

-PD-ARD-814
74171

IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

Project Summary

February 1988

IEES

**Improving the
Efficiency of
Educational
Systems**

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Howard University
Institute for International Research
State University of New York at Albany**

**Agency for International Development
Office of Education
Bureau for Science and Technology
Contract No. DPE-5823-C-00-4013-00**

Improving the Efficiency of Educational Systems

Project Summary

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Project Summary

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 discussion is included on the policy impact of IEES activities in the seven countries where the IEES Project has worked most intensively. This document concludes with a description of the structure and content of the project's research agenda, training manuals and monographs on topics central to improving educational efficiency.

The IEES Project is an initiative funded in 1984 by the 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 works collaboratively with selected host governments and USAID Missions over a ten-year period. The consortium includes the Florida State University (prime contractor), Howard University, the Institute for International Research, and the State University of New York at Albany.

Seven countries currently are participating in the IEES Project: Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic (Figure 1).

The review of the IEES Project's activities and accomplishments presented in this document suggests 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 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.

Figure 1

Participating Countries

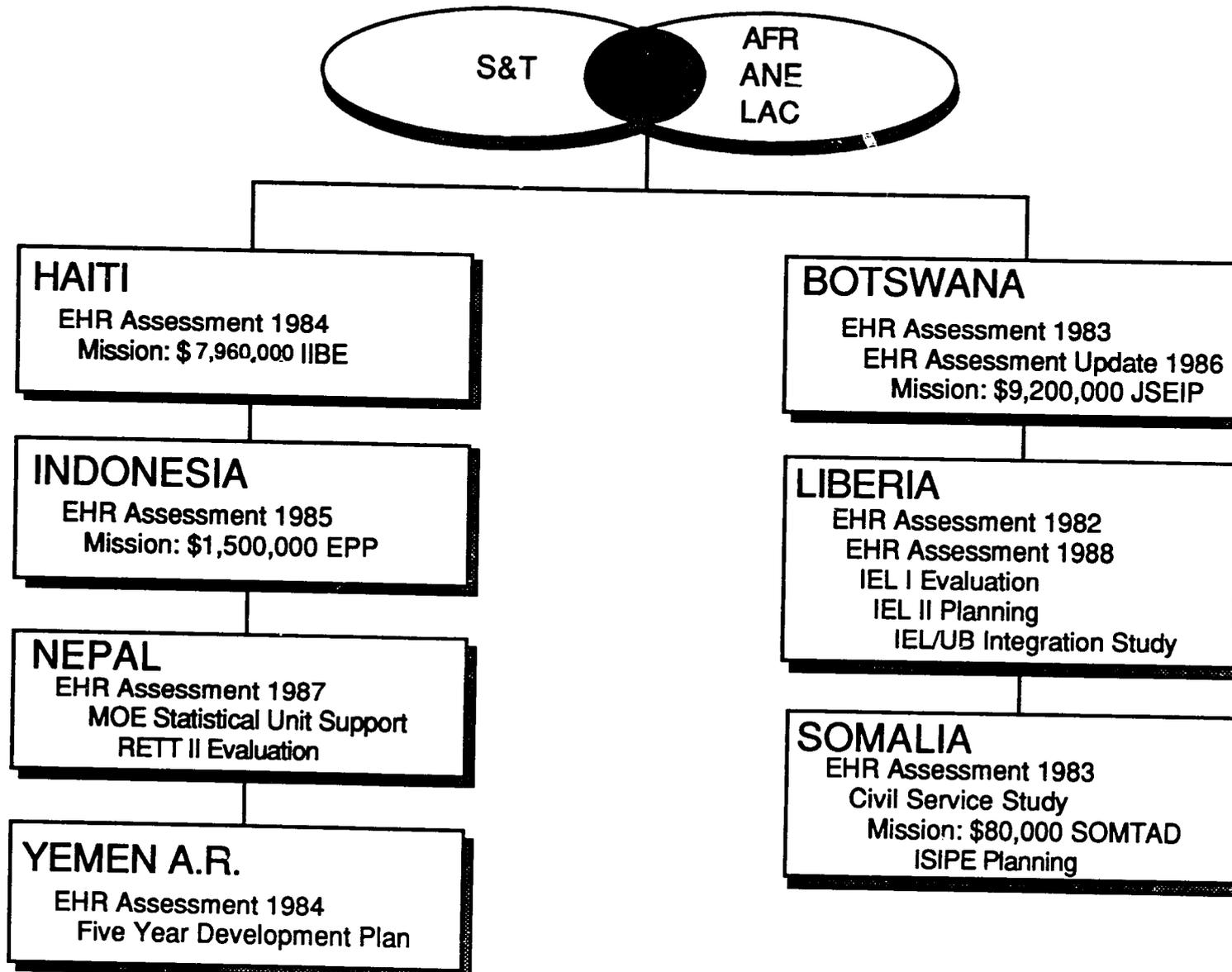


Figure 2

Project Assumptions

1

Developing nations will face an increasing scarcity of resources relative to emerging needs and demands in the education and human resources sector.

2

A policy emphasis on improved efficiency in the use of education resources will become a major factor in educational planning.

3

A commitment to data-based analysis and decisionmaking in the EHR sector is essential to improving efficiency.

4

Development of long-term, flexible, coordinated planning, based upon valid and realistic data that are competently analyzed, will have the greatest effect on promoting social and economic development.

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 expected to maintain and expand its record of accomplishment and continue to 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 (Figure 2). 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 containment. 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 databased analysis and decisionmaking in the EHR sector is essential to improving efficiency. Such a commitment should enhance the administrative efficiency of the system and improve the quality of decisionmaking 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.

Assumptions

Design

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 components 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 IEES-type of program effectively will the work of the IEES Project be complete.

The structural components are implemented with these characteristics:

Collaboration

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

Comprehensive- ness

2. **Comprehensiveness.** IEES 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.

Coordination

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 donor community, and between the government and the private sector.

Continuity

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 project develops a continuity of commitment to each of the participating nations.

Conceptually- based

5. **Conceptually-based.** The activities of the IEES Project are directed toward the goals of the project, to improve the efficiency 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.

Evaluation

Ongoing evaluation of the IEES Project enables frequent checking of whether the project is progressing toward its stated goals. To assess progress, IEES is identifying an appropriate set of indicators, measurements, and milestones. An external evaluation in project year four will consider whether the project is focusing on the optimal components and the extent to which these are being implemented properly.

Strategy

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 multidimensional 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 analyzing 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 sociocultural 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 built-in mechanisms to ensure close cooperation with host country, USAID, and other donor personnel in all phases of work.

4. Component Activities

The IEES strategy is implemented in terms of 5 major component activities:

1. **Education and Human Resource (EHR) Sector Assessment.** 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 an as needed basis. This systemwide 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 drawn 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 efficient allocation of human and fiscal resources within the education and human resource sector. Training may be both in-country and in the United States. Where appropriate, local personnel and training institutions are utilized.
3. **Research and Development Support.** Systematic support is given for the design and execution of medium-scale Research and Development (R&D) projects with maximum participation by relevant host country institutions.

Long-term
Commitment

Sector Approach

Resource
Constraints

Capacity Building

Systematic

Component
Activities

Sector
Assessment

Training

Research and
Development

Field Projects

Knowledge Building

Sector Assessment Methodology

Research themes are derived from needs identified in the sector assessment or during the implementation of field projects. The projects focus primarily on current inefficiencies in the educational system. The IEES Research Agenda is further discussed on p. 45.

4. Field Projects for Educational Innovation. Major field projects aimed at increasing the efficiency of selected subsectors of the educational system may be implemented in each participating country. Field projects are currently being implemented in Haiti, Botswana and Indonesia. These projects 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. Field 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 decisionmaking and to developing an exchange network among educational researchers and practitioners within the country. Appropriate host country institutions assist in managing these activities. An in-country clearinghouse collects and makes 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 are 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 assessment methodology, as refined by IEES personnel in cooperation with staff of the AID Bureau for Science and Technology, Office of Education, 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 costs 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 education and training programs to meet the emerging needs.

The sector assessment also 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 education, 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 has published two monographs to improve decision-making about the education sector.

Indicators of Educational Effectiveness and Efficiency. The purpose of this monograph is to identify appropriate quantitative measures of educational effectiveness and efficiency that may be used in assessing education at multiple levels of the educational system. Indicators of educational effectiveness and efficiency are required to document the present status of educational activities, to establish alternative goals for the system, and to operate as benchmarks to define progress toward better utilization of existing resources.

The monograph focuses on the practical aspects of introducing effectiveness and efficiency concepts and measures into the deliberations of educational planners and policymakers. Starting with the conceptual definitions taken from economics, the proposed indicators and their uses are judged primarily in terms of their appropriateness in the setting in which most educational decisions are made. The paper concludes with a set of recommendations of actions needed to improve the practical relevance of efficiency considerations to educational systems and institutions.

The Evaluation of Efficiency in Educational Development Activities. The objective of this monograph is to improve the practice of evaluation in educational technical assistance programs where the issues of allocative and technical efficiency in the educational system are paramount. It examines a series of practical issues in conceptualizing and designing educational efficiency evaluation studies that have particular relevance or pose particular dilemmas in international settings. The monograph includes a discussion of the evaluation procedures required to utilize the concept of efficiency and the special conditions of evaluating educational efficiency in developing nations.

Sector Assessment Subsectors

Publications and Training Materials

Training Manuals. The IEES Project has produced two training manuals to assist host country personnel in building capacity in two areas central to IEES strategy, sector assessment methodology and databased decisionmaking for policymakers.

1. **Sector Assessment Methodology.** The objective of this manual is to foster the understanding, adoption, and application of the sector approach to EHR planning and management. The manual consists of an experience-based handbook and an accompanying set of support materials.
2. **Databased Decisionmaking.** This manual is intended to train government officials in developing countries in more systematic, databased, policy analysis in situations where time is severely limited. It was developed through workshops and field testing and follows a case study approach.

