. This makes the course easy to administer, ensures consistency in the quality of presentation, and permits participants to review course contents after they return to their schools. The IEES specialist observed the training courses (when presented by MOE staff), and revised the materials as needed on the basis of their effectiveness in classroom use.

Networking. The IEES International Workshop was the first of the IEES Project's major networking activities. The workshop took place in Botswana November 11-16, 1985. Representatives from six of the eight countries collaborating with IEES attended the meetings. The workshop focused on means of
improving educational efficiency and on identifying key educational research and training needs in the participating countries.

Computer Systems Design. The first activity in this series was a workshop held in March 1986, to familiarize participants with the general capabilities of microcomputers for data-based management, electronic spreadsheets, and word processing, and to produce operational plans for establishing a management information system for the participant’s respective unit. Participants represented the Unified Teaching Service (UTS), the Central Statistics Office (CSO), the Bursaries and General Formal Education, and other units interested in the design of management information systems.

Work has followed with the Unified Teaching Service (UTS) to implement the management information system designed in the earlier workshop. Appropriate computer equipment and necessary software has been provided to the UTS, along with initial staff training.

Support for the Central Statistics Office’s (CSO) education unit, the BGSIU, and the information management staff in the Department of Non-Formal Education has provided hardware, software, and training needed to implement the system designed in the first workshop.

A training course for the UTS provides additional on-site training for UTS personnel as required for full implementation of the management information system.

Evaluation Training. An evaluation design workshop scheduled for mid-1986 was the first activity of this series. Participants in this month-long workshop were MOE staff responsible for planning and coordination of inservice training of primary school teachers and headteachers, inservice training of secondary school headmasters, vocational and technical training, junior secondary education, and higher education.

This workshop presented general principles of program evaluation. Each participant prepared a specific evaluation plan collaboratively with the workshop leader. These plans comprised the basis for program evaluations to be conducted during the plan period. Each of the program evaluations is intended to provide important information for future resource allocations of the MOE.

Country Plan Revisions. The IEES Country Implementation Plan is revised annually. At the time of the annual revision, the time frame for the plan is extended for one year. Use of a rolling five-year plan allows activities and resources to be adjusted to changing needs on the basis of feedback from initial activities. These revisions are undertaken collaboratively with members of the MOE planning staff and/or other staff as designated by the GOB.

The IEES activities have focused on development of Educational Management Information Systems (EMIS) for the United Teaching Service (UTS) and the Department of Non-formal Education (DNFE).
IEES consultant Eric Eno has completed a review of software operating systems and is near completion in development of a prototype EMIS system for the UTS. This system will provide assistance in planning and managing the posting of teachers and in maintaining teacher records. Additionally, one of the principal benefits of this system will be improved ability of the UTS to respond to requests for basic information about teachers employed by the Ministry.

Eno has established a prototype system for the DNFE. This system, developed within the Correspondence Branch of the DNFE, will be used to register students for initial courses, prepare mailings of course materials, monitor student progress, monitor tutor performance and effectiveness, and measure the activity and outcomes of the Correspondence Branch.

In 1986, the University of Botswana was requested by IEES to nominate a person to participate for one year in the IEES Policy Research Initiative. Botswana has chosen to participate in the Strengthening Local Education Capacity area of the research program. The University has selected Patrick Molutsi, a Lecturer in Sociology.

JSEIP Organizational Development and Coordination. A significant achievement of the JSEIP Project has been the design and functional operation of institutional mechanisms for coordination the development of instructional systems and teacher training for the Community Junior Secondary School (CJSS) program. These mechanisms will ultimately be extended to coordinate the upper three years of the nine-year basic education program.

The JSEIP Project Planning Committee was established early in 1986. It met three times between April and September 1986 and has provided the framework and policy direction for all activities of the Project. It is chaired by the Deputy Permanent Secretary, and its members include the Chiefs of the Secondary, Curriculum, Primary and Teacher Training Departments, the Head of the Planning Unit, the Principal of Molepolole College of Education, the Chiefs of Party for the JSEIP and Primary Education Improvement Projects (PEIP), and the USAID Project Manager. It has established two very organizational bodies: the Curriculum Coordinating Steering Committee and the Education Centre Task Fore.

