PD-AAY-606

# IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

## Project Plan: Year Four

June 11, 1987 - June 10, 1988

IEES

Improving the Efficiency of Educational Systems

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

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

# IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

This IEES Project Plan presents IEES Project activities for the fourth project year, June 11, 1987, to June 10, 1988. The document provides a brief outline of the project purpose, objectives, and strategies which guide in-country project activities. The heart of the document is a detailed description of project activities within the seven countries presently collaborating with IEES to improve educational efficiency. This section describes how these activities were developed through systemic sector analysis, how they contribute to country objectives and the strengthening of institutional capacity, and assesses their impact on the efficiency of the education sector in each country. The third part of this document presents other implementation work undertaken in support of field activities. The final sections contain a project administration organization chart, activity implementation charts for each country, and a budget for the seventh project year.

The plans outlined in this document are presented as project objectives intended to guide IEES activities in collaborating countries during the next project year. These plans were developed collaboratively with country officials and USAID Mission personnel and reflect our present knowledge of in-country conditions, national development priorities, and viable strategies. Based on project experiences for three years, these plans can be expected to undergo modification and rescheduling as the project responds to changing conditions in each country and to improvement in our knowledge base.

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## 1.0 PROJECT PURPOSE, OBJECTIVES, AND IMPLEMENTATION

The Improving the Efficiency of Educational Systems (IEES) Project is sponsored by the Agency for International Development (AID), Bureau for Science and Technology, Office of Education, in cooperation with AID regional bureaus and USAID missions. The project's goal is to work collaboratively with selected countries to:

1. improve the performance of educational systems, and
2. strengthen in-country capabilities for educational assessment, planning and management.

The project is designed to provide technical assistance and other resources to cooperating countries over a ten-year period. Sector-wide assessment and a collaborative, comprehensive planning process provide the framework in each country for project design, training, research, and data-based management. The project operates on the principal of practical improvements within the confines of each country's existing resource constraints, while also striving to improve the coordination and maximal utilization of available funding. Close and constant association with host governments, USAID Mission staff, and other education sector donors in each country is built into project activities at all levels. The development of an in-country capacity to continue this process by the end of the contract period is crucial to the success of the project.

There are currently seven countries collaborating in the project: Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic. IEES is implemented by a consortium consisting of Florida State University (FSU) as Prime Contractor, Howard University, the Institute for International Research (IIR), and the State University of New York at Albany (SUNYA).

## 1.1 PROJECT STRATEGY AND RATIONALE

The IEES strategy for achieving the interrelated goals of sector improvement and institutional development is derived from an analysis of efforts to improve education in developing countries over the past several decades. The lesson drawn from that analysis is that both a high level of host country involvement in assistance activities and a sustained, systematic, and multi-dimensional approach to the programming of those activities are required in order to ensure a significant and lasting impact on system performance.

The IEES strategy for helping participating countries to improve the efficiency of their educational systems includes five principal types of activities:

1. Education Sector Assessment and EHR Planning. In most participating countries an initial comprehensive assessment of the educational sector is undertaken in collaboration with host country and USAID Mission personnel, and subsequently updated on a regular basis. This system-wide analysis of major indicators of educational performance is designed to inform long-range education and human resources (EHR) 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 (and other donors) to identify the forms of assistance that promise to have the greatest impact on educational efficiency.

2. 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. Research themes are derived from needs identified in the course of the sector assessment process or during the implementation of field projects. The R&D projects focus primarily on current inefficiencies in the educational system.

3. Field Projects for Educational Innovation. One or more major field projects aimed at increasing the efficiency of selected subsectors of the educational system may be implemented in each participating country. These projects address priority needs identified in the sector assessments and are designed in collaboration with the host country and the USAID Mission as a means of meeting mutually-defined objectives. The projects may involve either dissemination and implementation of new educational

methods (such as those developed during the R&D phase of the overall project) or enhancement of the institutional capacities of host country structures for educational planning and administration.

4. 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. These activities will be managed with the assistance of appropriate host country institutions. An in-country clearinghouse will collect and make available to host country educators the results 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 countries collaborating with IEES, and with support institutions in the developed nations. Both activities are designed to address the problem of limited access encountered by country personnel in need of information, methods, and strategies relevant to generic EHR problems.

5. Training. The project provides training designed to improve the host country capability to analyze and plan the efficient allocation of human and fiscal resources within the education sector.

In support of these five activities, an IEES Resident Technical Advisor (RTA) may be assigned to assist the USAID Mission and host country counterparts in all stages of planning and implementing IEES assistance and to provide a direct coordinating link with IEES Consortium institutions.

These five activities are designed to help improve educational efficiency and to strengthen host country capabilities for improved EHR planning. The activities are mutually supportive and reinforce each other in a number of important ways. A central purpose of the sector assessment, for example, is to furnish host country educators with baseline data needed for subsequent decisions about the directions for educational research and planning. The sector assessment thus informs the choice and conception of R&D studies and field projects undertaken thereafter, provides data to strengthen and enhance the country's knowledge base, and indicates areas in

which additional training is needed. These data thus provide the basis for determining the most effective use of IEES resources in each country, as well as enabling each country to better coordinate other available donor support for maximal effect.

Similarly, there are important relationships among the research and planning activities supported by IEES. The R&D studies provide opportunity for research and experimentation with new educational strategies, the best of which may then be implemented on a larger scale through field projects. Research results also provide data and clarify issues and implications to better guide subsequent planning efforts.

The other activities in the IEES strategy--training, building a knowledge base, creating an exchange network, and promoting improved donor coordination--constitute means for supporting and multiplying the efforts of assessment, research, planning, and implementation. Training is incorporated into all project activities and provides an essential mechanism for increasing host country participation and for building institutional capacity. This training is conducted for the most part in-country to minimize the time participants are away from their regular duties. However, project staff may also assist USAID Mission personnel in developing plans for longer term participant training which complement the IEES effort and which make most effective use of the resources available in this area.

The in-country resource centers for educational efficiency furnish information and provide access to current resources needed in the development of field projects and in the execution of R&D studies. They also function as a repository for the data and research results which IEES activities generate, and so serve to build up the local knowledge base for

educational planning. The national and international exchange networks supported by the project facilitate the flow of information and increase the internal and external economies of IEES activities.

The exact sequence and strategy of IEES activities depends upon existing conditions in each of the collaborating countries, and particularly on host country plans and priorities and the existing commitments of the USAID Mission and other donor agencies. In instances where field projects have been selected for implementation, and project documents prepared or underway prior to the inception of IEES activities, sector assessment and research serve to broaden and refine these commitments and place them in the context of ongoing national educational planning. In countries where sector assessments or other studies completed before the signature of the contract have already generated research studies, emphasis is placed on implementing the recommendations. In all cases, the set of IEES Project activities designed in each country is developed within the context of existing host country and USAID Mission plans and priorities, and relates to them in a manner which contributes to the accomplishment of IEES Project objectives.

## 1.2 PROJECT SETTING

The IEES Project represents an innovative undertaking in educational development. Its success to date has been the result of constant and close collaboration among AID/Washington, USAID Missions, country officials, and IEES Consortium members. Priorities for Project Year Four are: (a) to implement the activities collaboratively planned in the seven countries currently working with IEES to improve educational efficiency; (b) to implement the IEES research program as developed and approved by the IEES

International Steering Committee; (c) to further develop the conceptual and operational framework for guiding progress toward greater educational system efficiency; (d) to participate in a mid-term evaluation of the project assumptions, impact, and operations; and (e) to disseminate across countries collaborating with the IEES initiative, and other developing nations, the results of project activities and lessons learned thus far.

### 1.2.1 Country Participation

IEES activities are well underway in seven countries. Most of these nations are characterized by slow economic growth and high birth rates. Traditional domestic and foreign sources of funding have become inadequate to support the continued educational expansion in these countries, and current standards of access or instructional quality cannot now be maintained. As a result, policymakers are faced with the choice of either achieving increased efficiency in the use of available resources or accepting declining standards of access, equity, and academic achievement. The IEES Project strategies, outlined in the previous section, are designed to assist these nations in identifying sources of inefficiency in the education sector and to initiate activities which will maximize the use of human and financial resources.

### 1.2.2 Guidance and Monitoring

Country Advisory Committees (CAC) have been established in collaborating countries to guide and monitor project activities. These committees are composed of educators and planners collaborating in IEES activities, Mission personnel responsible for education sector development, and IEES RTAs or other advisors.

The host country educators who form the core of the committees are

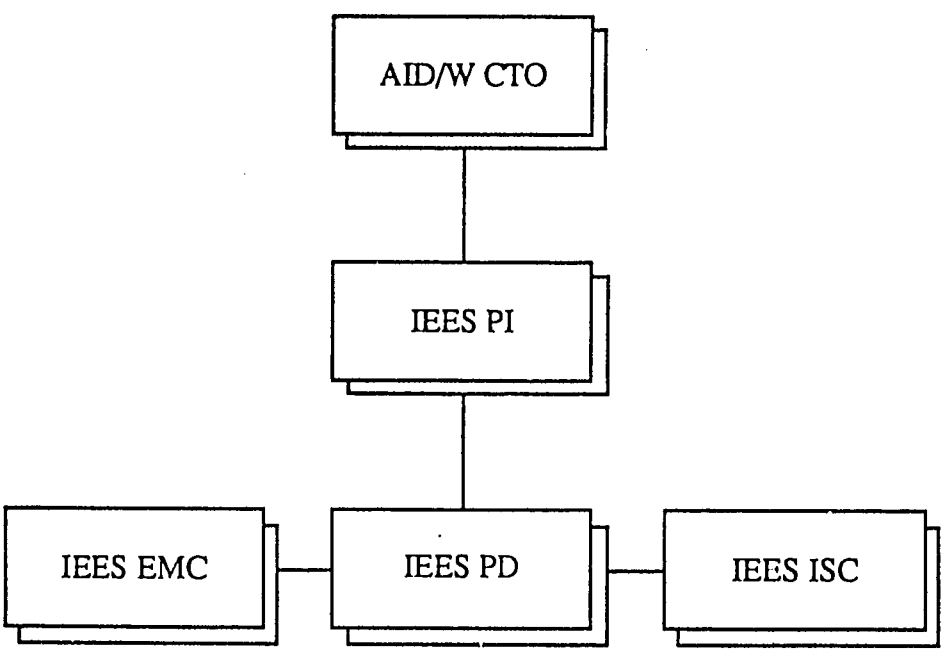
drawn particularly from government personnel who worked in producing the initial sector assessment, though the group is usually enlarged to include participants as subsequent studies and projects have been carried out.