A third training manual, based on the concepts and procedures presented in the monographs on efficiency and evaluation discussed above, will be produced in the IEES Fourth Project Year.

Accomplishments

This section presents a summary of the status of the IEES Project in the seven countries now collaborating to improve educational efficiency: Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic because they represent a mature example of the nature of the IEES Project and its potential policy impact.

- 1. Botswana**
- 2. Haiti**
- 3. Indonesia**
- 4. Liberia**
- 5. Nepal**
- 6. Somalia**
- 7. Yemen Arab Republic**

**Botswana
Sector
Assessment**

JSEIP

Project Paper

Countries

Botswana

An EHR sector assessment was conducted in Botswana in 1983. A revised version of the sector assessment report was 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 (MFDP) and the Interministerial Steering Committee in cooperation with the United States Agency for International Development (USAID). The sector assessment report established a foundation or baseline 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. Botswana's policy responses to the assessment are summarized in Figure 3.

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.

An IEES team helped the Mission identify a major education effort in 1984, the Junior Secondary Education Improvement 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 IEES 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 a Botswana Country Implementation Plan for IEES Activities 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 in late 1984, with knowledge that it was the intention of the USAID Mission to ask the IEES Consortium to implement JSEIP.

In 1985, an 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

Figure 3

Botswana's Policy Responses to EHR Assessment

Junior Secondary Education

- Design JSEIP
- Develop and disseminate new curriculum
- Construct new schools
- Standardize school financing

Private Participation

- Forge Government-community partnership at junior secondary level
- Use private sector facilities and personnel via Apprenticeship Bill

Primary Education

- Design PEIP phase II
- Revise curriculum
- Improve materials distribution

Management Training

- Develop Cooperation among IDM, BIAC, and UB

Teacher Training

- Open College of Education at Molepolole
- Revise University of Botswana teacher training program
- Improve inservice programs as part of JSEIP and PEIP II

Vocational and Technical Education

- Plan to open four Vocational Training Centres (VTC)
- Plan to recruit VTC students from Form II rather than Standard 7
- Enhance labor market information
- Focus programs at Polytechnic and Automotive Training Centre
- Implement Apprenticeship Bill

Figure 4

Activities in Botswana

1983

October-November: EHR Assessment

1984

April-May: Assist USAID and GOB prepare JSEIP PID
June: EHR Sector Assessment published as GOB document
September-November: Assist USAID develop JSEIP project paper
December: USAID and GOB select IEES to implement JSEIP

1985

February: Sector Assessment update
April: USAID and GOB approve JSEIP design
May: IEES Country Plan developed and approved by GOB
June: Short-term training for Research and Testing Centre staff member
September: JSEIP implementation begins
Secondary headmasters workshop
November: IEES International Conference in Gaborone
Secondary headmasters workshop

1986

January-December: JSEIP implementation
July-August: JSEIP program review

1987

January-March: Policy Research Initiative Implementation
November: Joint UB/FSU Master's Degree Program

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).

Concurrent with the conduct of the Botswana Sector Assessment Update, an IEES team joined GOB officials to develop a Botswana Country Implementation Plan (CIP) for IEES activities for 1985-86. The 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 central objective of the Botswana plan is to identify priority activities for IEES assistance in order to:

- improve the efficiency of resource allocation in the EHR sector, and
- 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 communications. These proposed activities focus on the major goals of Government and of the IEES Project within an overall integrated strategy.

In June 1985, the IEES Project supported 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.

Botswana has a completed and approved IEES Country Implementation Plan, there exists an agreed-upon schedule for specific IEES activities.

Sector Assessment

Country Implementation Plan

Objectives

These focus on the following areas:

- school management training,
- knowledge building and networking,
- computer systems design and applications,
- evaluation training and applications,
- Country Implementation Plan revisions, and
- Sector Assessment Updates.

Training

School Management Training. Training courses for secondary headmasters, and for primary headteachers were planned in 1985. IEES prepared the syllabus and instructional materials for each of these courses.

Networking

Networking. The IEES International Workshop was the first of the IEES Project's major networking activities. The workshop took place in Botswana November 1985. Representatives from 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

Computer Systems Design. The first activity in this series was a workshop held in 1986 to familiarize participants with the general capabilities of microcomputers for databased 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 School Information Unit (BGSIU) of the MOE, the Department of Nonformal Education, and other units interested in the design of management information systems.

Work 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 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

Evaluation Training. An evaluation design workshop in mid-1986 was the first activity of this series. Participants in this 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 and required participants to prepare 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 Implementation Plan Revisions. The Botswana Country Implementation Plan for IEES Activities is revised annually. These revisions are undertaken collaboratively with members of the MOE planning staff and/or other staff as designated by GOB. The CIP was revised November 1987.

The IEES activities for 1987 have focused on development of Educational Management Information Systems (EMIS) for the United Teaching Service (UTS) and the Department of Nonformal Education (DNFE).

A prototype system for the DNFE was established. This system, developed within the Correspondence Branch of the DNFE, registers students for initial courses, prepares mailings of course materials, monitors student progress, monitors tutor performance and effectiveness, and measures the activity and outcomes of the Correspondence Branch.

IEES 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. 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.

The University of Botswana was requested by IEES in 1986 to nominate a person to participate in the IEES Policy Research Initiative. Botswana chose to participate in the Strengthening Local Education Capacity area of the research program. This has now resulted in a study of the existing level of local support for education and recommendations for improvements.

Project Design

The Junior Secondary Education Improvement Project (JSEIP) was designed to increase the quality and efficiency of an expanded junior secondary education program and to institutionalize MOE capacity to develop, manage, and support junior secondary education.

JSEIP has three closely coordinated and interrelated components to achieve these results: (1) curriculum and instructional materials development; (2) teacher development; and (3) educational systems planning, management, and supervision.

JSEIP strategy is assistance to the MOE with the revision of the junior secondary curriculum to better respond to basic education and projected workforce requirements of Botswana. The curriculum revision includes the identification and organization of instructional objectives, learning strategies, and achievement measures; the development of instructional materials to support the revised curricula; establishment of strategies for field testing and ongoing improvement of the instructional program; and development and distribution of teacher guides, student learning guides and instructional materials.

Country Implementation Plan Revisions

JSEIP Design

JSEIP Achievements

The project provides for development and implementation of inservice and preservice teacher training programs designed to prepare teachers to teach the new curriculum. The inservice activities are located within the Secondary Education Department of the MOE while the preservice activities are mostly located at Molepolole College of Education (MCE).

The project also provides support to strengthen the capacity of the MOE to design, implement, and monitor the new curriculum. This capacity building takes the form of training workshops for inspectors, education officers and headmasters responsible for junior secondary education, assistance to the MOE in planning, and support for information management activities in the Ministry.

The project is based upon a systematic approach to instructional design and the integration of the instructional design and implementation efforts into the larger educational system at both the school and central Ministry levels. Most donor assisted education projects have been designed to address single aspects of educational improvement, such as textbooks, teacher training, or planning. JSEIP addresses all the major components of curriculum design and implementation simultaneously, thus increasing the likelihood of effective implementation, improved educational efficiency, and continued use.

Curriculum and Instructional Materials Development

JSEIP is undertaking instructional design and/or improvement in seven subject areas: Social Studies; English; Setswana; Agriculture; Technical Studies; Mathematics; and Science. In all but Math and Science, the design process is beginning from initial curriculum development. In Math and Science, some instructional materials have already been developed by the Curriculum Development Center using less systematic design procedures than employed in JSEIP. JSEIP is assisting to enhance the quality of these materials already available and helping with the development of appropriate assessment procedures to accompany these materials.

Concurrent with the curriculum and instructional materials development activities of the Materials Development Teams (MDTs), JSEIP continues to provide support to build the capacity of the CDU to undertake the instructional development effort. These activities include:

1. Curriculum Coordinating Steering Committee. The Curriculum Coordination Steering Committee (CCSC) was formally established by the JSEIP Project Planning Committee in May 1986. The CCSC coordinates the 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 1990s). The CCSC has subsequently established a number of subcommittees and task forces which now make it possible to cross departmental lines in planning and organizing the activities necessary to achieve JSEIP objectives.
2. Instructional Materials Development Teams (MDT). Teachers have been seconded from the schools to serve for three years with the CDU MDTs.

3. **Syllabus Rationalization.** The unitization of the science, mathematics, social studies, agriculture, technical studies, and Setswana curricula has been initiated.
4. **Improved Instructional Materials Production Capacity.** Installation of complete system of computers and photocopy facilities in the CDU, with additional equipment at the Research and Testing Center (RTC) and the Molepolole College of Education (MCE).
5. **Organization of Curriculum Library.** JSEIP consultants have collected, itemized, and systematized books relevant to curriculum development, for housing within the Curriculum Development Unit.
6. **Needs Assessment Studies.** A Needs Assessment Committee and a Technical Studies Task Force have been established. These groups have initiated research and evaluation studies related to junior secondary curriculum and outcomes.
7. **Improved Junior Certificate Exam in Social Studies.** JSEIP has assisted the MOE Research and Testing Centre in improving item development and curriculum representiveness.

Teacher Development

Teacher Development Activities include technical assistance in both inservice and preservice teacher training. The central purpose of these efforts is to prepare teachers to teach the new curriculum, once it is ready for implementation. The Department of Arts, Crafts, and Technical Studies was established at the Molepolole College of Education (MCE) under the direction of JSEIP. The first group of eight students will graduate in 1987. The ACT Department conducted workshops for all junior secondary technical teachers in the country.