The Curriculum Coordination Steering Committee (CCSC) was formally established in May 1986, when the Project Planning Committee approved its terms of reference and membership. The CCSC is chaired by the head of the Curriculum Development Unit, and has representatives from the Secondary, Primary, Teacher Training, Research and Testing and Curriculum Units. The focus of the CCSC is the coordination of curriculum development, especially for the junior secondary level (including the upper grades of primary, which will be incorporated within the Community Junior Secondary Schools in the early 1990's). The CCSC has subsequently established a number of subcommittees and task forces including a Needs Assessment Committee, a Curriculum Structure Task Force, an Intensive English Committee and a National Curriculum Conference Committee. These bodies now make it possible to cross departmental lines in planning and organizing the activities necessary to achieve JSEIP objectives.
In August 1986, the Molepolole College Advisory Board was established, with terms of reference to advise on program objectives, enrollments, curriculum structures, professional and support staff, facilities and budgets. The Board is chaired by the Deputy Permanent Secretary. The JSEIP Coordinator serves as a board member. The Board is now able to provide much needed coordination between curriculum development work, inservice teacher training, and the College program.

Management Information Systems. A number of project activities have contributed to strengthening MOE capacity for planning and monitoring the expansion of the CJSS system. These activities are described below.

School Mapping. A data base of all primary schools and their distances from existing secondary schools now provides the preliminary basis for establishing school zones throughout the country. A second and related data base of all village of over 500 people (1981 Census) shows the projected population per village of CJSS entrants in relation to planned facilities, and thereby provides information on policies concerned with school size and location for the second half of the Six Year Plan.

CJSS Database. The Central Statistics Office (of the Ministry of Finance and Planning) annually sends data collection forms to all schools for completing statistical information. These are returned by May/June and data is entered into the government mainframe computer. The MOE has previously not had access to this information until it has been tabulated and produced in the following year as the compilation of the Annual Education Statistics. In August 1986, JSEIP and MOE Staff worked together to download the secondary school statistical data files from the mainframe to microcomputer diskettes that can be read by the microcomputer within the Education Planning Unit.

CJSS Staffing Analysis. The data from the CJSS files have been used to conduct an analysis of current staffing patterns, and to develop a model and projections for CJSS staffing. This analysis has recently been used by the Molepolole College Advisory Board to examine the requirements for teacher training in the next three years.

Public Information. JSEIP staff development specialist, Dwight Allen, has designed a brochure to enhance the public's understanding of the CJSS. Each school would have its own brochure, which would be updated annually. The brochures would be produced in both English and Setswana. A trial brochure for Maun CJSS has been designed using the Macintosh and Laser Printer, and 500 copies have been provided to the Headmaster. Preliminary reaction to this has been very favorable.

Improving Teacher Training. From December to June 1986, JSEIP staff, with counterparts from CD/E, the Secondary Department, the Planning Unit, and MCE, visited schools throughout the country to observe classes, interview teachers, headmasters and school board members, conduct a structured survey, and hold CJSS staff seminars. The survey provided the foundation for the design of inservice workshops, and greatly aided the posting of student teachers for Molepolole.
One critical need identified in the survey was the clarification of the objectives and methods to be used in the new subject, Social Studies. A series of 15 intensive workshops, with all Social Studies teachers in the country, were conducted between June and September 1986. Teachers were provided specific guidance and training, and were asked to develop instructional objectives, materials, and assessments. The Social Studies Panel members assisted in all the workshops. The assessment of these workshops by the MOE Education Officers involved has been very positive, and this series of workshops has served as an example for training in other subject areas.

JSEIP provides four RTAs at the Molepolole College of Education (MCE). Only one of the job descriptions of the four RTAs specifies core subject teaching responsibilities. The other posts relate to strengthening the MCE staff, evaluation procedures, and to the development of Instructional Systems at the College. JSEIP has assisted MCE in:

- establishing a new MCE Department, Art, Craft, and Technology;
- planning and organizing the first preservice teaching practice for the College;
- developing and teaching two new courses for the Department of Education;
- organizing micro-teaching in six departments; and
- organizing and conducting a series of staff seminars.