The CACs work with IEES to develop a Country Implementation Plan for project activities, based on priority needs identified in the sector assessment, and update as needed. The Country Implementation Plan is thus a key document which defines the principal objectives of IEES activities in support of host country and USAID Mission plans and priorities. It outlines the principal activities to be undertaken over the life of the project and estimates necessary resources for those activities. Plans and budgets for the upcoming year are presented in detail in the plan which is reviewed annually by the CAC, IEES, and AID. The IEES RTA assists with the implementation, evaluation, and regular revision of the plan.

### 1.2.3 Field Support

IEES field activities are supported by the administrative systems outlined in Chart 1. Decisions regarding project policy and direction are the responsibility of the AID/W Chief Technical Officer (CTO), IEES Principal Investigator (PI), Project Director (PD), the Executive Management Committee (EMC), and the International Steering Committee (ISC). Major tasks scheduled for the fourth year of the IEES Project are presented in Sections 2.0 and 3.0 which follow.

Chart 1
IEES Policy and Decisionmaking



## 2.1 BOTSWANA

### 2.1.1 Project Developments and Accomplishments

The IEES Project supports the educational efficiency goals of the Government of Botswana (GOB) and USAID/Botswana by providing technical assistance in planning, research, and evaluation to complement and enhance Mission-supported activities such as the Primary Education Improvement Project, the Junior Secondary Education Improvement Project, the Botswana Workforce and Skills Training Project, and the provision of long- and short-term operational experts and participant training.

Sector Assessment. An Educational and Human Resources Sector Assessment was conducted in Botswana from October to November 1983, (prior to signature of the IEES contract). The final version was published in June 1984. The methodology employed by the team of consultants was based on previous experiences with assessments in both Liberia and Somalia. The assessment was conducted under the guidance of an Interministerial Coordinating Committee chaired by a representative of the MOE. Joan Claffey of AID/W served as Team Leader. Members of the team who are now working with the IEES Project are Victor Cieutat and Mary Joy Pigozzi of IIR, David Chapman, Frances Kemmerer, and Douglas Windham of SUNYA.

Initial JSEIP Project Design. A number of targets of opportunity for educational efficiency improvement were identified in the Sector Assessment. The highest priority item related to the reorganization, expansion, and improvement of the Junior Secondary Educational program. It was the government's intention to change the national educational system from seven years of primary, two years of junior secondary, and two years of senior secondary (7-2-2), to a 6-3-3 system, with the junior secondary level more

analogous to the Middle School level of U.S. education. Coupled with this change, the government wished to expand enrollments and modernize the content and instructional delivery approaches for these school years. Consultants provided by the IEES Project assisted the USAID Mission with the design of the Junior Secondary Education Improvement Project (JSEIP). The purpose of JSEIP 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. A four-person IEES team worked in Botswana from April 29 to May 12, 1984 to assist the Mission with preparation of the Project Identification Document for JSEIP. The team was composed of Victor Cieutat of IIR, Joan Claffey of AID/W, Robert Morgan of FSU, and Douglas Windham of SUNYA.

Sector Assessment Review and IEES Implementation Plan. The 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) discussion of activities which the IEES Project could undertake during the next few years in support of improving educational efficiency in Botswana.

Assistance for the final JSEIP Project design was provided by the IEES Project. The Project Paper was developed between September and November 1984. On April 19, 1985, the JSEIP Project Agreement was signed by representatives of USAID and the GOB.

Project Implementation. In December 1984, the USAID Mission requested that the IEES Consortium implement JSEIP. In June 1985, FSU received a letter from AID/W indicating that the Agency was considering adding a Task Order to the IEES contract with FSU to implement JSEIP. FSU submitted a $9.2 million cost proposal with a start date of September 1, 1985.

Sector Assessment Update. In February 1985, the USAID Mission in Gaborone requested additional information regarding the scheduling of the Sector Assessment Update and the IEES Country Implementation Plan. Between April 12 and May 10, 1985, a three-person IEES team was provided to the GOB to conduct the Sector Assessment Update. The team consisted of Clifton Chadwick (consultant to FSU), John Hansen of FSU, Robert Morgan of FSU, and Douglas Windham of SUNYA.

The Sector Assessment Update was prepared to supplement the Botswana Education and Human Resources Sector Assessment (June 1984). Updated reports were prepared in three areas in which either substantial change had occurred since the original assessment or the assessment had provided inadequate detail: the economic and financial status of the EHR sector; teacher training; and the primary and secondary education curriculum.

Frances Kemmerer of SUNYA met with the Reference Group in November 1985 to review the draft Sector Update. The revised document was published as the Botswana Education and Human Resources Sector Assessment Update (March 1986).

Country Implementation Plan Guidelines. As part of preparations for the Botswana Country Implementation Plan for IEES Activities, Victor Cieutat of IIR developed a set of operational guidelines. The purpose of these guidelines was to establish standard procedures for preparation of the IEES Country Implementation Plans, and to provide a consistent format.

Botswana Country Implementation Plan for IEES Activities. Concurrent with the conduct of the Botswana Sector Assessment Update, a two-person IEES team worked with Botswana counterparts on the development of an IEES Country Implementation Plan. Victor Cieutat and Mary Joy Pigozzi of IIR were in Gaborone from April 12 through May 13, 1985, to complete this task,

which detailed IEES Second Project Year activities in Botswana.

The work of the planning team in Gaborone was under the direction of an interministerial Reference Group chaired by the Principal Planning Officer of the MOE, Eric Odotui. 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 Country Implementation 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 Plan is to identify priority activities for IEES assistance in order to: (a) improve the efficiency of resources allocation in the EHR sector, and (b) strengthen the institutional and individual capacity of the sector to support a fully integrated approach to educational planning and management.

The plan was designed to assist the Government to achieve its priority targets in the sector and to clarify the interrelationships among proposed IEES activities in Botswana with respect to these targets. The plan proposes integrated activities related to collaborative research, training for capacity building, networking for improved communications, and knowledge building.

The Country Implementation Plan covered a five-year period from July 1985 through September 1990, with provisions for annual revisions.

During the second year of the IEES Project in Botswana, the following activities were conducted:

- Secondary Headmasters Course Design (August 1985)
- Newly Appointed Headmasters Workshop (November 1985)
- Computer Systems Design Workshop (March-April 1986)
- The First IEES International Workshop (November 1985)

The International Workshop was the first of the IEES cross-national knowledge building and networking activities and was held in Botswana, November 11-16, 1985. The Botswana Ministry of Education served as official host of the workshop, which was attended by representatives from the countries collaborating with the IEES initiative, USAID Missions, AID/Washington, and IEES staff.

#### 2.1.1.1 IEES Developments and Accomplishments During Project Year Three

The initial Botswana Country Implementation Plan (CIP) for IEES Activities provided for a range of support activities. Activities beyond the first year were described as tentative and were subject to revision as indicated by current government priorities. The activities, undertaken and planned, were the result of deliberations among the Deputy Permanent Secretary of the MOE, the USAID HRDO, and the Coordinator of IEES/Botswana activities.

An updated CIP, which will detail IEES activities for the Fourth Project Year, is scheduled for completion by November 1987. The revised plan will place greater emphasis on the educational planning and management needs of the Ministry of Education. The plan is expected to continue the present support for the Unified Teaching Service (UTS), while outlining plans for expanding databases for primary education and policy decisionmaking. The Policy Research Initiative (PRI) is expected to be considerably more focused as the first phase is completed.

Educational Management Information Systems. IEES activities in Project Year Three have focused on development of Educational Management Information Systems (EMIS) for the Department of Nonformal Education

(DNFE), the UTS, and Botswana's participation in the IEES PRI in the area of Strengthening Local Education Capacity.

Department of Nonformal Education. IEES consultant Eric Eno has established a prototype EMIS for the Correspondence Branch of the DNFE. This section of the DNFE is responsible for providing distance education at both the junior and senior secondary levels for approximately 5,000 students. The database system was designed to manage the student records, thereby increasing the efficiency of communications and supervision of the program. The system is now being used to register students for initial courses, prepare mailings of course materials, monitor student progress, monitor tutor performance and effectiveness, and measure the activity and outcomes of the Correspondence Branch. A microcomputer system was procured for the DNFE (a Sperry HT with a 20MB hard disk and an Epson FX-100 printer) to support the system.

A three-week typing course was organized for five of the officers within DNFE who will maintain the data base. In February 1987, data entry began (on a part-time basis) of all JC students' files, and the status of the worksheets they were assigned. The data entry became full-time by mid-February, and was completed by mid-April 1987.

Unified Teaching Service (UTS). Eric Eno also completed a review of EMIS software operating systems 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.

Policy Research Initiative. During the past year, the University of Botswana was requested to nominate a person to participate for one year in

the IEES Policy Research Initiative in the area of Strengthening Local Education Capacity (SLEC). The University selected Patrick Molutsi, a Lecturer in Sociology, to be director of the project. Molutsi has considerable research and field work experience in rural sociology and the sociology of education.

Molutsi attended the initial meeting of the research area group in Washington, DC, in December 1986 and represented the Botswana research team at the IEES Second International Conference in February 1987. The PRI SLEC study in Botswana is expected to last two years. Its activities will be coordinated with the work of the Evaluation Task Force.

Phase One of the study is descriptive and will result in a draft report on the current status of local support and participation in education. It draws on existing documents and a limited series of interviews to analyze the impact of current policies, regulations, and guidelines that affect local participation in educational activities. This work was begun March 1 and is scheduled to be completed by August 31, 1987.

#### 2.1.1.2 JSEIP Developments and Accomplishments During Project Year Three

Project Inception. Botswana's Junior Secondary Education Improvement Project (JSEIP) was derived from the USAID-funded "Education and Human Resources Sector Assessment" (updated in March 1986). At the time of the EHR Sector Assessment, Botswana was approaching the end of Phase I of a USAID-supported Primary Education Improvement Project (PEIP) and was anticipating its continuation in a second, follow-on, phase.

That junior secondary education improvement and expansion was the nation's highest educational development priority was underscored by the analyses and recommendations of the National Commission of Education (NCE),

chaired by Torsten Husen in 1977. Over the years the NCE report has served as a basic planning document for the Ministry of Education. The Commission report was followed by the government's promulgation of a National Assembly Policy of Education, "Changing the Goals of Secondary Education". This new policy formally established the nine year basic education program.