JSEIP coordinated the administration and systemization of teaching practice at MCE. A data base design for all students now permits better organization of the teacher training school assignments. In May, 320 students were placed for practice teaching at 63 schools, supervised by almost 600 secondary teachers. The supervisor teachers have been trained for the teaching practices and behavioral assessment procedures have been developed for assessing student performance.

MCE curriculum and courses have been designed and developed by JSEIP. A Communication and Study Skills Course at MCE, required for all first year students, is now being developed.

JSEIP consultants have also contributed to the design of a comprehensive curriculum for the Education Department. Courses have been developed in Curriculum Development, Instructional Systems Design, and Test Construction.

Teacher Development

Education Systems

Joint Master's Program

Regulations

Evaluation Task Force

Education Systems Planning, Management, and Evaluation

In addition to developing new instructional materials and training teachers to use them, the JSEIP design recognized the need to help build the capacity of the MOE to plan, manage, monitor, and evaluate the curriculum development and implementation effort.

The 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 Masters degrees. As JSEIP implementation required the skills of these MOE staff, the training was postponed. An alternative strategy was devised for this training, a joint Masters' degree program with the University of Botswana (UB) and The Florida State University (FSU).

Instruction is offered at both universities for 10-15 Botswana participants. The degrees will be awarded by FSU's Department of Educational Foundations and Policy Studies (EFPS). The Masters students begin studies at UB for one term, followed by two semesters of coursework at FSU. The students are expected to complete comprehensive examinations at FSU before returning to conduct and supervised field research in Botswana to fulfill the program requirements. The joint FSU/UB Masters Degree training program was initiated in January 1987, with thirteen trainees (including two officers from the Curriculum Unit) enrolled.

Secondary School Regulations and a Headmasters Manual

The introduction of large scale government aid to Community Junior Secondary Schools in 1985 made the existing secondary school regulations obsolete. During 1986, JSEIP assisted a working group in producing a new draft of the regulations. The draft is now being used for briefing and training of CJSS headmasters and school boards. JSEIP has also assisted the Secondary Department in the development and production of a training and reference manual for headmasters, which will incorporate the new regulations.

Evaluation Task Force

The Project Planning Committee approved the formation of an Evaluation Task Force in 1986 to provide the evaluation framework for CJSS and JSEIP as specified in the Project Agreement. A significant activity of the Task Force is the design of a national testing program, using the International Education Achievement tests for students in Forms 2 and 3 that will take place in the second week in June 1987. This testing program will establish essential baseline information to assess levels of achievement from an earlier time (the tests were administered in Botswana in 1976 as part of the National Education Commission activities) and with other countries (27 countries by 1986).

Other ongoing initiatives of ETF include establishment of evaluation standards for Botswana, short-term evaluation training at FSU for three MOE officials, classroom observations, school staff surveys, an assessment of aims for a nine-year program, a reading comprehension assessment program, tracer studies, and video programming of community and school opinion.

The IEES Country Plan for 1988 is expected to place greater emphasis on the educational management needs of the Ministry of Education. The revised plan will continue the present support for the Unified Teaching Service, while outlining expanding data bases for primary education and policy decisionmaking. The Policy Research Initiative as it completes Phase One activities and a design is developed for Phase Two.

JSEIP plans for 1988 focus on an intensified deployment of project resources on the junior secondary curriculum and materials development process for all subjects. Teacher development activities will continue to include technical assistance in both inservice and preservice teacher training. Inservice training assistance will include the formative field testing of the MDT products with CJSS teachers. As subject area curricula are finalized and approved, JSEIP will coordinate the introduction of the new curriculum to the CJSS teachers. Project staff will continue to help build the capacity of the MOE to plan manage, monitor, and evaluate the curriculum development and implementation effort.

Data Bases

A number of data bases, described below, have been established in the Planning Unit, Secondary Department, and the Curriculum Development and Evaluation Unit.

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 villages 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.

Using the school mapping databases, which identify the feeder primary schools for each secondary school, an analysis was carried out of the long-term prospects for citing Community Junior Secondary Schools to maximize secondary schooling on a non-boarding basis. This analysis has led to proposals for establishing trial combined primary-junior secondary schools, as well as single class, small junior secondary schools. Trial schools will be established in 1988.

Additional uses for the secondary school mapping database include:

1. assistance in the reporting of Form I admissions in 1987, and
2. entering of information on bursaries awards.

The MOE has previously not had access to school data information until it had been tabulated and produced in the following year as the compilation of the Annual Education Statistics. In 1986, JSEIP and MOE staff worked together to download the secondary school statistical data files from the MOE mainframe to the microcomputer within the Educational Planning Unit. The result of this effort is that MOE now has access to timely data for planning and 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

JSEIP Plans

Data Bases

staffing. This analysis has recently been used by the Molepolole College of Education (MCE).

The IEES country plan for 1988 is expected to place greater emphasis on the educational management needs of the Ministry of Education. The revised plan will continue the present support for the Unified Teaching Service, while outlining expanding databases for primary education and policy decision-making. The Policy Research Initiative is expected to be considerably more focused as it progresses through Phase One and a design is developed for Phase Two.

JSEIP Plans

JSEIP plans for 1988 focus on an intensified deployment of project resources on the junior secondary curriculum and materials development process for all subjects. Teacher development activities will continue to include technical assistance in both inservice and preservice teacher training. Inservice training will be particularly involved with the formative field testing of the MDT products with CJSS teachers. As subject area curricula become finalized and approved, JSEIP will coordinate and conduct the introduction of the new curriculum to the CJSS teachers. Project staff will continue to help build the capacity of the MOE to plan, manage, monitor, and evaluate the curriculum development and implementation effort.

Haiti

IEES involvement in Haiti began in 1984 when the USAID Mission asked the consortium to conduct an assessment of the country's education and human resource (EHR) sector in order to provide guidance in drafting plans for bilateral assistance to Haiti over the following years.

From this initial planning effort, three complementary branches of activity evolved:

- support for improved educational planning and management in the Ministry of Education;
- conduct of policy-focused research on topics of immediate relevance to educational development; and
- promotion of improved quality of instruction and greater administrative efficiency in private primary schools serving disfavored strata of the Haitian population.

Specific objectives were set for each of these foci of IEES activity:

FOCUS A: Educational Planning Support

First objective: Provide Ministry of Education planning staff with inservice training in the component skills for improved educational planning.

Second objective: Assist Ministry of Education staff in improving the quality of the data base available for educational planning.

Third objective: Assist Ministry of Education and local University staff in conducting a sector assessment update and use the results to guide educational planning decisions and strategies of institutional reinforcement thereafter.

FOCUS B: Policy Research in Education

First objective: Assist Ministry of Education and University of Haiti staff in carrying out applied research on teacher incentive systems and feeding the results into the policy formulation process.

Second objective: Contribute to the development of improved capacity for policy-relevant research in the Ministry and the University and to development of a closer functional relationship between these two institutions.

FOCUS C: Improved Quality of Instruction

First objective: Improve quality of instruction, administrative efficiency, and equity of access in a significant number of private primary schools serving rural and depressed urban areas.

Second objective: Provide the necessary catalyst and support for Haitian private primary education to organize itself on a more coherent basis and to take ongoing responsibility for quality improvement efforts.

Haiti Sector Assessment

Educational Planning Support

Policy Research in Education

Improved Quality of Instruction

Country Implementation Plan

There have been a number of accomplishments to date in each of these areas, though the rate of development has not been the same from one area to another. Activities in the sphere of educational planning were impeded from 1984 through 1986 by the difficulty of working with the Duvalier Government and by the tremendous burden that its immediate successors inherited. Post-Duvalier Ministry officials, however, have expressed great interest in the objectives and methods of the IEES Project, and in the course of the 1986/87 school year helped IEES staff to develop the first full Haiti Country Implementation Plan (CIP) for IEES activities.

The CIP calls for conducting a series of training activities in 1987/88 designed to provide planning personnel of the Ministry of Education the tools and skills that they will need to take maximum advantage of the opportunities for renewed educational planning and policy definition that should arise after February 1988, once a newly-elected civilian government is in place. The first of these--a workshop on survey research methods--was successfully carried out in November 1987. Attention will also be given in the course of the current year to strengthening the data base for educational decisionmaking through a survey of data needs and existing collection mechanisms within the Ministry.

These preparatory activities will culminate the following year (1988/89) in a series of educational planning endeavors. Chief among them will be a new EHR Sector Assessment, supported by IEES, but conducted by local planners and Ministry personnel with whatever outside technical assistance is deemed appropriate.

Policy Research Initiative

Policy Research Initiative (PRI) activities started up in late 1986 and were initially focused on strategies for strengthening local initiative in education. The Ministry decided in March 1987, however, to shift the focus to a theme of even greater immediate relevance to educational management in Haiti: the development of teacher incentive systems. A research team including personnel from the Ministry and the University was formed in early 1987 and a supervisory committee was named that draws members from all research-related divisions of the Ministry plus the national teachers' union.

Incentives for Improving Basic Education

Efforts to promote instructional quality and administrative efficiency in private primary schools has taken the form of a six-year USAID Mission-funded project, Incentives for Improving Basic Education (IIBE). The IIBE Project has four major components:

1. material and training support for approximately 300 private primary schools in rural and depressed urban areas on a performance-contract basis;
2. research and development on low-cost learning systems to make instructional delivery more cost effective in rural and depressed urban areas;
3. assistance to enable the private education sector to organize itself on a more durable basis; and

4. assistance to enable the Ministry of Education to further develop its role in school accreditation, teacher certification, student examinations and quality control in the private sector.

Though focused on private schools--which, for historical reasons, represent more than 60% of primary enrollments in Haiti--the IIBE Project has major implications for overall coordination and planning of the educational system. It provides a means for generalizing to the private sector the impetus for educational reform that was launched in government schools in the early 1980s and for involving leaders of private education in a collaborative planning effort.