Staff Training: Joint Masters Program between the University of Botswana and the Florida State University.

Long-term training of MOE staff under JSEIP was initially scheduled to begin in September 1985, with six persons going to the USA for two-year Master degrees. During the course of the Project, 18 staff were projected to receive two years of overseas training. As JSEIP implementation began, however, it proved impossible to identify a sufficient number of candidates for this program from within the Ministry of Education who could be released for two years for overseas training. An alternative strategy was therefore required. A joint Masters' degree program with the University of Botswana (UB) and Florida State University (FSU) and ultimately approved. The joint Master's program has proven to be an excellent model of institutional collaboration and appropriate training for improving education efficiency.

JSEIP has made substantial contributions in developing the MOEs institutional capacity to develop and manage the Junior Secondary Education system through its activities in organizational development and coordination, and the development of the MOE Education Management Information Systems (EMIS). The Curriculum Coordination Steering Committee, has been established and has created several task forces and committees or planning and organizing activities, such as the Needs Assessment Committee, a Curriculum Structure Task Force,
an Intensive English Committee, and a National Curriculum Conference Committee. The Molepolole College Advisory Board has been established specifically to achieve and sustain the goals of an expanded and improved junior secondary system.

The MOE EMIS capability now includes the generation and utilization of school mapping data, an established CJSS database, utilization of CJSS staffing analyses, and a community public information pilot initiative for community awareness and support of the CJSSs.

The quality and efficiency of the expanded junior secondary educational system has also been increased through the period’s activities. A comprehensive needs assessment has been designed related to the broad aims of the nine-year curriculum. Curriculum and Instructional Materials Development Teams have been established for all core CJSS subjects.

All Social Studies teachers have participated in inservice workshops in which teachers were provided specific guidance and training and have collaborated developing instructional objectives, materials, and presently being planned for Setswana teachers.

The Molepolole College of Education has an increased capacity for establishment of a new department, two new courses, preservice teaching practice, and micro-teaching in six departments. Masters training is now annually available for 10-15 Botswana MOE staff and teachers through the program jointly sponsored by the University of Botswana and the Florida State University.

The impact of IEES Project activities, as a result of JSEIP and other assistance, has been significant. The further implementation of projected activities indicates that even greater impact on the educational system in Botswana can be expected in the future.

3. Accomplishments in Collaborating Countries

IEES Project activities in collaborating countries have resulted in important achievements. The impact of the IEES long-term, systemic approach to improve educational efficiency in these countries is detailed in the preceding country reports. The impact of recent IEES activities is summarized below.

- In Botswana, an innovative joint Master's degree training program, sponsored by FSU and the University of Botswana, has been developed by JSEIP and approved for 10-15 Botswana participants. By reducing the out-of-country training time, this program offers the degree training to greater numbers of participants and reduces the time away from critical responsibilities in the educational system. The JSEIP project continues to strengthen the Junior Secondary Education system in Botswana, and IEES-sponsored computer training has established an Education Management Information System for the Unified Teaching Service Department of Nonformal Education, and the Busaries Department.
• In Haiti, the start-up of the Incentives for Improving Basic Education (IIBE) Project and the development of the initial Country Implementation Plan for IEES Activities mark the beginning of collaborative work with Haitian counterparts which systematically builds upon therecommendations of the EHR Sector Review completed by IEES in late 1984.

• In Indonesia, the development of the Indonesia Country Implementation Plan for IEES Activities and the recent achievement of the Education Policy Planning (EPP) Project are carefully building upon the wide-spread impact of the EHR Sector Review completed by IEES in late 1985.

• In Liberia, after a year of inactivity, IEES has completed a project integration study with potentially significant impact on primary education throughout the country. The study presents strategies for integrating the World Bank-funded textbook provision project with the Improved Efficiency of Learning (IEL) Project in order to maximize investments in the sector. This assistance marks the beginning of further IEES collaboration with Liberia and will be followed by assistance with FiveYear Plan development and a Sector Assessment Update activity in 1987.