Significant steps have been taken to organize the educational infrastructure to support the new program. After some delay in changing to the new 7-2-3 system, and implementing a reorganized instructional program, the changes were fully initiated in 1986. World Bank and African Development Bank funds are assisting with new school construction and the USAID-funded JSEIP will provide the support for the curriculum changes anticipated in moving to the two-year junior secondary program, and then eventually to a 6-3-3 system.

The government, having identified the junior secondary level as its most urgent area for development, solicited USAID assistance in planning the development project. The IEES group, consisting of Florida State University, Howard University, the Institute for International Research, and the State University of New York at Albany, was tasked by USAID with the development of the Project Identification and Project Planning documents. This work was done in close concert with key officials from the Ministry of Education and the Ministry of Planning. The product of this effort was the JSEIP Project.

The Project Agreement was signed by the two governments in April 1985, and the IEES group was contracted to be the source of JSEIP technical assistance in July 1985. The project assistance completion date is February 1992.

The Chief of Party, Ash Hartwell, arrived in Botswana on October 17, 1985, followed by three Resident Technical Advisors in November and four more in January 1986. The remaining two RTA's arrived in September and October of 1986 to complete the Project Staff. Darrell Dubey's death in December 1986 was a great loss to the project. The new Inservice Teacher Training Specialist, Richard Mullaney, will arrive in Botswana on August 25, 1987.

The JSEIP project was designed to increase the quality and efficiency of an expanded junior secondary education program and to institutionalize the MOE's 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.

At the core of the project is JSEIP's effort to assist 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 on-going improvement of the instructional program; and development and distribution of teacher guides, student learning guides and instructional materials.

To support the implementation of the new curriculum, 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).

Lastly, the project 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.

In its design, JSEIP represents a creative education improvement effort both because of its systematic approach to instructional design and also because of the manner in which the instructional design and imple mentation efforts are integrated into the larger educational system at both the school and central ministry levels. Many donor assisted education projects are designed to address single, particular aspects of educational improvement, such as improved 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.

Project activities will be described in three areas:

(a) curriculum and instructional materials development;

(b) teacher development; and

(c) planning, management, and evaluation activities.

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 Secondary Department using less systematic design procedures than employed in JSEIP. In these subject areas, JSEIP is assisting to enhance the quality of the materials already available and helping with the development of appropriate assessment procedures to accompany these materials.

Figure 1 summarizes the steps in the instructional development process being employed by JSEIP and describes progress, to date, in each of the subject areas. While the steps identified in Figure 1 are sequential, they are not of equal magnitude. Steps requiring the greatest commitment of time and resources tend to be those later in the development process. Consequently, the information contained in Figure 1 indicates that JSEIP is at the early stages of curriculum and instructional materials development. Progress has been very slow in this area for several reasons. JSEIP staff have initially concentrated on a combination of institution and capacity building activities considered essential and prerequisite to curriculum and instructional materials development. Concurrently, the government has not assigned personnel to the curriculum development activity as it had committed.

Detailed Summary of Progress by Subject Area

Social studies: Instructional topics and specific objectives have been identified; scope and sequence of material have been delineated. The two year course has been divided into fifteen modules; content for three of those modules has been selected and draft modules have been developed. Formative evaluation and field testing will be conducted when more modules are complete.

English: Instructional topics and specific objectives have been identified; scope and sequence of material for a two year course have been

FIGURE 1

Current Status of Curriculum Development Activities
June 1987

| Steps in Instructional Development Activity | SUBJECTS | | | | | | |
|---|---|---|---|---|---|---|---|
| | Soc Stud | Eng | Math* | Science* | Sets-wana | Agric | Tech Stud |
| 1. Identify Topics | | | | | | | |
| 2. Identify general aims; specify objectives, delineate sequence | | | | | | | |
| 3. Put those into units, continue w/scope and sequence | | | | | | | |
| 4. Devel. detailed curriculum plans for each unit with indication of how assessment will occur | | | | | | | |
| 5. Develop/select student learning materials | | | | | | | |
| 6. Develop student assessment instruments | | | | | | | |
| 7. Develop student guides | | | | | | | |
| 8. Develop teacher guides | | | | | | | |
| 9. Formative evaluation and field testing | | | | | | | |
| 10. Revise materials as necessary | | | | | | | |
| 11. Develop examinations for overall curriculum | | | | | | | |
| 12. Produce and implement the new curriculum | | | | | | | |
| Anticipated ease of moving through the ID process (1=difficult to 10=easy) | 10 | 7 | 1 | 5 | 10 | 3 | 4 |

* Instructional materials for science and math were not developed by JSEIP, however project may assist in enhancing existing materials and developing appropriate assessment instruments.

delineated. The next step will be the development of a more detailed curricular plan.

Setswana: Instructional topics and specific objectives have been identified; scope and sequence of material have been delineated. The two year course has been divided into fifteen modules; content for four of those modules has been selected and the draft modules developed. Formative evaluation and field testing will be conducted when more modules are complete.

Agriculture: Initial work in defining topics and objectives is being initiated.

Technical Studies: Initial work in defining topics and objectives is just getting underway. Once underway, work in this area is expected to proceed rapidly, as the course materials are expected to be modeled on the curriculum of the technical studies course being designed for Molepolole College of Education, which is well along in development.

Mathematics: Instructional materials for mathematics have been developed by the Curriculum Development Unit (CDU) outside of JSEIP. However, JSEIP staff will assist the CDU to enhance the quality of these materials and develop appropriate assessment instruments to accompany these materials. This process is not yet fully underway.

Science: Instructional materials for science have been developed by the Curriculum Development Unit outside of JSEIP. However, JSEIP staff will assist the CDU to enhance the quality of these materials and develop appropriate assessment instruments to accompany these materials. This process is not yet fully underway.

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. Instructional Materials Development Teams. Teachers have been seconded from the schools to serve for three years maximum with the Curriculum Development Unit. The conceptualization and development of the MDT approach to curriculum and materials development has been coordinated by JSEIP Advisor Kent Noel.

2. Improved Instructional Materials Production Capacity. Installation of a complete system of Macintosh computers, Laserprinters, and photocopy facilities in the CDU, with additional equipment at the Research and Testing Center (RTC) and the Molepolole College of Education (MCE). The curriculum and instructional materials production activities are designed and coordinated by JSEIP Advisor Barry Vogeli.

3. Building for the Department of Curriculum Development and Evaluation. The new CDU building is scheduled for completion in September 1987, to accommodate the Examinations Unit, the RTC, CDU, and Secondary Department. The design work has been facilitated by JSEIP advisors.

4. Organization of Curriculum Library. JSEIP consultants, Johanna Carter and Eileen Hunt, have been collecting, itemizing, and systematizing books relevant to curriculum development, for housing within the Curriculum Development Unit.

5. Improved Communications in the Curriculum System. Cross-links have been established among subject areas, which have provided impetus for improvement. Curriculum aims have been distributed. The first conference of primary and secondary education officers has been organized. JSEIP advisors serve as rapporteur for key curriculum committees.

6. Needs Assessment Studies. A Needs Assessment Committee has been established. A review of the literature relevant to curriculum development (with particular emphasis on rural development and basic needs) was completed in January. Priority aims for the nine-year program in the Community Junior Secondary Schools have been assessed. CJSS staff around the country have been surveyed for problems in the various subject areas and for general concerns about curriculum implementation. A Technical Studies Task Force has been established to conduct a discrepancy analysis of the syllabus and what is actually being taught.

7. Construction of Education Centers. Centers are being constructed at Maun, Selebi Phikwe, Mahalapye, and Ghanzi to provide instructional support within their respective regions.

8. Syllabus Rationalization. The unitization of the science, mathematics, social studies, agriculture, technical studies, and Setswana curricula has been initiated.

9. Improved JC Exam in Social Studies. Assistance has been provided to improve item development and curriculum representativeness.

10. Curriculum Coordinating Steering Committee. CCSC was formally established by the JSEIP Project Planning Committee in May 1986. The CCSC is chaired by the head of the Curriculum Development Unit, and has representatives from the Secondary, Primary, Teacher Training, Research and Testing and Curriculum Units. The focus of the CCSC is the coordination of curriculum development, especially for the junior secondary level (including the upper grades of primary, which will be incorporated within the Community Junior Secondary Schools in the early 1990's). The CCSC has subsequently established a number of subcommittees and task forces including a Needs Assessment Committee, a Curriculum Structure Task Force, an Intensive English Committee, and a National Curriculum Conference Committee. These bodies now make it possible to cross departmental lines in planning and organizing the activities necessary to achieve JSEIP objectives.

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 work in this area has been constrained by two factors: (1) the death of the Inservice Advisor in December 1986; and (2) the slow development of support at MCE for the JSEIP advisors. Teacher development activities are summarized below.

The Department of Arts, Crafts, and Technical Studies was established at the Molepolole College of Education under the direction of JSEIP advisor, Frank Walton. The first group of eight students will graduate in 1987. Two teachers have been seconded on a rotating basis to serve as interns in the technical studies section of the department. A full-time staff member, in addition to the JSEIP advisor, has also been assigned to the technical studies section.

The ACT Department has conducted workshops for all junior secondary technical teachers in the country. Fifteen Social Studies workshops have

also been carried out with all junior secondary technical teachers in the country.

JSEIP has coordinated the administration and systemization of teaching practice at MCE. JSEIP advisors John Bowers and Dwight Allen have developed a database on all students to enable better organization of the teacher training school assignments. In May, 320 students were placed in May 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 that have been developed for assessing student performance. The students have been involved in data collection activities for the Ministry of Education as part of their teaching practice. An objective and systematic process for evaluation of the instructional performance was also developed.

A Communication and Study Skills Course at MCE course is now required for all first year students at MCE in preparation for taking college level courses. It was initiated by a committee from the Education and English Departments, and is being further developed with assistance by a JSEIP consultant, Mike Morgan. It is taught by lecturers from most departments at MCE.

JSEIP consultant Geoffrey Marks has 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. The Test Construction Course, developed by John Bowers, has a spin-off benefit of the creation of an item bank that can be used in the formative evaluation activities of the CDU, and the construction of the new two-year JC examination. The ISD course, developed by JSEIP advisor, Johnson Odharo, is taken by all MCE students. ISD samples of self-

instructional modules for teacher training have also been developed. ISD reference books have been placed in library.