At the request of the USAID Mission, IEES consultants participated in the project design process and involved Haitian educators in all major decisions about project orientation, strategy, and methodology. Mission staff and their Haitian counterparts subsequently decided to ask the consortium to take responsibility for the first three years of implementation of the private sector portion of the IIBE Project (components 1-3) with the explicit goal of helping private education associations develop their own competencies to the point that they could take full charge of the latter three years of implementation. Execution of the public sector component of the project was handled from the outset via a bilateral agreement with the Ministry of Education. All involved felt IEES to be particularly qualified for the guidance task in the private sector because of its relations with both public and private sectors, its systems approach to issues of educational planning, and the opportunities it offered for networking with educators from other developing countries.

The three branches of IEES activity in Haiti--educational planning support, policy research and instructional improvement--have demonstrated a great deal of complementarity and potential for productive synergy. One theme is common to all three: efficient planning and management of the educational system. Though the IIBE Project approaches this issue in large part at the local level and the Ministry-based initiatives have a more central orientation, there are several important areas of mutual reinforcement. The private education associations created with the support of IIBE furnished the Ministry of Education with valid interlocutors and counterparts in a sector that was hitherto largely disorganized and created new means for systemwide coordination and quality control. The research concerns of the PRI provide data relevant to planning in both sectors and complement the R&D efforts undertaken by IIBE. And the planning support activities within the Ministry provide a forum for examining the structural implications of policy research and of initiatives undertaken in the private sector.

Impact of IEES Activity in Haiti

- The sector assessment and the related training activities have provided a model for comprehensive analysis of the education system in Haiti.
- The PRI is furnishing a field for the development of applied research capacity in education and a means for structuring greater practical cooperation between University of Haiti and other research-related institutes of the Ministry.
- The IIBE Project is creating for the first time the means for coordinating private education and associating it with the educational reform effort.
- The three programs in conjunction are significantly broadening the data base for educational planning, widening the group of people and institutions interested in taking part, and deepening the technical skills that they will bring to bear on the task.

Indonesia's Policy Responses to the EHR Sector Review

Improving Educational Efficiency

- Expansion of financial need analysis system
- Expansion of enrollments in general secondary education
- Consolidation of junior and senior secondary school curricula
- Establishment of effective linkages between vocational/technical education training programs and employment needs
- Development of policies for the expansion of employment oriented and income generating skills training
- Support for interministerial and intra-MOEC bridging

Improving the Quality of Education

- Definition of specific criteria for judging attainment of quality
- Refinement and extension of the national examination system (EBTANAS)
- Provision of alternative forms of vocational/technical education
- Creation of new subdirectorates for polytechnic education within the Directorate General of Higher Education

Improving Access and Equity

- Clarification of policy for equivalency of primary education through nonformal education
- Improvement of recruitment and retention of teachers to remote areas

Developing an Information Management and Policy Analysis Capacity

- Establishment of a promotion policy and career ladder to align compensation and advancement with expectations for functional personnel
- Continuation of high levels of support for MIS training of MOEC and provincial personnel
- Coordination of MOECs multiple information systems for future integration
- Use of source, output and outcome data of the Sector Review to support policy analysis in preparation for Repelita V, Indonesia's Fifth Five-Year Plan
- Coordination of donor assistance and prioritization of external assistance requirements
- Encouragement of informal information exchange among donors
- Development of library within Balitbang Dikbud to support educational policy research and planning

Improving Coordination of Public and Private Education

- Improved linkages of education to manpower planning
- Conduct of a comparative study of the public and private sectors
- Encouragement of greater collaboration between the government educational system, private voluntary organizations, and especially private foundations working in Indonesia
- Determination of the comparative costs of specific public and private vocational/technical programs

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Activities in Indonesia

- 1985 EHR Sector Review conducted
IEES administers the EPP Project
- 1985-86 EPP Long-term Training Plan initiated
- 1986 EHR Sector Review published and disseminated
EPP Long-term Technical Advisors placed
- 1986-87 EPP Training Plan initiated
Data Analysis Techniques Training
Microcomputers provided to the MOEC and provincial offices
Monitoring System designed for MOEC development projects
Evaluation Model for National Five-year HR Development Plan
Management Information Systems (MIS) Training Modules produced
INPLAN National Projection Model for Education designed
Country Implementation Plan for IEES Activities
Data Base Model for Policy Research designed
National MIS Management Group established
Provincial MIS Task Groups for Operation established
Central Software Development Groups established
- 1987 Second IEES international Conference hosted by Indonesia
Comprehensive Integrated MIS Plan for Educational Policy and Planning
Computerization of the National Annual Education Statistics
Quality of Basic Education Study designed
MOEC Manpower Requirements and Forecasting Study designed
MOEC Computer-based Operations Room established
Investment Priorities Policy Paper draft
Analysis of Educational Investment Priorities for Growth draft
Quality of Vocational/Technical Education Study initiated
Analysis of EBTANAS and SSS data initiated
Policy Research Initiative on topic of Strengthening Local Education Capacity

IEES began assistance to the Government of Indonesia (GOI) and the USAID Mission in 1985, at the beginning of the IEES second project year. The GOI had recognized the need for educational efficiency and the USAID Mission responded to this concern with the design of a project entitled Educational Policy and Planning. The GOI requested that IEES conduct an EHR Sector Review to align with the final eighteen months of Indonesia's Fourth Five-year Human Resources Development Plan (Repelita IV) and to contribute to the development of Repelita V. As a result of the parallel goals of the GOI, USAID, and IEES, a key question of the Sector Review was not only, "How can the educational system be made more efficient while maintaining equity?," but also, "How can the GOI, with the donor community, achieve this common goal more efficiently?"

The educational efficiency issues in Indonesia arise largely from the geographical and cultural realities of a land mass that spans the equivalent of the continental U.S., broken into thousands of islands which contain nearly 250 languages and cultures, a population of 170 million, and a heavily centralized

Indonesia

Sector Review

administration. These realities pose difficult management problems for improving educational quality and efficiency unique to this IEES participation country. Coupled with this, the MOEC has undergone a 60% budget cut over the past year due to a drop in oil revenues to the country. In light of this task of managing such complexity on an increasingly limited budget, the Indonesian EHR Sector Review focused on such areas as foreign technical assistance and interministerial collaboration for more efficient national coordination through elimination of redundancies.

The Sector Review was conducted in 1985. A Government Sector Review Steering Committee and counterparts provided review and feedback early in 1986. The final edition was published in April 1986.

Major constraints to educational efficiency identified by the Sector Review are:

1. a policy decision to rapidly expand vocational/technical education programs without a clear linkage of actual manpower needs careful assessment of resource capabilities;
2. an inadequate capacity for continuing policy research and planning within the MOEC--including an effective EMIS;
3. a lack of evaluation research information on the outcomes and cost effectiveness of educational improvement efforts;
4. the need for expansion and quality improvements in the secondary education subsector;
5. the difficulty of recruiting and retaining teachers in the remote areas; and
6. the need for balancing deconcentration of responsibility for educational programs to allow more participation in planning and curriculum development by the regions without loss of central control over key decision-making.

Impact of Sector Review

The impact of the Sector Review on the Indonesian education sector has been substantial. Government officials, USAID, and other donors have used the review as a planning tool and have noted its broad impact. Several factors have contributed to this impact:

1. **Timing.** The Sector Review coincided with the Indonesian five-year planning cycle. The document was used for the National Meeting to design the Fifth National Five-Year Human Resources Plan coordinated among all the national ministries. This is the last of the five-year plans within a larger twenty-five-year plan. The review is now being used for the groundwork on the upcoming Twenty-five-Year Human Resources Plan in 1992.
2. **Government Sensitivity to Efficiency Issues.** The drop in oil revenues has resulted in government concern with efficiency in education. As the participation rate has improved, especially in the rural and remote areas, the government is eager to explore recommendations for greater efficiency.

3. **Networking.** The Sector Review effort capitalized heavily on a general climate conducive to collaboration: intra-MOEC, interministerial, and among donors. This allowed for a high degree of data input, substantive feedback, sense of ownership, and utilization in joint projects.
4. **Broad Distribution.** The entire document was translated into Indonesian by the MOEC. It was distributed by content chapter to appropriate working units. Each unit produced an Indonesian revision of their chapter(s) to serve as a basic data reference manual within each department. This resulted in great depth of implementation effect, as well as stated policy effects. This fully Indonesian version has been widely distributed among other human resource-related ministries, such as the National Planning Bureau, and the ministries of Manpower and Planning; Industry and Labor; and Finance.

In preparing the Indonesia Country Implementation Plan (CIP) for IEES Activities, the complete set of recommendations of the Review underwent a prioritization process involving IEES staff and GOI officials. Recommendations were prioritized in terms of overall importance and timing. The items were then grouped into Policy Research and Development Capacity Building Activities and Institutional Support Activities for MIS Development. All activities were designed to aid in the development of a sustainable policy planning capability within the MOEC. This new set of prioritized activities provided the framework for the CIP, ensuring that IEES resources would be used to maximum advantage.

Following the Sector Review, IEES contracted to administer the Educational Policy and Planning Project (EPP). EPP addresses the core needs of the educational sector as identified by the Sector Review and extends the scope of core CIP activities. The purpose is to improve the quality of education in Indonesia by increasing the institutional capacity for better policy planning based on more complete and accurate information and better policy analysis. Whereas the CIP focuses primarily on the economics of education, providing the necessary policy research in light of educational efficiency, the EPP Project focuses on developing an MIS that can support and be responsive to policy research. The project strategy has five main elements which are designed to:

1. increase staff capacity for policy research and analysis,
2. improve the internal management of the Agency for Educational and Cultural Research and Development,
3. conduct studies on key policy issues,
4. assist the Center for Information Systems (Pusat Informatik) in establishing a management information system relevant to policy and planning needs, and
5. support experimentation with planning and information systems at the provincial level.