• In Nepal, the development of the Nepal Country Implementation Plan for IEES Activities has specified the collaborative efforts for improving educational efficiency in that country and has led to an agreement with Nepal counterparts to undertake a sector assessment which could provide systemic analyses for long-term, comprehensive planning. The IEES RTA has continued to support the Radio Education for Teacher Training (RETT) Project, assist the Ministry of Education and Culture with the development of an Education Management Information System, and strengthen donor coordination for more effective investments in the education sector.

• In Somalia, IEES has proposed a major strategy for improving the quality of primary education. This strategy builds upon the recommendations of the earlier Somalia EHR Sector Assessment (January 1984) and the Quality Enhancement Study (August 1985) and operates within the constraints of existing Ministry of Education resources. IEES technical advisors are now assisting Ministry counterparts with the implementation of this materials-based strategy.

• In the Yemen Arab Republic, IEES has continued to support the design and implementation of an Education Management Information System. This system will support the development of data-based decision making processes within the Ministry of Education. IEES has developed a systematic plan of activities in Yemen based upon the recommendations of the EHR Sector Assessment conducted in late 1984. Assistance has also been provided for the design of a primary curriculum project which has the potential to improve education throughout the country.

In all collaborating countries, the IEES Policy Research Initiative has completed initial plans with country research representative to lay the groundwork for in-country research activities which will begin in early 1987. Counterpart teams for the three research areas of Education Management Information
Systems, Teacher Incentive Systems, and Support of Local Capacity have developed conceptual frameworks and research management plans for effectively carrying out their research tasks. These research teams will present their initial plans at the second IEES International Conference in February 1987.

Donor collaboration in all countries has been an integral element of IEES strategy for improving the efficiency of education systems. The need for maximizing the scarce resources available in developing countries dictates that IEES work closely with government, USAID Missions, and other donor agencies. The IEES Project stresses the leadership of national governments in coordinating all donor activities and supports government efforts to improve the coordination of donors. Evidence of the success of IEES efforts in improving donor coordination can be seen in recent events in collaborating countries:

- In Haiti, IEES has effectively coordinated Catholic, Protestant, and other private sector agencies in supporting the design and initial implementation of the IIBE Project which will offer basic education opportunities to children throughout Haiti. This multi-agency support has permitted the IIBE Project to move ahead to start-up even through the turmoil of the current political period.

- In Indonesia, the implementation plan recently developed by IEES for improving educational efficiency was expanded at government request to include assistance with the coordination of other donors in the education sector. This plan now offers opportunities for interministerial, intraministerial, and donor agency collaboration, as well as cost sharing.

- In Liberia, IEES has recently worked with Liberians and World Bank staff to complete a study which recommends strategies to integrate the World Bank textbook provision project with the USAID IEL Project, thus offering the opportunity for maximizing the investments of both projects for improving both the quality and accessibility of primary education.

- In Somalia, the strategy for improving primary education within existing Ministry resources which IEES developed during this report period was the result of close coordination with the donor community in Somalia, as well as collaboration with Somali counterparts. Strong support for the strategy was offered by USAID, UNICEF, and UNHCR. The strategy permits the Ministry of Education to improve primary education dramatically while operating within existing commitments of these agencies. The IEES RTA has supported Ministry leadership in coordinating the donor community since arriving in-country in May 1985.

- In Nepal, donor coordination has proven critical for sustaining efforts to improve educational efficiency. IEES provides technical assistance for design and procedures development of the World Bank School Mapping project for the Ministry of Education and Culture. This collaboration is assisting the Ministry in building an information base and identifying criteria for both new school sites and the consolidation of existing schools. The IEES RTA in Nepal regularly coordinates IEES activities as detailed in the country plan with other donors in the education sector.
• In Togo, IEES has collaborated with the World Bank to develop a training program for providing decision makers with timely and accurate data. This collaboratively-developed program has now been field-tested, revised, and is being prepared as an IEES Training Manual for dissemination to other developing nations.