JSEIP RTAs have conceptualized and designed the scope and format of microteaching laboratories for six of the departments of MCE. This program, coordinated by Dwight Allen, has been evaluated positively within the college. Four videotape recorders will be provided by the project.

In August 1986, the Molepolole College Advisory Board was established, with terms of reference to advise on program objectives, enrollments, curriculum structures, professional and support staff, facilities, and budgets. The Board is chaired by the Deputy Permanent Secretary. The JSEIP COP serves as a board member. The Board is now able to provide much needed coordination between curriculum development work, inservice teacher training, and the College program.

Education Systems Planning, Management and Evaluation. In addition to developing new instructional materials and training teachers to use them, JSEIP project design recognized the need to help build the capacity of the MOE to plan, manage, monitor, and evaluate the curriculum development and implementation effort, especially at the time the junior secondary system is expanding rapidly. Activities undertaken and planned by the team are described below:

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. During the course of the Project, 18 staff were projected to receive two years of overseas training. As JSEIP implementation began, however, it proved very difficult to identify a sufficient number of candidates for this program from within the Ministry

of Education who could be released for two years for overseas training. An alternative strategy was therefore required. A joint Masters' degree program with the University of Botswana (UB) and Florida State University (FSU) was ultimately approved.

Instruction is offered at both universities for 10-15 Batswana participants. The degrees will be awarded by FSU's Department of Educational Foundations and Policy Studies (EFPS). The Masters students begin studies at UB in January, followed by two semesters of coursework at FSU in May-December. 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 design of this cooperative degree program has several advantages over fully U.S.-based resident Masters degree training:

- A cooperative degree program can be completed with participants needing less time out-of-country and away from MOE duties.
- The savings (almost 60%) associated with less out-of-country training time and utilization of the local University, allows an increase in the total number of trainees.
- A cooperative program design contributes to strengthening the graduate program in education at the University of Botswana.
- Most importantly, the cooperative program design significantly increases the relevance of the training to the immediate and future problems of Botswana education.
- As a model program, it may have application to other USAID country programs (it has been reviewed by a delegation from Lesotho).

The joint FSU/UB Masters Degree training program was initiated in January 1987, with thirteen trainees (including two officers from the Curriculum Unit) enrolled. The course in Research and Evaluation at the University of Botswana was handled by a team of people from JSEIP and the University, coordinated by a short-term consultant from FSU, Howard Williams.

Announcements for the second intake for the joint Masters program have been circulated throughout the Botswana educational system. Applicants will be screened and interviews conducted by a committee of MOE and JSEIP representatives. These prospective students will begin at the University of Botswana in January 1988.

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. The secondary school regulations were based on the management of Government secondary schools and church-owned schools. Those regulations did not spell out the powers and responsibilities of the community school boards and the headmasters of the CJSS. During 1986, a working group assisted by JSEIP advisor Joseph McDonald (including word processing and editorial reviews from FSU) worked through the regulations carefully and produced a new draft, which included an overall reorganization and rewriting of most sections. This draft was submitted to the Attorney General's office for final approval in January. 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. A short-term consultant, Pamela Allen, worked with a reference group of Headmasters and the Secondary Department to produce a working draft of the manual. The manual will be incorporated into the intensive training now being given to Headmasters appointed to CJJS as they begin their assignments.

Evaluation Task Force. In November 1986, the Project Planning Committee approved the formation of an Evaluation Task Force (ETF) 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 (IEA) 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 will have conducted IEA testing by 1986). The IEA testing program began in May, when practice teachers from the Molepolole College of Education administered a battery of tests at 63 schools. The Research and Testing Centre has organized tests for the remaining 15 schools.

A second CJSS activity was initiated in May by Professor Rosemary Davis, of the University of Botswana. The English Language Comprehension Study is intended to provide an assessment of the English language comprehension skills of students in primary grades six and seven, and in the first year of junior secondary school.

Another CJSS research activity carried out under the auspices of the ETF was conducted by the thirteen Masters Degree trainees as part of their course work in Research and Evaluation. The trainees were placed in four working groups, each of which visited five or six schools over a two week field assignment, carrying out in-depth interviews and administering questionnaires. The resultant school profiles are now part of the database being developed in the Secondary Department.

Other ongoing initiatives of the ETF include classroom observations, school staff surveys, an assessment of aims for the nine year program, tracer studies, and video programming of community and school opinion.

With the current expansion of schools and programs at the junior secondary level, there is a corresponding increase in the importance of establishing standards for professional evaluations and training participants in the evaluation process. As a means of validating a set of Botswana standards for evaluation, developed by JSEIP advisor, Wes Snyder, and planning evaluation activities which will meet these standards, a training seminar has been approved which will be held at FSU in the first week of September. The seminar will involve resource persons from FSU, consultants in evaluation, members of the ETF, and students enrolled in the Masters Degree Course at FSU.

National Curriculum Consultative Conferences. A series of regional consultative conferences has been approved by the MOE Policy Advisory Committee to begin April 25, 1988. Key persons in the various regions of the country will be invited to participate in a review of the CJSS program, evaluation and curriculum development processes. The conferences will be held at Gabarone, Labatse, and Francistown. The details of the regional meetings are still being developed with Wes Snyder as the chairperson of the Conference Committee.

Educational Policy Papers. JSEIP advisors regularly write papers for Ministry policy formulation and evaluation. Topics of papers written thus far include evaluation methodology, curriculum development, small schools, school fees, and CJSS location.

Infrastructural Support for Molopolole College. Vehicles, secretarial support, library acquisitions, computers, and staff support for teacher training curriculum development activities have been provided to MCE by JSEIP. Regular staff development activities have been provided by JSEIP staff on a volunteer basis.

Databases. A number of databases, described below, have been established in the Planning Unit, the Secondary Department, and the Curriculum Development and Evaluation Unit. Discussions have begun with the Employment Policy Unit to coordinate information on employment opportunities with education information.

School Mapping. A database 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 database 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. The CJSS Working Group has the responsibility for planning the physical infrastructure for the expansion of the Community Junior Secondary Schools during the present National Plan Period.

In October 1986, the JSEIP Chief of Party prepared a paper based on the earlier school mapping analysis, and concluded that Botswana could not provide junior secondary schools within walking distance of more than approximately 40% of the population, given the present design and structure of the CJSS. The JSEIP paper indicated two alternatives: increasing the provision for boarding or (preferably, for reasons of cost) reducing the school size (so that smaller villages would support a CJSS). The working group accepted the JSEIP paper, and suggested a further analysis of the implications of developing a small, one stream (80 student) CJSS.

CJSS Siting Analysis. Using the school mapping databases, which identify the feeder primary schools for each secondary school, an analysis was carried out on the long term prospects for siting 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.

Form I Admissions Reporting. A second use for the secondary school mapping database was to assist in the reporting of Form I admissions in 1987. After headmasters had completed a hand written roster of students admitted to their schools (admissions are based on applications of qualified students within each zone), a data entry and reporting system was set up in the Ministry, and a database was established for the 12,400 students admitted. Reports were produced showing admissions by school, alphabetically, and by District and primary school. Summary reports were also produced which showed the distribution of entrants by sex and passing marks on the primary examination for each secondary school.

Tracking Bursaries Awards. The school mapping database was additionally used to enter information on bursaries awards. Since the information coming from the Districts on bursaries awards is organized alphabetically by primary school, the database system greatly facilitated the data entry and reporting procedures. Reports for the secondary schools were completed by the end of February (two months ahead of the completion date for the previous year).

Form 4 admissions and bursaries were also processed using micro-computers. A final summary report was produced showing details of Form 1 and Form 4 admissions from each district, including number and percentage of boarders, and average and total bursaries awarded.

CJSS Database. The Central Statistics Office (of the Ministry of Finance and Planning) annually sends data collection forms to all schools

for completing statistical information. These are returned by May/June and data is entered into the government mainframe computer. The MOE has not previously had access to this information until it had been tabulated and produced in the following year as the compilation of the Annual Education Statistics. In August 1986, JSEIP and MOE Staff worked together to download the secondary school statistical data files from the mainframe to microcomputer diskettes that can be read by the microcomputer within the Education Planning Unit. Files have now been established for the MOE using SPSS+, dBASE III+, and LOTUS software programs. The result of this effort is that MOE now has access to timely data for planning and analysis.

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

### 2.1.2 Plans for IEES Activities in Project Year Four

The updated Country Implementation Plan will place greater emphasis on the educational management needs of the Ministry of Education. The revised plan is expected to continue the present support for the Unified Teaching Service, while outlining plans for expanding databases for primary education and policy decisionmaking. Policy Research Initiative activities will become more focused as they progress through Phase One and a design is developed for Phase Two.

Botswana Country Implementation Plan. The revision of the Botswana Country Implementation Plan for IEES activities is scheduled for completion by November 1987. The IEES activities undertaken since the first year of the project have been the result of ongoing, iterative deliberations among

the MOE, USAID, and the IEES RTA/JSEIP COP. The Country Implementation Plan revision will focus on 1) a review and assessment of the activities to date, and 2) review and revision of projected activities as indicated by current government priorities. A two-person IEES team will work with the MOE and USAID Mission officials to conduct the update and plan the fourth year activities in detail.

Unified Teaching Service. An EMIS database design and installation at UTS will be directed by COP Hartwell and a Peace Corps Volunteer, David Wentzel, who will be assigned to the UTS in July 1987 as a systems analyst. This system will provide assistance in planning and managing the posting of teachers and in maintaining teacher records. Consultations are now underway to determine the desirability and feasibility of downloading information about teachers, information presently on the mainframe computer run by the Ministry of Finance, to a microcomputer for more immediate access and reporting by the UTS, and Secondary and Planning Units. A Sperry IT and high speed printer, provided by IEES, are expected to be delivered by mid-July. IEES is also procuring dBase III Plus for the system, and WordPerfect for the word processing.

Primary Planning and Systems Management. The databases which are presently being developed with IEES/JSEIP assistance will be further expanded to include essential information regarding the Botswana primary school system. The usefulness of the school mapping database has already been demonstrated through its applications for planning school sites, generating Form I admissions profiles, and tracking and reporting bursaries awards. Community Junior Secondary School (CJSS) data collected annually have been downloaded to microcomputer diskettes so that it is more immediately accessible to the MOE planning unit. This microcomputer

database has already been used to conduct a staffing analysis of the CJSS.