Country Implementation Plan

Educational Policy and Planning

Improving Educational Efficiency

There is also provision for technical assistance. Training is aimed at increasing MOEC capacity to collect, analyze, and store information and to better inform policy formulation and long-term planning.

Through the CIP, the EPP Project, the National Planning Meetings and general wide distribution, discussion, and collaboration, IEES has been the catalyst for broad policy impacts. The key areas of impact have been:

1. improving educational efficiency,
2. improving the quality of education,
3. improving access and equity,
4. developing an information management and policy analysis capacity, and
5. improving coordination of public and private education.

Improving Educational Efficiency. A substantial impact of IEES activities has been the promotion of collaboration between departments within the MOEC and between the MOEC and other ministries. IEES staff worked with a range of officials to co-sponsor and share costs of CIP activities. The occasion of the National Planning Meeting for Human Resources Development provided a forum for officials of many departments and ministries to develop this networking.

As a result of the Sector Review recommendations, USAID/Jakarta initiated regular meetings of the donor community in Jakarta. The Sector Review was presented at the inaugural meeting of this group. This serves as a forum for informal information exchange, coordination of donor assistance, prioritization of external assistance requirements, and has stimulated collaboration and cost-sharing within the donor community. Such coordination provides a means for achieving more efficient use of donor monies in the coming years.

The Director General of Primary and Secondary Education acted upon several of the Sector Review recommendations as a result of CIP planning discussions. An earlier policy was altered to expand enrollments in general secondary and vocational/technical education. The Sector Review found much greater returns to general secondary education and proposed more efficient means of expanding vocational/technical education. The consolidation of both the junior and senior secondary school curricula into blocks was also undertaken following the Sector Review Recommendation. A promotion policy and career ladder was established to align compensation and advancement with expectations for functional personnel under primary and secondary education jurisdiction. This ties the reward structure for personnel to work which they are expected to do routinely, as well as activities for which honoraria are paid.

IEES initiated CIP activities to improve external efficiency in education and human resource development for growth in Indonesia in Fall 1987. These activities address the MOEC policy concerns for redesigning vocational/technical education policies. Design of an external efficiency study is underway to establish effective linkages between vocational/ technical education training

programs and employment needs and to develop policies for the efficient expansion of employment oriented and income generating skills training.

Improving the Quality of Education. As a result of the Sector Review and CIP discussions, the Director General of Higher Education is considering the creation of a new subdirectorate for polytechnic education. This recommendation came in response to the current emphasis on improving the quality and efficient provision of technical education at the upper levels. The function of this new subdirectorate is to coordinate and supervise a new system of vocational/technical education provision with a focus on planning for external efficiency through industry cooperation with polytechnics and maintaining up-to-date curricula in accordance with the needs of industrialization.

Two CIP activities are underway for the improvement of the quality of education. An IEES consultant has begun refinement and extension of the national examination system (EBTANAS) as the primary measure for student achievement and therefore the basis for judging success of educational quality improvements. A policy study on the cost and quality of vocational/ technical education to suggest alternative forms of voc/tech education for improved quality as well as improved efficiency is underway with IEES support.

The EPP Project long-term study, Improving the Quality of Basic Education in Indonesia, will define specific national criteria for judging attainment of quality for the primary level. The study will provide objectives for educational quality, including specific targets and benchmarks for judging its attainment for the Fifth National Five-Year EHR Development Plan.

Improving Access and Equity. The Sector Review noted that if nonformal education is to serve as an alternative route for upward mobility for lower income children, articulation from nonformal to primary certification and secondary school studies must be specified. The MOEC Department of Community Education has undertaken to clarify the policy for the nonformal education equivalency of primary education as a result of discussions with IEES staff. As in nearly all of the IEES participating countries, Indonesia will need to improve recruitment and retention of teachers in the rural and remote regions to improve educational access equitably. In the first part of the 1988 calendar year, IEES will begin a two-year study to identify teacher incentives for recruitment and retention to rural and remote regions. Given the current and projected oversupply of primary school teachers nationwide, now is an opportune time to experiment with incentives and disincentives that may influence long-term teacher placements.

Developing Management Information System (MIS) and Policy Analysis Capacity. Most of the MIS and Policy Analysis activities have been jointly undertaken through activities in the CIP and activities of the EPP Project. The work began by defining and coordinating the MOEC's multiple information systems for future integration. IEES provided assistance in the design of monitoring systems for development projects of the MOEC in coordination with EPP. This provides a relevant example for successful project monitoring and MIS in other developing nations. IEES also completed development of a model for the evaluation of the National Five-Year EHR Development Plan. This model was used to evaluate the last plan, Repelita IV, and will be incorporated into the next plan, Repelita V. This will then be refined as a standard

Improving The Quality of Education

Improving Access and Equity

MIS and Policy Analysis Capacity

EMIS Training Modules

component for the following Twenty-five-Year Plan. The model specifies a methodology and key questions; specifies a data collection plan to obtain secondary data, sample data for aggregation and inference, and case study data of critical issues; specifies an analysis plan which indicates data sources and answers to the evaluation questions; and finally specifies recommendations for the following national plans. This work will be utilized in CIP activities for the systematic use of source, output, and outcome data of the Sector Review in the preparation and implementation of Repelita V.

The EPP Project addressed more technical planning concerns for the MIS and policy analysis capacity. In the early stages, work focused on establishing a viable information technology capacity in the selected Departments of the MOEC and three pilot provinces. For this purpose, computers were purchased and allocated to the MOEC and pilot provinces. Three functional entities were established: the MIS Management Group as the Policy and Planning Unit of Provincial MIS at the national level; the MIS Task Group as the actual working unit in each province; and the Software Development Groups in the Pusat Informatik, who develop software required by the provinces for allocation and also provide appropriate technical assistance and on-the-job training. IEES CIP activities to improve the computer software model development capacity and training programs in Balitbang has been designed to support the EPP in country and on-the-job training programs.

The EPP Project has now moved toward the goal of integrating a national MIS by computerizing all national annual educational statistics. These statistics include Basic Education, Secondary Education, Higher Education, Nonformal Education and Culture. The system aims to integrate all the sectional statistics into a comprehensive, functional MIS. Once completed, the system will not only facilitate production of standard educational statistics, but also help researchers and planners for exploiting various facets of information which were not readily available in the past.

The EPP Project developed, pilot-tested, and revised four training modules on the construction and use of an Education Management Information System for reporting, management control, and planning:

1. Basic Concepts and Computer Applications to Educational Planning, Management, and Research;
2. Construction of the Education Management Information System (EMIS);
3. Use of the EMIS for Management Control; and
4. Use of the EMIS for Planning.

These modules have been translated into Indonesian for presentation in the three pilot provinces of EPP.

IEES has also assisted with planning the development of a library to support educational research and planning. With the increasing information capacity of the MOEC and the increasing numbers of qualified Indonesian researchers, this is a critical activity for Indonesian institutional capacity building for efficient, domestic utilization of these resources.

Improving Coordination of Public and Private Education. This area of IEES activities in Indonesia supports the current emphasis on efficiency, following a 60 percent cut in the MOEC budget. EPP has completed an Education and Manpower Planning Study to form the basis for an ongoing monitoring of the linkages between the education sector and private industry. This study also serves as a basis for the activities for vocational/technical education.

The CIP activity designed to identify community and private financing sources for overall efficiency and equity in education will be an important contribution to coordinating public and private education efforts. A major effort in the MOEC is to decentralize educational finance. The GOI is highly centralized and therefore utilization of private support for education will have a major influence on educational efficiency, quality, and access. The outcomes of this activity will have substantial policy and implementation impacts.

Strengthening local education capacity is the policy research area chosen by the Indonesians for participation in the IEES Policy Research Initiative as well. This area of work is a new and critical one for the educational sector of Indonesia.

Liberia

An Education and Human Resources Sector Assessment was conducted in Liberia in late 1982, prior to the start-up of the IEES Project. Several of the assessment team members have subsequently served in Liberia as IEES staff. Immediately following the start-up of the IEES Project in June 1984, an IEES team provided technical assistance to the Liberian Ministry of Education and the USAID Mission in the design of a project planned to disseminate the successful primary education project, Improved Efficiency of Learning (IEL). The first phase of IEL was the development and field validation of a low-cost, programmed instruction approach to primary education. This innovative, materials-based approach to primary education had demonstrated during the experimental phase that it could provide effective instruction while greatly reducing teacher training time and costs. IEES assistance resulted in a plan for the implementation of IEL on a national basis. IEES also provided technical assistance for training Liberian educators in criterion-referenced test development for the assessment of the initial IEL phase.

The Liberian Government organized a National Policy Conference on Education and Training in 1984 to discuss the educational policy issues raised by the sector assessment. A representative of the IEES Project was invited to participate in the Conference which brought together international donor agencies and Liberian Ministry of Education officials. Outcomes of this conference included internal policy dialogue and the identification of those areas most critical for immediate assistance.

The deteriorating economic condition of Liberia led to a reconsideration of the viability of donor assistance for education in 1985. This condition, along with a change of Mission personnel, resulted in a hiatus of IEES activity in Liberia during 1985 and part of 1986. The plans for national dissemination of the IEL Project were reexamined and extensively revised during this period.

Improving Coordination of Public and Private Education

Liberia Sector Assessment

National Policy Conference

IEES Assistance Activities

The Liberian Assistant Minister for MOE Planning, Othello Gongar (later Minister of Education), and USAID/Liberia Human Resources Development Officer Stanley Handleman participated in the First IEES International Conference in Botswana in 1985. Discussions held at that time focused on three important activities for IEES assistance:

- **Study of the Potential for Integrating IEL and the World Bank Textbook Project.** With scarce resources available to improve the primary education system in Liberia, it was imperative that the World Bank Project and the USAID IEL Project be carefully integrated to provide maximum impact for improving that system.
- **Sector Assessment Update.** The sector assessment completed in 1982 was no longer adequate as a planning tool. A major assessment effort was needed to provide the MOE and other government planning agencies with a current analysis of the education and training sector.
- **Assistance to the MOE in Developing a New National Five-Year Plan for Education.** IEES technical assistance would strengthen MOE efforts to develop this critical plan for development of the education sector.