The development of strong support for IEES activities from the USAID Missions has progressed during this report period. The participation of Mission personnel from collaborating countries in the First IEES International Conference marked a turning point in Mission participation in the overall direction of the IEES Project. The Second IEES International in the Conference in February 1987 will again offer opportunities for this participation. In addition to this opportunity to participate in the complete scope of project activities, Mission staff are involved in the development of the Country Implementation Plan for each country and thus have gained a sense of the significance of IEES strategy for systemic, long-term planning. At the mid-point of the Third Project Year, it is clear that initial doubts about the efficacy of this strategy have been replaced by active involvement and enthusiastic support for IEES activities.

RESEARCH AGENDA

The focus of the IEES project is on improved resource utilization. Other research efforts of AID and donor agencies emphasize microeducational approaches (e.g., ST/ED's BRIDGES project and the World Bank "Small School Project"). The comparative advantage of the IEES Project is the analysis of policy issue at the national, regional, and district levels.

The IEES research agenda complements other analytical efforts of IEES. Three major papers are in progress to explore the following topics:

• criteria for evaluating the efficiency of educational system in developing nations,
• economic indicators of educational efficiency, and
• constraints imposed by restricted fiscal capacity on the quality/quantity choice in education.

Upon review of pressing the research needs identified in the IEES education and human resources sector assessments, three topics are recommended for attention:

1. An analysis of the incentive configuration for teacher training and employment;

2. A study of the history and present feasibility of government decentralization of responsibilities for funding and/or administration of education, and the role of the private sector as a provider or participant in the schooling process; and

3. The design of a practical generic structure for an EHR data management system to promote increased efficiency in resource utilization.
Each of these topics will be elaborated upon below.

The implementation of the research agenda will begin formally with the convening of host country representatives in May 1986. At that meeting the research program will be presented for discussion, revision, and approval by the representatives from each of the collaborating countries. In addition, the country representatives will be asked to identify the topical area(s) most appropriate for research in their country.

1. Teacher Incentive Systems

A common theme throughout the sector assessments done by USAID to date (and of similar efforts by the World Bank) is that instruction in schools remains a teacher-centered activity. Given the nature and short-run immutability of home environment influences, a teacher is the most obvious educational factor that is both subject to policy control and is a significant determinant of student achievement in the traditional classroom.

Research here will concentrate upon examining the incentives of individuals to become teacher trainees; incentives for retention and graduation from teacher preparatory programs; incentives (including assignment and pay policies) for becoming and remaining a teacher; and incentives for professional development of teachers through informal activities, formal inservice programs, or supplementary full-time training.

Analysis of topic should take into account the issues of differential impacts among regions, between urban and rural areas, among subject specializations, and by level of the school system. The nature of the incentives considered should go beyond salary and other explicit financial considerations to include the nature of the assignment process, the possibilities for further training and/or promotion, and the future career opportunities in non-teaching positions in and outside of government.

An important consideration in the design of any incentive configuration is the issue of the individual's opportunity cost. The labor market's valuation of the teacher training experience for other modern sector jobs and the existing or emerging nature of the demand for generalists is a critically important aspect of this incentives system. Two special areas of concern in regard to opportunity cost exist for the secondary science/mathematics programs and for nearly all vocational/technical programs.

Given the present probabilities concerning the nature of the teacher corps in most developing nations over the next twenty-five years, it is essential that some means be developed for supplementing and enriching the efforts of classroom teachers. Extensive experimentation has been done on instructional support systems ranging from the use of the textbooks and technologies of ration, television, and computers. It will be important to indentify factors apt to influence the widespread dissemination of sucessfull experiments with low cost in instructional technologies.
The product of this research should be an enhanced ability to restructure public sector incentives for teachers training, employment, and retention. As with all IEES activities, emphasis should not be on simply an expanded reward system but on suggestions for reallocation, if possible, and better targeting of incentives to promote the goals of the school system's specific levels and types of programs.

2. Strengthening Local Education Capacity

A major policy issue in education for international donors and host country officials is the topic of governmental decentralization and the possibility of an enhanced role for the private sector in the delivery or support of instructional activities. This is an efficiency issue in that decentralization has the potential to improve management and evaluation activities of government; governments may provide some decentralization of authority in order to encourage expanded local financing; and increased private participation has the potential to expand the resource base for education, provide more diversified instructional alternative, and improve internal resource allocation.