There are considerably less data presently available regarding the primary school system than the secondary system. While data are reported for the primary schools, school and student data essential to comparative analyses and tracking of teachers and supervisors are not retained.

The IEES Botswana Coordinator, with the assistance of a short-term consultant, will analyze the present data inventory of the primary school system. This analysis is expected to result in: 1) a profile of the primary data collected and retained each year, 2) an assessment of the adaptability of IEES/JSEIP-developed systems for primary schools and students, and 3) recommendations and plans for developing new systems for data collection and management for the county's primary school system.

Second Botswana Sector Assessment Update. Another IEES sector assessment effort in Botswana may serve to support a second National Commission on Education. The first National Commission on Education issued its report, Education for Kagisano, in 1977. This Commission was established by President Sir Seretse Khama and chaired by Torsten Husen. The major purposes addressed by the Commission were:

1. Identification of the major problems affecting education in Botswana and the issues of principal concern to the Government of Botswana;

2. Clarification of the goals of the educational system as perceived by key parties within and outside government;

3. Review of the current educational system and proposed programme for its development; and

4. Presentation of recommendations regarding implementation of an effective program to overcome problems and achieve goals.

The National Commission Report was updated in 1980 and has served as a working document for National Development Plans each year since its

publication. By some estimates, at least half of the recommendations included in the Commission's report have been implemented by the Government of Botswana.

A second National Commission on Education will have the capacity to assess the progress made in Botswana education since the first National Commission published its findings and recommendations. It will additionally serve to renew the focus of the Botswana Government on the policy issues in the education sector.

An IEES sector assessment update team will collect, analyze, and present the baseline data to support a second National Commission. With the experience of conducting the initial sector assessment in 1983, and an update in 1985, the IEES team can readily take on the collection and presentation of the necessary data. This will allow the members of the National Commission to concentrate on reviewing the IEES team findings, and sponsoring regional interviews and public debate on educational policies, priorities, and programs.

Negotiations are planned with the Ministry of Education Planning Unit to establish the scope and focus for the sector assessment update. It is anticipated that the negotiations for the sector assessment activities will provide the impetus for, and demonstrate the feasibility of the second National Commission on Education.

Policy Research Initiative (PRI). The PRI study in Botswana, Strengthening Local Education Capacity, is expected to last two years. The study, directed by Patrick Molutsi, began March 1 and the first phase is scheduled to be completed by August 31, 1987. Phase One of the study is descriptive and will result in a draft status report. It will draw on existing documents and a limited series of interviews to analyze the impact

of current policies, regulations, and guidelines that affect local participation in educational activities. The research agenda for Phase Two will be determined at a one-day workshop in which the draft status report will be reviewed and revised. The PRI research is being coordinated with the work of the JSEIP Evaluation Task Force.

### 2.1.3 Plans for the Junior Secondary Education Improvement Project (JSEIP) in Project Year Four

Curriculum and Instructional Materials Development. The curriculum development process historically used by the MOE underlies some of the current issues faced by the team in the instructional development process. The specification of curriculum at both the primary and secondary levels is the responsibility of Curriculum Panels established for each subject area. These panels have been composed of senior teachers and secondary education officers. The panels oversee the specification of objectives, determine the scope and sequence of content, and review materials proposed for use in the schools.

Since the new junior secondary curriculum is intended to articulate with the existing curriculum at both the primary and secondary levels, the Curriculum Panels for junior secondary were expanded to include representation from both the primary and secondary levels. Since the full panels meet only about four times a year, Subject Review Panels, drawn from the membership of the larger panels, were designated to represent the full Curriculum Panel and to work on an ongoing basis with the instructional development process underway through JSEIP. However, difficulties experienced by the Subject Review Panel members in freeing time to work on JSEIP activities led to the creation of Materials Development Teams (MDTs) in 1986. The role of the MDTs was to actually select/write the new

curricular materials which were then to be reviewed by the Subject Review Panels. Hence, the Curriculum Panel delegates certain authority to the Subject Review Panel which, in turn, delegates certain responsibilities to the MDTs.

The original plan was to have Subject Review Panels review preliminary statements of topics, objectives, scope, and proposed sequence of materials, prior to actual development of those materials. In practice, this procedure has slowed progress because (a) the Subject Review Panels meet on an irregular basis, and (b) they frequently want the curriculum components being developed by the MDTs to be reviewed by the full Curriculum Panels, which meet even less frequently. The multiple responsibility and authority, intended to expedite the development and review process, has resulted in a more cumbersome process and has slowed the materials development process.

One component of the revised instructional development strategy now proposed by JSEIP is that materials development occur concurrent with Subject Review Panel and Curriculum Panels' reviews. Changes in objectives, scope or sequence designated by these panels would be made through later modifications in the materials being developed.

Five factors are now converging that provide JSEIP an opportunity to redirect activities toward the curriculum and instructional materials development.

1. The MDTs are now formed for all seven subject areas and operating in six of the seven subject areas (The math MDT has not yet met).

2. Housing for MDT members outside Gaborone is expected to be available by October. In the meantime, the JSEIP team, working with USAID, is exploring the possibility of providing some assistance to MDT members with housing and/or transportation until those permanent homes are available.

3. Much of the capacity building that JSEIP team members identify as prerequisite to effective instructional materials development is now well underway or already finished. This frees JSEIP staff to assist more directly in the curriculum and instructional materials development effort.

4. The MDTs, working with JSEIP staff have identified local content experts and writers who could assist the team in materials development. There are, however, AID regulations that constrain the use of local personnel who are not hired through GOB. Developing an appropriate mechanism for using these people would: a) reduce the delays experienced in bringing in U.S. consultants; b) involve people who already are well informed about Botswana; and c) help support and extend Botswana ownership of the new curriculum. Additionally, the use of local personnel uses project resources more efficiently, since these personnel would not require international transportation or local housing.

5. The JSEIP project team has developed a proposal for reorganizing staff time and project resources to give more emphasis to the curriculum development activities. The proposal offers a procedure for focusing more project resources on the curriculum and materials development activities within JSEIP. The purpose of the procedure is to increase the rate of curriculum and materials development. This, in turn, will help ensure that the obligations under the Project Agreement can be met within the remaining time of the project. The key issues in the new proposal are that materials development will continue even while objectives are undergoing the review process, an RTA will facilitate the ISD activities in each subject area, and RTAs' other assignments will be modified to free them up for this task.

Essential elements of the proposal are as follows:

1. An RTA will be assigned to work as instructional development manager/facilitator in each subject area. In this role, the RTA will work with the MDT team to: a) delineate topics; b) specify aims, objectives, scope, and sequence of the curriculum; c) handle MDT logistics and logistics related to securing necessary subject area content and ISD support; d) help the MDT gather local resources; and e) coordinate the instructional design process.

2. Lists of objectives will be submitted to the subject review panels and Curriculum Panels for their review and approval. However, during the time these objectives are being reviewed, MDTs will continue to prepare curriculum guides, teacher guides, and student materials. If objectives are modified by the Curriculum Panels, corresponding adjustments will be made in the materials.

3. Subject review panels will be used primarily to review and critique draft materials. This shifts their primary role from the beginning to the end of the instructional development process.

4. Short-term trainers/writers will be employed to work with the MDTs to: a) help train MDT members in materials preparation; b) to assist MDTs in selecting/adapting existing content appropriate for teacher guides and student materials; and c) writing content for the teacher guides and student materials, as appropriate. These trainers will be hired both locally and from the U.S. In addition, local writers will be hired, as needed, to assist in the development process.

5. Field testing of draft materials will be coordinated by the RTA working with the MDT. The trainer/writer will return to assist with revision, as needed, and only after a sufficient number of modules have been field tested to allow the most efficient use of the short-term consultant.

6. A Curriculum Development Manager will be designated, with responsibilities for supervising RTAs work with the MDTs and coordinating the ISD process across all the subject areas.

7. It may be appropriate for the short-term trainer/writers to work in a separate JSEIP project office maintained outside of the CDU. This would a) help reduce project demands on CDU staff and b) help sustain Botswana ownership of the materials. The trainers/writers will work in the CDU only when judged appropriate by the cognizant RTA and Curriculum Development Manager.

Under the revised curriculum development plan, roles would be as follows:

1. Curriculum Panels. Specify subject matter content, review and critique objectives.

2. Subject Review Panels. Review and critique draft materials.

3. Materials Development Teams. Help delineate topics, aims, and objectives; help gather local resources for materials writers; develop draft instructional materials; and test, revise, and validate materials.

4. Short-term Consultants. Trainers/writers; train MDT members in ISD and subject matter expertise; as appropriate, select, revise, and as necessary, write instructional materials.

5. JSEIP RTAs. Handle logistics related to ISD activities for MDT team; gather resources for materials development; assist team in topic generation, specification of objectives, aims, scope, and sequencing; coordinate their activities with the Curriculum Development Coordinator; identify appropriate trainer/writer/ISD specialists to work with team as short-term consultants.

6. Curriculum Development Coordinator. Provide overall management and coordination of the activities of the Curriculum Development Teams; reports weekly curriculum development progress to JSEIP Chief of Party.

7. Curriculum Evaluator. Develop criterion-referenced test items, coordinate test development by others; plan and conduct formative evaluation of instructional materials.

8. FSU Campus Coordinator. Identify and gather resources for use by materials developers in each content area; ensure the prompt delivery of such materials; and identify and nominate short-term consultants as requested.

Teacher Development. Teacher development activities will continue to 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. Planned teacher development activities are summarized below.

A second intake of students will begin in the Department of Arts, Crafts, and Technical Studies at the Molepolole College of Education, under the direction of Frank Walton. Walton will also serve half time on the Technical Studies MDT. He will provide inservice Technical Studies workshops on a continuing basis.

Courses recently or presently being developed by JSEIP staff and consultants will be taught by JSEIP and MCE staff. These courses include:

1. Curriculum Development
2. Instructional Systems Design
3. Test Construction
4. Communication and Study Skills

Microteaching laboratories, established in six of the departments of MCE, will continue to be supported by JSEIP staff. JSEIP will also continue to coordinate the teaching practice at MCE.

John Bowers and Johnson Odharo will each begin serving half time in support of MDTs in the development of curriculum and instructional materials.