Integration Study

The first of these activities was conducted in October-November 1986 and resulted in a study, **The Feasibility of Integrating Programmed Learning with Conventional Instruction in Liberian Primary Education.** The study concluded that the integration of a programmed system with traditional instructional programs was both feasible and desirable. It provided an implementation strategy with specific recommendations for carrying out the plan. The implications of the plan for educational efficiency were a major concern of the study.

Following the dissemination within the MOE of this study, IEES was requested to provide further technical assistance in adapting the IEL Project to develop a unified system of Liberian Primary Education. This task was accomplished by IEES working closely with Mission and MOE, and led to the further identification of two critical needs:

- strengthening of the supervisory system, and
- design of an inservice teacher training curriculum.

In Fall 1987, IEES assisted MOE counterparts with developing practical and cost-effective plans in these two areas.

A direct consequence of the integration study was a decision by the Government to make the national improvement of primary education one of its highest priorities. This decision was announced by the President of Liberia on national television and radio. The MOE has undertaken an Education Awareness Campaign to encourage Liberian public support for this national initiative to improve primary education. Following another of the study's recommendations, the Ministry of Education carried out a significant reorganization. Created were Divisions of Primary Education and Teacher Education with Assistant Ministers appointed to administer these two new units. The MOE also announced the initiation of an inservice training course designed to train the teachers to use the new materials more effectively. The IEL Project staff

was absorbed in the Primary Education unit, and IEL ceased to exist as a separate and special organization, becoming an integral part of the routine operations of the Ministry.

In 1986, Liberia requested to participate in the IEES Policy Research Initiative in the area of Teacher Incentive Systems, a critical topic as increased financial incentives are not possible under present conditions. This research team was trained by IEES and began work in March 1987. It is currently analyzing data from initial field collection activities.

A new Sector Assessment and the Five-Year Plan Development activities are scheduled to be conducted by an IEES team in January and February 1988. These activities will provide critical data and analyses of educational issues for policymakers and are expected to have broad impact in the education sector. The Sector Assessment will also provide the framework for developing with MOE and Mission personnel a Country Implementation Plan for IEES activities.

**Policy
Research
Initiative**

**New Sector
Assessment**

IEES Activities in Liberia

- 1982 •Education and Human Resources Sector Assessment (Pre-IEES)
- 1984 •Project Paper Design: Improved Efficiency of Learning II Assessment and Test Development Training
 - National Policy Conference on Education and Training Participation
- 1985 •Liberian Participation in First IEES International Conference
- 1986 •Integration Study for Improved Efficiency of Learning Project and World Bank Textbook Project
 - Technical Assistance with Amending IEL Project
- 1987 •Support for Unified Primary Education System
 - Strengthening of Supervisory System
 - Design of Inservice Teacher Training Curriculum
- 1988 •Education and Human Resources Sector Assessment
 - Assistance for Development of Five-Year Plan for Education Sector
 - Development of Liberia Country Implementation Plan for IEES Activities

Nepal Initial Contacts

Information Management

Nepal

Initial Contacts

The IEES original scope of work for Nepal was established in early 1985.

Priority areas for collaboration included:

1. improving the data management and planning capacities of the Ministry of Education and Culture (MOEC) Manpower and Statistics Division; and
2. strengthening evaluation capacities within the MOEC Radio Education Division.

A preliminary workplan prepared by IEES representatives, MOEC officials, and USAID personnel was submitted to the Secretary of Education and approved in September 1985. The workplan included the posting of a Resident Technical Advisor (RTA), beginning in February 1986, to oversee implementation of IEES assistance.

Information Management

The MOEC Manpower and Statistics Division labors under constraints associated with inadequately trained staff at the central, regional, and district levels. Identified problems were: (a) headmasters and teachers who did not fully understand the necessity of keeping accurate and up-to-date records on student enrollment and attendance, school characteristics, finances, etc.; (b) little or no coordination among Ministry units responsible for collecting information on the schools; and (c) a lack of necessary equipment to ensure the timely and accurate processing, analysis, and reporting of data. The poor quality of information which resulted from these problems have severely constrained planning and reduced efficiency at all levels.

1. Introductory Information Management Workshop

To address these problems, a variety of technical assistance activities were initiated by IEES. In-country training for staff of the Manpower and Statistics Division and their counterparts in the MOECs regional and district offices began with an Introductory Information Management Workshop in January 1986. The workshop provided hands-on instruction in the design and field testing of procedures and instruments required to collect, process, and report school data. In the course of the workshop, IEES personnel were able to assess fully the manpower requirements of the Manpower and Statistics Division and to outline future training priorities. They also drafted a questionnaire on the physical and financial status of schools. This instrument has since been adopted for national use.

2. Microcomputer Workshop

An Introductory Microcomputer Workshop for staff of the Manpower and Statistics Division of the MOEC was held in May 1985. The focus of this two-week activity was the care and use of computer hardware and software, keyboard skills, and basic data entry and retrieval skills. The statistics section was supplied with two computers, a printer, and several software packages to facilitate its work.

3. Data Base Development

Building upon the initial information management and computer training provided by IEES, the Manpower and Statistics Division has developed forms for standardizing and streamlining the collection of data from the nation's schools. These forms are now distributed on a regular basis throughout Nepal's 75 school districts.

Although school data are tabulated at the district level, having a record for each school on file at the central level now facilitates the double-checking of district calculations and the conduct of sample surveys by a variety of users. In addition, a tabulation form and a new district summary form have been prepared for use alongside the basic school survey instrument. Two persons from each district were trained to use these forms at one of five regional level workshops conducted by the Manpower and Statistics Section Staff in 1986. District-level data were entered on the computer, beginning with information gathered in 1985. Computerizing such data meant that the Educational Statistics Report for that year was ready for distribution six months prior to the customary.

Using 1985 data, a study was conducted on primary school dropout and repetition rates. It indicated that: (1) the most severe wastage occurred between first and second grades; (2) that 23% of all primary students are repeaters; and (3) that girls dropout and repeat at approximately the same rate as boys, although their initial enrollment rate is much lower.

Radio Education

Nepal has had a chronic undersupply of qualified and trained primary school teachers ever since educational opportunities were expanded exponentially in the 1970s. There is little hope that the country's traditional, campus-based teacher training programs can satisfy the need for rural primary teachers in the foreseeable future. For this reason, the MOEC turned to radio and related distance-teaching strategies as a potentially cost-effective means of inservice teacher training. Building upon experiences gained during the pilot Radio Education Teacher Training Project (RETT I), which was co-sponsored by USAID from 1978 through 1983, the Ministry established a Radio Education Division (RED) and the RETT II Project. The purpose of RETT II is to upgrade teachers' subject matter knowledge and, in so doing, to prepare them for the critical School Leavers Certificate Exam.

Evaluation Planning

IEES assistance in radio education was in response to MOEC and USAID requests. One of the weaknesses attributed to RETT I was the early abandonment of formative evaluation. IEES assistance was sought to ensure; (1) that the developers of the RETT II multi-media learning package have access to listener feedback and learning data, and (2) that a cadre of evaluators be trained within the RED, as well within related government agencies, to conduct field research on RETT II as well as future distance teaching initiatives.

The initial design of RETT II called for a multi-faceted evaluation to be carried out by two groups: the research unit of the RED and the Research

Radio Education

Evaluatic Planning

Country Implementation Plan

Center for Educational Innovation and Development (CERID), part of Tribuvan University. An Evaluation Planning Workshop was conducted in November 1985. The workshop reviewed current approaches to program evaluation and specified the kinds of information that RED producers and scriptwriters would need to develop and revise the initial program series.

During the first year of RETT II broadcasts (1986), IEES assisted RED and CERID personnel in the design and execution of all evaluation efforts called for in the Integrated Plan. Reports on participating teacher characteristics, baseline English achievement studies as well as posttest results were published. Project leaders ultimately decided to concentrate on a narrower and better qualified audience in the future. This required a thorough revision of the first year's broadcasts and a more careful screening of participants for the second broadcast year.

Country Implementation Plan

Preparation of a Nepal Country Implementation Plan for IEES activities was completed in May 1986. In the absence of a comprehensive sector assessment, there was need to document the major opportunities and constraints for improved efficiency within Nepal's educational system. Once this information was collected, three areas of opportunity for continued IEES work were endorsed:

1. **MOEC Division of Planning:** continued assistance to improve data collection, analysis and dissemination system through training in-country and abroad;
2. **Radio Education Division:** continued assistance to support the design and implementation of formative evaluation activities associated with RETT II; and
3. **Cross-national Policy Research Initiative:** participation in the Education Management Information Systems Study, along with Yemen and Somalia.

The plan elaborated a variety of planning, evaluation, and training activities associated with the above areas and specified a five-year timetable as well as a preliminary budget for completing them. All recommendations were reviewed and revised on the basis of suggestions from USAID personnel and from the MOEC's Joint Secretary for Planning. Official approval of the Plan was received from the Government of Nepal in November 1986.

Policy Research Initiative

Policy Research Initiative

Applied research and development activities cut across the areas selected for IEES involvement in Nepal. Participation in the IEES Policy Research Initiative (PRI) will increase Nepal's efforts to develop its knowledge base in education and allow it to share such information with other nations through IEES extensive networking arrangements. The focus of PRI activity in Nepal has been the development of an Education Management Information System. This parallels training efforts already underway within the MOEC's Manpower and Statistics Section, and focuses on primary and secondary schooling.