The forms of private participation are not restricted to religious or private secular management of schools. For many countries it may be more important to examine the role of the private sector in ancillary educational support activities such as materials production or textbook distribution programs. A special area of consideration should be the role of the private sector in providing practical training for students in secondary vocational and technical education programs.

The British Commonwealth meeting on local financing of education (held in Fall 1985 in Botswana), current initiatives promoted by the AID Administrator, and the current recommendations of some World Bank policy researchers all converge to suggest that this is an issue of both immediate and long-term importance. A review of the various discussions of this topic would suggest the following areas of research focus:

1. documentation of the nature and effectiveness of existing local and private participation;

2. identification of political constraints on decentralization or private participation;

3. examination of the possible linkage of increased localization of financial responsibility to decentralized authority for selected educational decisions;

4. potential effect of an expanded resource base from localization or privatization on quality improvements in instruction and on increased opportunities for access to schooling;

5. potential separation of responsibility for certain costs among the family, the community, and the central government.
6. linkage of educational decentralization or privatization to similar efforts in other economic or governmental sectors; and

7. probable replicability of findings, i.e., are the effects observed unique to the country studied or are they more generalizable to all or a subgroup of developing nations.

This research will provide more current and detailed information to policymakers, both in the participant countries and in the donor community, on the realistic expectations that may be attached to implementing decentralization or privatization. In addition, it should be possible to estimate more accurately the nature, amount, and incidence of the benefits and costs such policies would generate (depending on the form of decentralization or privatization attempted).

Decentralization may be easier to accomplish in such areas as school shedding and facilities construction or maintenance that in such areas as teacher selection and assignment or curricular specification. The national government appropriately may feel that these latter areas should remain a central rather than a local responsibility. Also, it was noted earlier that an increased role for the private sector includes, but is not limited to, the private operation of schools.

**EDUCATION MANAGEMENT INFORMATION SYSTEMS**

3. Education Management Information Systems.

A third topic of interest to the countries collaborating in the IEES initiative is the development of a generic data management system that will provide policymakers and planners with the information needed to increase the efficient utilization of resources in the EHR sector. One of the consistent findings across all of the sector assessments has been that there are significant data gaps in all of the EHR data collection systems. What has been more surprising, however, has been the equally consistent finding that the data that are available has been underutilized or ignored by policymakers and planners. Frequently, these decisionmakers are unaware of the existence of data exists that could be used to inform the judgments they have to make.

In response to past efforts of the donor community, every nation has at least a rudimentary EHR data collection process. The quality control exercised during this process varies widely among countries and, in some cases, within countries by subsector or geographical area. There has not, until recently, been the same degree of support for systematic assimilation and preparation of data in a form appropriate for policy or planning purposes.

The goal of this IEES research effort should be to:

1. identify the types of statistics that are most critical and/or most frequently required for policy and planning activities in the EHR sector;
2. develop pro forma for the collection of the basic data necessary to produce the required statistical information;

3. design the appropriate methods and procedures for data collection (with an emphasis on identification of quality control problems);

4. estimate costs (developmental and recurrent) for implementation of alternative forms of the data collection exercise;

5. identify the training needs of the EHR ministries in the area of data analysis and report preparation and identify or design appropriate training regimens to develop the local capacity to fulfill these duties;

6. propose suggestions for the required hardware, software, and organizational restructuring to assure the effectiveness of the data management system within the overall ministerial structure; and

7. provide a final summary estimate of costs required to implement the data management in a sequence of self-contained stages.

This research activity for the project is particularly appropriate, given IEES technical responsibilities in the USAID-Government of Indonesia bilateral project, Education Policy and Planning. With that activity as the base, a comparative structure could be developed through smaller but parallel efforts in two or more other countries collaborating with IEES. This activity could provide a generic standard against which existing data collection and utilization systems could be compared. By incorporating the consideration of training and organizational placement, the study also provides suggested remedial steps to improve existing systems that are found to be inadequate for the needs of planners and policymakers.