The new Inservice Teacher Training Specialist, Richard Mullaney, will arrive in Botswana on August 25, 1987. He is expected to be involved with at least one of the MDTs and is likely to be involved with the formative field testing of the MDT products with CJSS teachers. As subject area curricula become finalized and approved, Mullaney will coordinate and conduct the introduction of the new curriculum to the CJSS teachers.

Education Systems Planning, Management, and Evaluation. In addition to developing new instructional materials and training teachers to use them, project staff will continue 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. The second intake of students into the joint Masters program will take place in January 1988. An expected 15 students will have been screened and interviewed by a committee of MOE and JSEIP representatives.

The 13 students who began in the first year of the joint Masters program will be in Botswana to begin their final field research projects. The one semester overlap of the first and second groups of students in Botswana creates a heavier supervisory responsibility during that academic term than in the previous year of the program. FSU is exploring the feasibility of providing two faculty members to assist in the instruction of the new group and the supervision of the first group.

Secondary School Regulations and a Headmasters Manual. A working draft of Secondary School Regulations, coordinated and produced by Joe MacDonald and FSU, was submitted to the Attorney General's office for final approval in January, 1987. The regulations are expected to be finalized in

the next year. They will be incorporated into the Headmasters Manual as it goes through final revisions and production. The manual itself was written with the assistance of JSEIP and will be utilized in the intensive training now being given to Headmasters appointed to CJJS as they begin their assignments.

Evaluation Task Force. The ETF will continue present initiatives, which include classroom observations, school staff surveys, an assessment of aims for nine year program, a reading comprehension assessment program, tracer studies, and video programming of community and school opinion.

With the current expansion of schools and programs at the junior secondary level there is a corresponding increase in the importance of establishing standards for professional evaluations and training participants in the evaluation process. As a means of validating a set of Botswana standards, and planning training activities which will meet these standards, a training seminar will be held at FSU in the first week of September. The seminar will involve resource persons from FSU, consultants in evaluation, members of the ETF, and students enrolled in the Masters Degree Course at FSU.

National Curriculum Consultative Conferences. A series of regional consultative conferences has been approved by the MOE Policy Advisory Committee to begin April 25, 1988. Key persons in the various regions of the country will be invited to participate in a review of the CJSS program, evaluation and curriculum development processes. The conferences will be held at Gaborone, Labatse, and Francistown. The details of the regional meetings are being developed with Wes Snyder as the chairperson of the Conference Committee.

Educational Policy Papers. JSEIP advisors regularly write papers for

Ministry policy formulation and evaluation. Topics of papers written this far have included evaluation methodology, curriculum development, small schools, school fees, and CJSS location.

Infrastructural Support for Molepolole College. Vehicles, secretarial support, library acquisitions, computers, and staff support for teacher training curriculum development activities will continue to be provided to MCE by JSEIP. Regular staff development activities are expected to be provided by JSEIP staff on a volunteer basis.

Databases. A number of databases will be developed and/or analyzed to support policy and program review and decisionmaking in the Planning Unit, the Secondary Department, and the Curriculum Development and Evaluation Unit. For example, discussions have begun with the Employment Policy Unit to coordinate information on employment opportunities with education information.

In another instance, the JSEIP Chief of Party prepared a paper based on an earlier school mapping analysis, and concluded that Botswana could not provide junior secondary schools within walking distance of more than approximately 40% of the population, given the present design and structure of the CJSS. The CJSS working group accepted the JSEIP paper, and have suggested a further analysis of the implications of developing a small, one stream (80 student) CJSS.

### 2.1.4 Staffing Requirements

A number of consultants have recently been placed and are being recruited as JSEIP had previously increased its presence and activities at Molepolole College of Education and is now focusing on the curriculum and materials development process.

Molepolole College of Education. Three Materials Development Specialists for the Departments of Education (Geoffrey Marks and Mike Morgan) and Social Studies (Rodney Clarken) will be placed for a periods of six months, beginning in June/July. The tasks are to assist the Departments in developing instructional materials for the new courses being offered.

An additional consultant, Alan Hoffman, will be fielded to assist with the installation of an optical Scanner for the Macintosh Plus system at MCE. This consultancy will be for six weeks, beginning 26 June.

Curriculum Development Unit. Two Specialists, Eileen Hunt and Johanna Carter, have been placed at the CDU to assist with the organization of the work of the Materials Development Teams. Both persons have been hired locally and are working for an initial period of six months, with the possibility of renewal.

Subject matter specialists will be increasingly important to the Project with the amplified focus on curriculum and materials development. These specialists will be requested to work closely with the MDTs in the development process, and provide writing and editorial expertise.

An English Language Materials Specialist, Wendy LeBlanc, will be fielded for three months, beginning September, for an initial phase of designing and writing a revised English language curriculum for Forms 1 and 2. A Social Studies Curriculum Specialist, Merry Merryfield, will be requested for periodic work beginning with a six-week consultancy in October. It is anticipated that additional specialists will be fielded as the MDTs identify their specific support needs.

A Science Curriculum Development Specialist, Ernest Burkman, will be fielded for three weeks in August to assist in the planning and presentation of a Science curriculum workshop. The consultant will

additionally be asked to follow-up with the Science MDT in planning its formative evaluation activities.

Staff support personnel, such as a copy machine operator, or office assistants, are also expected to be hired locally to support the materials development and production process.

Evaluation Task Force. Three curriculum and evaluation specialists will be requested for a one-week evaluation training seminar to be held at FSU in early September. Walt Dick and Garrett Foster, Professors at FSU, and Connie Bergquist will serve as presentors, facilitators, and resource persons as plans for JSEIP curriculum and materials development as well as project evaluation are reviewed and developed. Three officers from the MOE will attend with Wes Snyder and Ash Hartwell.

Ministry of Education. A Guidance and Counseling Specialist, Zylpha Mapp-Robinson, began a three month consultancy in May. The specialist is assisting the newly formed Guidance and Counseling Unit prepare a work plan, and is focusing particularly on the need to provide occupational and vocational training information for students within the Junior Secondary Schools and to develop means for doing this.

University of Botswana. A need for two FSU faculty is anticipated for the January-April semester in Botswana. During this period, 13 students in the joint FSU/UB Masters program will have returned from FSU to begin their field research and 15 students are expected to begin the program.

Research and Testing Center. Project consultant resources are also being used to extend the OPEX contract of the Senior Testing Officer, Brian Axtel, at the Research and Testing Centre from May until February 1988 so that his experience and expertise will be available for the organization of the two junior secondary examinations at the end of the 1987 school year.

### 2.1.5 Issues and Discussion

During implementation of JSEIP in Botswana, constraints have been identified which have had an impact on the current status of project activities and affected the planned concentration of project staff and resources on the development of the CJSS curriculum and instructional materials.

1. The MOE encountered more difficulty than it anticipated in providing counterpart staff to work with JSEIP. Consequently, MDTs have only recently begun to operate, and are still short one teacher on each team. This difficulty is seen to be a function of: (a) an existing shortage of MOE personnel who can be released from their primary responsibilities, (b) the alternative participation of 13 MOE personnel in the joint FSU/UB Masters Program, and (c) GOB and AID regulations which have been problematic in supporting the housing and transportation costs of seconded personnel for the MDTs.

2. The allocation of JSEIP staff across units of the MOE varied from the original project plan in order for JSEIP staff to be placed in established GOB "lines" that were open at the time the project was initiated. Consequently, there was an insufficient number of JSEIP personnel deployed directly with the instructional materials development effort.

3. Team members and the MOE perceived a greater need to emphasize capacity building activities than was originally anticipated in the project design.

4. A number of planned activities, such as certain inservice and pre-service teacher education activities, presupposed an earlier initiation of the materials development process. Similarly, the inservice staff development functions planned for MCE were based on anticipation of a higher percentage of Batswana staff than is currently the case.

5. Key personnel have held differing views about the role of JSEIP advisors at the MCE. The full course loads of the advisors expected by the MCE Principal had limited their participation in the materials development process at the Curriculum Development Unit.

That some activities have gone beyond the scope of the initial intentions of the project is largely an adaptive response to the conditions and context encountered by the team during early implementation. Project activities will be redirected to focus more resources on curriculum and

materials development. Initial capacity-building activities appear to have been necessary and successful in creating a situation in which JSEIP resources can now be devoted more aggressively to developing instructional materials for the junior secondary level.

## 2.2 ACTIVITIES IN HAITI

### 2.2.1 Project Developments and Accomplishments

IEES activities in Haiti began in 1984 when the USAID Mission asked the consortium to conduct an assessment of the country's education and human resource sector in order to give it guidance in drafting plans for bilateral assistance to Haiti over the following several years. The sector assessment was conducted between October and December 1984 under the supervision of IIR. The work proved to be somewhat longer and more complicated than sector assessments in other IEES countries because of two factors unique to Haiti. First, the majority of enrollments at nearly all levels of the educational system are in the private sector and the government had very little information on the operation of private schools. As a consequence, the team was obligated at several points to carry out first-hand data collection in the field in order to evaluate the status of educational programs. The second factor affecting assessment work was the prior difficulties that donor organizations had encountered in working with Haitian government ministries. USAID Mission staff initially were reluctant to include government representatives in the planning or execution of the assessment. Though Ministry of Education (MOE) personnel were subsequently informed and consulted, the assessment team had neither a clear sponsoring relationship with a host country advisory committee, nor a set of counterparts for its work of data collection and analysis.

The first AID-funded activity to result from the Haiti Education and Human Resources Sector Assessment was the design of a major bilateral project in the area of basic education. On the strength of the recommendations of the sector assessment, the Mission decided to make the first major investment of U.S. foreign aid in Haitian education in over 30 years by

funding a project to promote improvements of instructional quality and of administrative efficiency among private primary schools serving the rural population and the urban poor.

The new Project, entitled "Incentives for Improving Basic Education" (IIBE), has two principal objectives: (1) to improve quality of instruction and administrative efficiency in a significant number of private primary schools serving rural and depressed urban areas; and (2) to 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.

The Mission views the IIBE Project as the first stage in a potentially longer-term (15 year) endeavor to support basic education in Haiti. It was decided to place principal emphasis during the first phase of the Project on the private sector for the following reasons:

1. The majority of primary school students are enrolled in private schools.

2. Other major donors to Haitian education (the World Bank, the Interamerican Development Bank, French and Canadian bilateral aid) had concentrated essentially on the public sector and considered complementary donor activity in the private sector to be essential.