School Mapping

IEES involvement in a school mapping study began with the preparation of a draft proposal to the World Bank. In 1986, following a request from the King of Nepal for a plan to establish new schools within the country's Far Western Development, the Manpower and Statistics Section worked on community projections based on available data. IEES is continuing to provide technical assistance for the design of the larger study as well as funds for the printing of data collection forms.

Sector Assessment

Based upon IEES first-year achievements in Nepal, and the consortium strategy in using sector assessments as an essential planning and training tool, the MOEC and the USAID Mission approved this study in December 1986. An eleven-member Nepalese-IEES team carried out the assessment between June and August 1987. It was conducted under the guidance of a special steering committee selected by the MOEC. The following topics were examined in detail: economic and financial characteristics of human resource development; education systems management; primary education; secondary education; teacher education; vocational and technical training; nonformal education; and external assistance. The long-term objective of the sector assessment is to assist Nepal in a more efficient allocation of government and external resources in the education sector. Means to achieve this long-term objective include: (1) identification of needs, strengths and constraints within each subsector; and (2) databased recommendations for the more efficient use of limited resources to achieve Nepal's basic needs educational goals by the year 2000. A final version of the Sector Assessment, incorporating recommendations of the Steering Committee and other interested parties, will be completed in Spring 1988.

School
Mapping

Sector
Assessment

1985	January:	Initial IEES Discussions
	May-June:	IEES Planning
	November:	Radio Education Evaluation Workshop
1986	January:	Resident Technical Advisor placement Information Management Workshop
	May:	Introductory Microcomputer Workshop
	June:	Integrated Evaluation Plan for RETT II
	November:	Education Management Information Study (EMIS) approved for IEES Policy Research Initiative
1987	January:	Donor Coordination Meetings begin
	June-August:	EHR Sector Assessment
	September:	Policy Research Initiative research activities implemented
	November:	EMIS Study begins School Mapping Study begins

Activities
in Nepal

Somalia Sector Assessment

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. 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, it played at least a facilitating and sometimes decisive role in policy change. The major changes that coincided with, or followed, completion of the assessment are indicated in Figure 5.

Civil Service Study

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 Labor and Social affairs Abddi Warsame Issak for the Ministry to conduct a Civil Service Study (CSS) with technical assistance from the U.S. The study would involve direct participation by the Ministries of Finance and of National Planning. To support the CSS, AID/Ws S&T Bureau, in cooperation with the USAID Mission in Mogadishu, supplied a team of technical experts to work with the Ministry of Labor 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 Figure 6, eleven recommendations in four policy areas were presented. In addition, detailed recommendations with suggestions for sequencing and timing were provided for each of the four policy areas.

National Symposium

Between the preparation of the June and September versions of the CSS report, a major reassignment of government staff occurred in Mogadishu. Of greatest relevance to the project was the replacement of all senior staff in the

Figure 5

Somalia's Policy Responses to EHR Assessment

- Abandon guaranteed employment for all secondary school graduates
- End employment of redundant teachers seconded to MOE
- Upgrade and expand MOE planning and statistics staff
- Form Human Resources Department at Ministry of National Planning
- Improve private sector development incentives
- Improve instructional quality and access in primary education
- Emphasize quality vs. expansion in secondary education
- Assess needs in secondary vocational and technical programs
- Develop regional and international perspective on labor markets for vocational and technical graduates
- Explore radio alternative to improve teacher training and adult basic education
- Initiate review and reform of civil service system

Figure 6

Somalia Civil Service Study Recommendations

Organization and Management

- Establish Civil Service Commission
- Reorganize Ministry of Labor and Social Affairs
- Restructure other ministries with permanent secretary/director general format
- Authorize unit for bureaucratic reform

Personnel Administration

- Rationalize assignment and promotion
- Decentralize selection to employing units

Compensation and Staffing

- Identify redundant workers and phase termination
- Reform salaries with phased increases

Training

- Create National Training Council
- Emphasize participant and action-oriented training
- Train senior ministry official in general management

MLSA. It is indicative of the strong Somali government commitment to the issues raised in the CSS report that the new MLSA minister, Abdiquassim 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 Somalia President, 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 the 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, Labor and Social Affairs, as well as most of the members of the Central Committee.

The 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 subunits on a structural basis related to function; and
5. streamline the civil service and make remuneration commensurate with performance so as to promote greater government efficiency.

Outcomes of the CSS are listed in Figure 7.

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 was implemented in 1986. The SOMTAD Project provides 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. David Chapman (SUNYA), Jerry Messec (FSU), and Douglas Windham (SUNYA) assisted in the design of the SOMTAD Project Paper.

SOMTAD Project

Figure 7

Somalia Civil Service Study Outcomes

- Civil Service Symposium in Mogadishu, September 1984
- Ministry of Labor and Social Affairs implemented most recommendations
- Five subcommittees recommended policy actions based on reports
- List of redundant staff and retirees prepared (4-5% of total Government staff)
- Committee formed to discuss Civil Service salary increases
- Continuing meetings of Somali officials and donors to implement Civil Service reform

**Training
Workshops**

First RTA

**Country
Implementation
Plan**

**Quality
Enhancement
Study**

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.

A Quality Enhancement Study was conducted in August 1985 as a result of the recommendations of the Sector Assessment, which outlined priorities for improving teacher quality and instructional materials. The Quality Enhancement Study was designed to:

1. review the accomplishments of the Somalia formal education system towards improving primary school quality;
2. determine those school elements which result in the greatest increase in student achievement in primary grades;
3. develop with MOE staff an analysis of the costs of implementing changes in the elements identified;
4. outline specific strategies for improving school quality, consistent with Somali educational and cultural practices; in close collaboration with Somali planners; and
5. assist Somali MOE staff in establishing an effective program to monitor implementation of school changes, and evaluate the results of these activities.

This study was comprised of three sections addressing the areas of school organization and management, teacher training, and instructional materials. It was conducted with close counterpart collaboration and support by the MOE and was approved by the MOE in November 1985.

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 education 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 for responding to the loss of anticipated donor funding for educational development. 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, reviewed with appropriate MOE personnel, edited, and final copies were made available to the MOE and other appropriate groups.

A Teacher Incentives Study undertaken 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. The paper, *Incentives for Primary Teaching in Somalia*, 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, IEES 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.

An IEES team 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. The IEES activities in Somalia are summarized in Figure 8.

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

Transitional
Strategy

Teacher Incentives
Study

Materials
Distribution Study

Training
Seminar

Long-Term
Strategy

Stage I

Figure 8

Activities in Somalia

1983

June-July: EHR Sector Assessment
November: Review of EHR Assessment

1984

January: Assessment published as GSDR document
February-May: Somalia Civil Service Study
June: Review of Civil Service Study
September: Civil Service Symposium in Mogadishu

1985

February: Secondary Headmasters Workshop
Assist USAID design SOMTAD Project
May: Resident Technical Advisor arrives
IEES Country Plan developed and approved
May-June: Computer Workshop I
August: Quality Enhancement Study
October: Computer Workshop II
November-December: Somali Language Dictionary for Economics

1986

April: Assist USAID consider primary education project
IEES Country Plan revised
August: Transitional Strategy for Improving Primary Education
Teacher Incentives Study
Study of the Distribution of Instructional Material

1987

January: Implementation of Integrated Strategy for Improving
Primary Education
March: Policy Research initiative Implementation
May: IEES Country Plan Revised
July: IEES RTA Replacement

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

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.

Stage III

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 inservice 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 anticipated 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 inservice teacher education program.

The Integrated 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.

Yemen Arab Republic

An Education and Human Resources (EHR) Sector Assessment was conducted in the Yemen Arab Republic (YAR), in late 1984. This work was coordinated by the Ministry of Education (MOE) and the Education Research and Development Center (ERDC) staff and became the foundation for the IEES project activities in the YAR. A draft of the assessment, including an Arabic language version of the Executive Summary, was distributed in January 1985. After a review by the MOE, a draft was revised and published in 1986.

The fiscal capacity of the YAR was characterized in the assessment by six major aspects: external economic dependence; a limited industrial base; a limited skills workforce; little emphasis on agriculture; significant informal economic activity; and limited linkages among policy, research, and planning. The sector assessment, in addition to identifying these aspects, examined all education sectors for opportunities to increase the nation's capacity to use its limited education resources more efficiently. The results of the assessment formed the basis for the Country Implementation Plan (CIP) for IEES activities, which was prepared with MOE and USAID Mission collaboration in February 1986. This plan focused centrally-funded and USAID Mission-supported activities on the most significant needs in the sector.

YAR Country Implementation Plan (CIP) for IEES Activities

The CIP focused IEES Project activities on major needs in the EHR sector. Activities identified by the CIP have been implemented from 1984 through the end of 1987, and have resulted in improvements in the sector. The CIP combines the YAR's long-term goal to improve its planning, implementation, and monitoring of EHR development with short-term IEES goals to provide activities that meet specific, identified needs and support the long-term goal.

A central objective of the CIP is to identify for IEES Project assistance priority activities that improve the efficiency of resources allocation within the sector and strengthen the institutional and individual capacity of the sector to achieve and maintain a fully integrated approach to educational planning and management.

Implementation Activities

Yemen Arab Republic Sector Assessment

Country Implementation Plan

The rationale for the CIP is based on three broad target opportunities:

- improved management of EHR development
- teacher recruitment and retention in the immediate future
- literacy and income production in the long-term.

Eight specific objectives are identified within these three target opportunities:

Improved Management of EHR

1. Assistance to the MOE with long-term planning for the educational sector;
2. Assistance to the MOE to design, implement, and use a national information system;
3. Analysis of MOE organization and operation, and prepare proposals for realignment and preparation of a workplan for an MOE organization and training needs assessment;
4. Improvement of the capacity of the MOE and the EDRC to conduct research, planning, implementation and evaluation activities; and
5. Assistance to the Ministry of Civil Service and Administrative Reform (MOCSAR) to conduct a manpower planning and training needs assessment across public sector agencies and ministries.

Teacher Recruitment and Retention

6. Assistance to the MOE to identify, design, and implement specific strategies to increase the recruitment and retention of Yemeni teachers; and
7. Assistance to the MOE to strengthen its forecasting and planning capacity, with particular attention to financial planning for the Yemenization of the teaching force;

Literacy and Income Production Training

8. Assistance to the MOE to improve the quality of school instruction by assisting and supporting efforts of the bilateral curriculum enhancement project.

The CIP for the fourth project year (June 1987 to May 1988) was endorsed by the MOE and USAID/Yemen in April of 1987. The plan was then reviewed by members of the IEES Executive Management Committee, the IEES Cognizant Technical Officer, and the USAID Mission Human Resources Development Officer (HRDO).

The activities of the plan fall into four groups, derived from the general objectives described above. These are:

1. continued assistance to the MOE with the collection, analysis, and use of information for decisionmaking;

2. analysis of the MOE organization, operation, and proposals for realignment; and preparation of a workplan for an MOE organization and training needs assessment;
3. assistance to the MOCSAR to conduct a manpower planning and training needs assessment across public sector agencies and ministries; and
4. generic project activities.

ACTIVITIES IN THE YEAR

IEES Project activities in the YAR have supported the objectives cited above. In addition to the conduct of the Sector Assessment, the following activities have been carried out by the IEES Project.

- EHR Sector Assessment, November 1984
- Development of the first CIP in February 1986
- First training workshop for computer operation and data coding in February and March 1986
- Data assistance for the MOE Five-Year Plan in April - May 1986
- Data analysis assistance, at the State University of New York at Albany (SUNYA), in May - June 1986
- Continued data assistance activity, including enrollments and teacher requirement projections, in June - July 1986
- Data processing/microcomputer workshop at SUNYA in July 1986
- Design of an Educational Management Information System (EMIS), planning of a training needs assessment, and a manpower planning exercise in July - August 1986
- Economic and financial analysis for a USAID/Yemen bilateral education project
- Policy Research Initiative meeting on EMIS at Kathmandu, Nepal, in November 1986
- Teacher Incentives Policy Research Initiative activity in November 1986
- Update of the first (1986-1987) CIP in November 1986
- Development of basic data collection questionnaire and formats for education finance data in January - February 1987.

Three sets of activities in the fourth project year (June 1987 - May 1988) in the YAR are directly associated with the impact of IEES activities in the country. The first is the continuing activities which assist the MOE with improving the collection, analysis, and use of information for decisionmaking. This involves continued training through workshops on the gathering and use of data for informed decisionmaking; an update of the EHR Sector Assessment; and continued participation in the IEES Policy Research Initiative in the areas of EMIS and Teacher Incentives Systems. The second is the analysis of MOE organization, operation, and proposals for realignment; and preparation of a workplan for an MOE organization and training needs assessment. The third area is assistance to the MOCSAR to conduct a manpower planning and training needs assessment across public sector agencies and ministries. These activities are now resulting in significant improvement in MOE capacity to collect, analyze, and prepare information for decisionmakers.

Policy Research Initiative

Policy Research Initiative

The YAR participates in the research agenda of the IEES Policy Research Initiative (PRI) in two areas: Teacher Incentive Systems (TIS) and EMIS. The TIS topic is of particular relevance and importance to the YAR as the system is at present highly dependent on expatriate teachers. As cited above, the particular focus in the YAR is to assist the MOE to identify, design, and implement specific strategies to increase the recruitment and retention of Yemeni teachers. It also assists the MOE to strengthen its forecasting and planning capacity, with particular attention to financial planning for the Yemenization of the teaching force.

The PRI EMIS study will assist the MOE with long-term planning for the sector and with the design, implementation, and applications of a national information system in order to improve the management of development throughout the education and human resources sector.

RTA

Resident Technical Advisor

In order to coordinate IEES work in the YAR, a Resident Technical Advisor (RTA), Larry Domacker, was assigned in November 1987 for two years. His responsibilities include the following:

- Advise staff of the MOE on appropriate design, statistical techniques, and data analysis for policy and/or program research. At the direction of the MOE, provide similar advice to related institution and/or educational researchers;
- Support MOE efforts to develop and maintain a microcomputer-based education management information system capable of generating regular statistical reports as well as special analytical reports as required and assist in the preparation of such reports;
- Provide in-service training in the use of microcomputers and the application of statistical packages and/or data base and spreadsheet programs for MOE staff and those of related institutions;
- Coordinate IEES/Yemen activities with other USAID-sponsored educational activities in Yemen and serve as the in-country liaison with the MOE and USAID;
- Conduct activities related to the MOE education management information system, as detailed in the IEES/Yemen CIP, that cover the period of his service, including EHR sector assessment and training in assessment technology. These activities include assistance to the MOE in the collection, analysis, and use of information for decisionmaking; participation in the PRI for education management information systems; and providing management information system services with technical advisory support and participating with the IEES team in the preparation of the Year Five Country Plan.

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., S&T/ED's BRIDGES Project and the World Bank "Small School Project"). The comparative advantage of the IEES Project is the analysis of policy issues at the national, regional, and district levels.

The IEES research agenda complements other analytical efforts of IEES. Monographs produced by IEES have explored the following topics:

- criteria for evaluating the efficiency of educational systems in developing nations, and
- economic indicators of educational efficiency.

Following a review of research needs identified in the IEES Education and Human Resources Sector Assessments, three topics were selected for attention:

- Teacher Incentive Systems. An analysis of the incentive configuration for teacher training and employment;
- Strengthening Local Education Capacity. 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
- Education Management Information Systems. A study of the impact of education management information systems on national level educational policy formulation in developing countries.

The implementation of the IEES Policy Research Initiative began formally in 1986 with the convening of host country representatives. The research program was presented for discussion, revision, and approval by the representatives from each of the collaborating countries. The country representatives also identified the topical areas most appropriate for research in their country.

Research team leaders in participating countries were identified for each team and these participated in initial planning sessions in late 1986. Proposals for each research team were developed in these planning sessions and were presented at the Second IEES International Conference for approval in early 1987. Research activities began in-country in March 1987.

Teacher Incentive Systems. A common theme throughout the sector assessments conducted 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 Agenda

TIS

This research concentrates on examining the incentives of individuals to become teacher trainees; incentives for retention and graduation from teacher training 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.

The product of this research should be an enhanced ability to restructure public sector incentives for teacher training, employment, and retention. As with all IEES activities, emphasis is not simply on 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.

Haiti

Haiti. Haiti has recently joined the TIS research effort. The Haitian research team is now both preparing the Status Review on Teacher Incentives in Haiti and designing the instruments for their field study preparing for data collection activities.

Liberia

Liberia. A Status Review on Teacher Incentives in Liberia has been completed. This study summarizes the data on individuals who become teachers, the rules and regulations governing teaching, the current balance of incentives and disincentives for teachers, and analyzes the effectiveness of current incentives.

Somalia

Somalia. A Status Review of current incentives for teachers in Somalia has been completed. The Somalia research study will also collect information on the variation of community support for teachers, a critical factor in Somalia, and on the differential attendance rates of men and women teachers.

YAR

Yemen Arab Republic. A Status Review has also been completed by the TIS research team in Yemen. A survey of former primary and secondary Yemeni teachers is being conducted to determine what factors influence teacher persistence and exit.

SLEC

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 alternatives, and improve internal resource allocation.

This research will provide to policymakers, both in participating countries and in the donor community, more current and detailed information 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.

Botswana. Research activities in Botswana have produced a draft status report. The report describes the extent of local support and involvement in education activities, an understanding of the policy framework within which such activities take place, and an indication of the policy research needs for strengthening local education capacity.

Indonesia. Initial research activities focused on how local support capacity could be enhanced at the district level and on an intensive document review. A draft status report has now been produced which contains preliminary policy recommendations for strengthening local education capacity.

Education Management Information Systems. A third topic of interest to the countries collaborating in the IEES Project is the development of a generic data management system that can 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 that could be used to inform the judgments they have to make.

The main purpose of the EMIS research is to examine the impact of these systems on national level educational policy formulation. The issues of particular interest are: a) to what extent is there congruence between the information decisionmakers say they need, the information now available to them, and the types and standards of data quality that the literature says they should use; b) to what extent does the development of an EMIS system contribute to greater congruence among these factors; and c) to what extent is the development of an EMIS related to increased use of quantitative information in educational decisions at a national level.

Nepal. Research activities in the Preliminary Phase in Nepal include collection and analysis of existing government educational information, reports, and data collection forms. EMIS data collection instruments are being prepared for the Data Collection Phase to follow. That research phase will study the current available data, the pattern of data use flow, identify the perceived data needs of decisionmakers, and consider special issues related to EMIS computer uses in Nepal.

Somalia. Phase One of EMIS research in Somalia has produced a report describing the current status of the data management system, addressing the issue of relevancy for decisionmakers at each level. The report details the reasons for the present lack of timeliness and the absence of important information, such as unit cost data. Critical problems affecting the system in Somalia include: lack of information about the migratory population, difficulty of communication between educational levels, lack of a uniform system of data collection and recording, and lack of fit between information collected and the needs of the educational hierarchy and donor agencies.

Botswana

Indonesia

EMIS

Nepal

Somalia

YAR

Yemen Arab Republic. EMIS research in the Yemen Arab Republic has produced a status report on the educational data currently available to decisionmakers at the national level. The next research phase will develop an information flowchart to map the data flow through the educational system.