3. The approach was consistent with Mission and AID policy concerning optimal use of private sector resources.

The Mission invited IEES to prepare the Project Identification Document and, subsequently, to provide technical assistance for design of the Project and composition of the Project Paper. Mission staff felt that the competencies and conceptual approach of IEES were particularly relevant to design of the IIBE Project for two basic reasons. First, though the IIBE Project targets instructional improvements at the local level, it also has a number of critical structural and macroscopic dimensions that concern

the organization of the entire educational system. The principal element of this nature is the challenge of helping the private sector of Haitian education--which accounts for more than 60% of primary enrollments and 85% of those at the secondary level--to organize itself in such a way as to become an active partner in national educational planning and to take responsibility for sustained efforts at improving educational quality and efficiency. The Mission felt that the consortium's experience with educational planning questions and its systems approach to the analysis of educational problems offered the best chance to develop a project design that successfully combined instructional and institutional objectives and realized these broader potentials of the Project.

Second, IEES also offered the possibility of putting concerned Haitian educators in contact with educational planners from other developing countries who are facing related challenges. Two Haitian educators--one Catholic and the other Protestant--attended the first IEES International Conference in Botswana in November 1985, and much of the collaboration between these subdivisions of the private sector that served as the basis for Project design and initial implementation grew directly from this experience.

Project design extended from November 1985 through April 1986 and involved intensive interchange with educators and planners from the different subdivisions of the private sector as well as from the Ministry of Education. By virtue of the highly participatory nature of this process and the close attention given to structural concerns, a great deal of institutional development took place even before the Project was ready for implementation. Counterpart institutions in the private sector took form and became active participants in the design process.

As developed over this period, the IIBE Project has four basic components: school support, educational R&D, institutional development, and assistance to the Ministry of Education.

1. The first of these components involves providing a significant number of private primary schools in the target areas with a package of key instructional and material resources over a continuous 4 to 5-year period. These resources are to be provided to schools meeting basic criteria of viability on a modified performance contract basis.

2. The second component concerns research and development aimed at broadening the set of available instructional and material resources, improving their effectiveness and increasing the local financial capacity of participating schools.

3. The third element of the Project targets institutional development. It is designed to provide the stimulus, resources and assistance necessary for representatives of Haitian private primary schools to take responsibility for organizing, supervising and monitoring the educational quality improvement effort.

4. The fourth and final component is devoted to strengthening the Ministry of Education's capacity to perform the system-wide and essentially public functions of accreditation, examination, evaluation and applied research needed to support harmonious development of private education.

Given the close involvement of IEES in Project design and in this attendant process of institutional development as well as the particular strengths of the consortium mentioned above, Mission staff and the Haitian educators who had been involved in the design process decided that the best arrangement for implementation of the IIBE Project would be to buy into the existing AID contract with IEES for the first three years of the LOP. During this time, they agreed that the consortium and its Haitian counterparts should carefully explore with the Mission possible mechanisms for transfer of financial and administrative responsibility to the new Haitian institutions created under the aegis of the Project. This process of institutional devolution posed so many fundamental questions of

educational planning and organization of the educational system that all involved felt the consortium was best qualified to undertake the work. Moreover, Mission staff and their Haitian counterparts judged that the perspective of transfer of responsibility into local hands on a three-year timetable did not leave sufficient time for selecting, initiating, and involving a new outside contractor.

The IEES Consortium thus undertook responsibility for implementation of three of the four IIBE Project components beginning in September 1986. Implementation of the fourth component--capacity building in the Ministry of Education--was entrusted directly in the Government of Haiti via a bilateral accord with AID signed at the same time.

The 1986/87 school year constituted a pilot phase for the Project. IIBE Project offices were established in Port-au-Prince; technical and support personnel were recruited; counterpart institutions in the private sector acquired legal status and signed subcontracts with IEES for specific parts of Project implementation; a first cohort of twenty-three schools in two pilot rural areas participated in the Project; and plans were laid to incorporate one hundred more schools in the upcoming year. By virtue of changes in the personnel of the Ministry of Education described below, an additional task was moved from the public sector component of the Project into the IEES contract at the end of the year: supervision of school improvement activities in the proprietary or "lay" division of private education and establishment of institutional structures to take charge of the educational improvement effort among proprietary schools.

Educational planning and research activities with the Ministry of Education and other counterpart institutions in the public sector have not evolved as quickly as the IIBE Project, due principally to the political

events that have marked the last three years in Haiti. Between the conclusion of the sector assessment in December 1984 and the fall of the Duvalier government in February 1986, there were several different Ministers of Education. Over this time it proved very difficult to work with the Ministry, either to further develop the educational planning agenda initiated by the sector assessment or to involve public sector counterparts in the design of the IIBE Project. Project design proceeded with private sector groups, but the programs for the public sector were effectively stalled.

After February 1986, with the accession of a new post-Duvalier administration and the naming of a competent and highly motivated senior staff at the Ministry of Education, new possibilities emerged in both these domains. Sector assessment review was conducted in Spring 1986, the public sector portions of the IIBE Project were designed, and initial plans were laid for a series of centrally-funded educational and planning research activities with the Ministry.

Progress in implementing these initiatives was slowed in the course of the past project year, however, by further changes in the Ministry of Education and, towards the end of the period, by renewed political instability. The Minister of Education and a number of his senior staff were replaced in January 1987. The new Ministerial team reviewed the entire IEES file before and ultimately decided to give IEES a strong endorsement, but to change a number of the projected activities in order that these better match their own sense of priorities. As a result, two sets of activities (support for Ministry efforts to coordinate private sector education and work on an educational management information system) were dropped from the Country Implementation Plan and another--the Policy

Research Initiative (PRI)--changed focus. The research topic originally selected for investigation in Haiti--Strengthening Local Education Capacity--was assigned second priority and replaced by the subject of Teacher Incentive Systems.

First efforts to specify and implement these revised priorities were made in May and June 1987. In May, the IEES Country Implementation Plan was rewritten with the advice and consent of Ministry staff. The CIP outlines a full set of educational planning support activities for the upcoming year. In early June, the Project team leaders for the PRI Teacher Incentives Systems topic visited Haiti to help the country research team design its proposal and plan its future activities.

At the end of Project Year Three, therefore, promising starts have been made in three complementary branches of activity: educational planning support with the Ministry of Education, educational policy research with the Ministry and the University of Haiti, and educational quality enhancement with representatives of the private sector. Involvement in the public sector has been significantly retarded, however, by political events and staff turnover.

### 2.2.2 Plans for Project Year Four

#### 2.2.2.1 Goals and Objectives

The fundamental goals for the IEES program in Haiti are essentially the same as those in the other countries with which the Project collaborates. They involve helping the host country to improve the performance of its educational system and to strengthen national capabilities for educational planning, management, and research. The specific objectives of IEES activity in Haiti must take account of a number

of characteristics of the country: the peculiar nature and history of the Haitian educational system, where private schooling dominates at both the primary and the secondary levels; the priority needs of the country in the realm of economic development and social change; the USAID Mission's current educational commitments, specifically the IIBE Project; and the involvements of other donors in the education sector. Baseline data on these aspects of the Haitian situation have been developed in the course of IEES work to date in Haiti.

IEES activity in Haiti over the remaining years of the initial contract period will have three complementary foci: support for improved educational planning and management in the Ministry of Education through centrally-funded training, studies and skill application activities; conduct of policy-focused research under the aegis and with the financial resources of the PRI; and continued implementation of the Mission-funded IIBE Project. There are specific multi-year objectives for IEES under each of these categories.

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 database available for educational planning.

Third objective: Assist Ministry of Education and local University staff in conducting a sector assessment update and using 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: Implementation of the IIPE Project

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.

2.2.2.2 IEES Strategy in Haiti

The objectives listed above are multi-year targets. The manner in which they are phased over time and the way in which they interact to promote accomplishment of the fundamental goals of IEES in Haiti defines IEES strategy. The phasing of activities is discussed below. The interrelationship of the different branches of the IEES program will be considered in section 2.2.4.

In the area of educational planning support, the current political and institutional context in Haiti strongly suggests that the next major opportunity for systematic educational planning in the country will arise in 1988-1989 (or IEES Project Year Five), once the new civilian government is mandated and in place. Over the two-year "interregnum" of the military government that replaced Jean-Claude Duvalier (covering the elapsed and the upcoming project years), there is too much uncertainty about long-term policy directions to provide a context conducive to systematic educational planning, and Ministry of Education personnel, while definitely more committed to systemic change than under the previous government, hesitate to take initiatives with lasting implications.

As a consequence, the overall strategy for IEES educational planning support activities in Haiti involves building up over this "interregnum" period the human and informational resources that will enable the Ministry to make rapid progress in educational planning once the new government is in place. This strategy will be principally accomplished through an integrated set of training workshops and technical studies, the former targeted at imparting new planning skills to key Ministry personnel and the latter at providing a field of application for these skills while simultaneously improving the database and means of data collection which the Ministry currently has at its disposal. If this work is carefully implemented, IEES will be well positioned in Project Year Five both to catalyze execution of a sector assessment update and to contribute in a significant manner to the preparation of a new multi-year national educational plan.

In strategic terms, the Policy Research Initiative, or the second part of IEES' tripartite program in Haiti, is really part and parcel of the educational planning support agenda. It enables IEES to add another critical element to the set of resources for improved educational efficiency that are being developed--namely, new data on one of the key motivating factors behind the operation of the educational system, and new capacities for the conception and execution of policy-relevant research. The sequencing of PRI activities involves establishing a policy research team drawn both from the Ministry and the University, carrying out investigations concerning the current status of teacher incentives and the feasibility of alternate approaches, feeding the results into the policymaking process, and then seeking to institutionalize the new channels for Ministry-University collaboration established in this way.

The strategy and phasing of IIBE Project activities has changed notably over the elapsed year, due primarily to the rapid progress realized in the institutional development sphere. At present, the USAID Mission and the Project Administrative Council are seriously examining the possibility of providing for the second half of Project implementation (1989-1992) through a direct grant to, or a host country contract with, the Haitian private education institutions that have come into being over the last year. This perspective adds a new and very concrete objective of devolution of financial and administrative responsibility to Project implementation strategy.

In fact, the IIBE Project is scheduled to go through several stages in building up to a significant impact on instructional outcomes in rural schools. These can be outlined as follows, though it should be kept in mind that their sequence represents more a question of relative emphasis than of exclusive concern: in fact, all of these issues are present from the start, but they take on principal importance in the order indicated.

In the first stage, the emphasis fell on the political task of bringing representatives of private education together and the conceptual task of designing the Project. This coincided with the 1985/86 school year.

In the second stage, the key issue was the institutional one of developing working associations and service centers and engaging competent staff. This has occupied much of the 1986/87 school year.

In the third stage, careful attention must be paid to management issues in order to develop and control the mechanisms necessary to furnish needed materials and services to a large number of schools in widely spread regions of the country. We entered into this stage in

March of this year and hopefully will have these mechanisms under control by the end of the calendar year.

In the fourth stage, which will occupy the whole of the upcoming school year, the school support methodology laid out in the Project paper--instructional, administrative and political-- must be applied, evaluated, and revised in order to ensure maximum impact on Project goals.

Finally, in the fifth stage, which is already underway, but will become critically important in 1988/89, all key management and financial functions must be successfully transferred or "devolved" to appropriate Haitian institutions.

2.2.2.3 Activities in Project Year Four

The activities for Project Year Four which follow from this strategic orientation will be presented in the same three categories outlined above: educational planning support, PRI, and the IIBE Project. The program cannot be laid out in definitive form, because the CIP has not yet been officially approved, and the annual workplan for IIBE is only now in preparation. The following indicative list and description of activities is derived from the draft CIP and the working documents presently being synthesized into an annual IIBE Project workplan. A schedule of activities is presented thereafter in Table 1.

A. Educational Planning Support Activities

(1) Education Policy Analysis Training Workshop (June 1987)

This is the first in a series of training workshops to upgrade the technical skills of MOE staff in areas critical to the conduct of

educational policy analysis. The workshop will provide training and experience in the analysis of educational policy issues typically encountered in developing countries. The program of the workshop is based on the format and materials developed by IEES consultants for the CIRSSED Institute in Lome, Togo, but these have been adapted for increased relevance to Haiti.

(2) Sector Assessment Planning Seminar (July 1987)

The purpose of this seminar is twofold: 1) to provide a forum for the review of issues, problems, and methodological questions associated with the conduct and outcomes of the Haiti EHR Sector Assessment, which was disseminated in Haiti in final form in May 1987; and 2) to make an initial determination of data needs for the next Sector Assessment Update. Participants include planners from the Ministry of Education and researchers from the University of Haiti who will be involved with the Sector Assessment Update, presently scheduled for Project Year Five (1988-89).

(3) Survey Design Workshop (August 1987)

The aim of the Survey Design Workshop is to help MOE technical personnel to upgrade the theoretical and practical skills needed for survey research and to assist them in identifying those school characteristics which are the most discriminating and useful for the survey sample selection. The workshop will contribute both to better conduct of PRI activities in Haiti and to increased capacity for conducting the preliminary studies needed as a basis for the long-term educational planning expected to take place in IEES Project Year Five (1988-89).

(4) Computer Applications Seminar for Policymakers (August 1987)

This seminar is designed to provide Ministry of Education policymakers with information about and firsthand knowledge of the wide variety of computer applications available in their areas of responsibility. Making optimal use of computer technology is an integral component of the Ministry's plan for improving the performance of its central Planning Division. Ministry staff are presently in the process of deciding on the hardware and software which will be purchased and used to computerize a series of Ministry functions ranging from educational planning to scheduling of the Ministry's motor pool. A major donor meeting on this issue will be held in October 1987. This seminar was specifically requested by the IEES National Steering Committee as a means of bringing senior staff of the Ministry up-to-date on uses of computers for educational planning and preparing them to draw maximum benefit from other donor support.

(5) EHR Sector Data Needs Study (September 1987)

This study is designed to serve as a basis for upgrading the quality and usefulness of data collected by the Statistics Section of the Ministry of Education. It will also help to lay the groundwork for future sector assessment updates by improving the database available for sector analysis. The study will focus on developing a comprehensive strategy for improving data quality, determining the most appropriate types of data to be collected in ongoing school census exercises, and suggesting changes in the format and presentation of the Ministry's Statistical Yearbook that will enhance its usefulness.

(6) Local Educational Financing Study (March 1988)

This study, to be carried out jointly by Ministry planning personnel and University of Haiti staff, will be designed to furnish information on the resource base of private primary schools that can guide the Ministry in decisions about the best methods for selective subsidization of teacher salaries and other operating costs in the private sector.

(7) Operation of the IEES National Steering Committee (ongoing)

This "activity" is absolutely central to the success of all the other components of the educational planning support program. The Steering Committee needs to be continually vested with responsibility for planning allocation of the IEES budget, overseeing activities, ensuring necessary local logistic support and agency coordination, evaluating activities performed and making plans for the following year on this basis. To accomplish this goal, it is important that every IEES support mission include contact with the Steering Committee or its interim representatives so that information is shared in both directions.

B. Policy Research Initiative

The PRI program in Haiti is designed to address policy issues related to the recruitment and retention of highly-qualified and motivated teachers in the primary education system and to increasing the capacity of MEN personnel in the area of policy research. Related activities will be carried on in Haiti throughout the upcoming reporting period. A preparatory study on the current legal framework for the civil service status of teachers in Haiti is scheduled for the August to October period, and a training seminar on PRI research methodology will be held for students of the Ecole Normale Superieure (Teacher Training College of the

University of Haiti) in late November and December. This will be followed by first contact with field research sites and initial preparation of questionnaires. Questionnaires will be pretested in February and March 1988 and finalized in April. Training of field surveyors will take place in May and actual collection of data in the field is scheduled to get underway in late May or June 1988.

C. IIBE Project

Activities planned for the 1987/88 school year under the IIBE Project are so numerous that they cannot be fully listed here. They can best be summarized under five headings, corresponding to the four principal components of the Project plus the overarching concern for effective Project management.

(1) Private Primary School Support

The upcoming year will mark the first major extension in Project coverage, with more than 125 schools now scheduled for participation in five different geographical departments of the country. Teacher training sessions for staff of all these schools will be held in five locations in July and August, and classes should open in October. Several types of support that were not delivered last year will be offered this year, thanks to reinforcement of Project staffing. These include school facilities renovation, funds for income generating activities and support for the creation or consolidation of parent-teacher associations. By December, more than 20,000 students will be participating in the Project. Between February and June of 1988, initial contacts will be made with another 150 or 175 schools in all nine geographical departments of the country scheduled to begin participating in Fall 1988. This will bring the total

of Project-supported schools to approximately 300 by the final year of IEES responsibility for Project implementation.

Support will be furnished to schools on the basis of performance contracts specifying the resources required, the use to which these resources will be put, and the results expected. Schools will be allocated a credit line for procurement of material and services amounting to $25 per student per year. With the assistance of project staff, each school will assess its own most critical material and instructional needs, decide which resources it will procure within the limitation of its budget, and define concrete objectives of improved performance that it can attain with these new resources. Local school personnel will thus be actively involved in identifying the mixes of inputs that have greatest impact on educational efficiency at the primary level. The ongoing evaluation of these activities will provide project staff with greater insight into effective strategies for improving educational quality in rural and depressed urban areas.

(2) Research and Development

This fall the first thirty experimental preprimary education classes will open in thirty project schools, divided into three groups of ten each. Each of the experimental groups will try out a different low-cost model of preprimary education. Teachers of these classes will be trained in August and September in the new instructional approaches to preprimary education, and final plans concerning evaluation design will be formulated at the same time. Evaluation of the three test groups will continue throughout the school year. A second cohort of thirty schools, also divided into three groups of ten, will be selected in the first semester of 1988 to begin participation in the 1988/89 school year.

The other principal dimension of the R&D agenda of the IIBE Project concerns experimentation of low-cost instructional delivery systems. The first step in this program, to be accomplished in the upcoming year, involves inventorying innovations already devised or tried out in primary schools in Haiti, and more particularly among private schools, which have operated heretofore in such a centrifugal manner that there is little information about best practices. In the last quarter of the year (April - June 1987), recruitment will be initiated for a Media Education and Instructional Design Specialist, who is scheduled to join the Technical Service Center team by academic year 1988/89 to assist with explorations of new instructional methods and new learning technologies.

(3) Institutional Development

Early in the upcoming Project Year, new subcontracts will be drawn up with the Catholic and Protestant private education associations covering the period through June 30, 1989. The new subcontracts will provide for progressive transfer of implementation responsibility and the related budget authority to the associations. At the same time, and as a result of the signature of the amendment to AID's bilateral accord with the Government of Haiti, a new unit will be set up within the Project's Technical Services Center to begin contacting directors of eligible proprietary schools and laying the groundwork for organizing this as-yet unrepresented division of private education. Finally, the Project Administrative Council will continue developing mechanisms for effective oversight of the Project--particularly the institution of appropriate reporting procedures and the assumption of full-scale responsibility for budgetary programming by the PAC--and will begin to study the question of the preconditions to be fulfilled so that AID might contract directly with

appropriate Haitian institutions for implementation of the second half of the Project (years four to six, or 1989/90 to 1991/92).

(4) Public Sector

Pursuant to signature of the amendment to the bilateral accord, the divisions of the Ministry of Education which are responsible for questions of accreditation, examination and certification will begin the work of designing methods for more effective regulation and support of the private education system. Successful implementation of these activities will in all likelihood require closer collaboration between the Ministry of Education and the IIBE Project Administrative Council, which is the most important existing entity representing private education in Haiti.

(5) Project Management

The principal challenge in the area of project management in the upcoming year is to set in motion mechanisms that will enable the Project to provide needed resources and services to 125 schools spread over five geographical departments and to ensure reasonably close monitoring of the ensuing activities at the local level. This means that procedures for procurement, inventory, delivery and accounting must be improved and practiced to the point where they can operate semi-automatically with only periodic intervention from program staff, who themselves must be occupied with the concerns of instructional improvement and project methodology. Once these functions are fully under control, a timetable for transfer of each realm of responsibility to the Haitian education associations will be devised, discussed, modified and adopted.

### 2.2.3 Staffing Requirements

Table 1 presents a first estimate of the staffing requirements of the diverse categories of IEES-related activities detailed above. One aspect of the staffing situation that does not appear in the table merits comment. Staffing this year will follow a trend initiated in Project Year Three: greater use of local consultants, both for IEES centrally-funded activities and within the ambit of the IIBE Project. This practice has proved useful and appropriate in Haiti for two reasons: (1) the relative lack of French-speaking technicians within consortium institutions; and (2) the availability of technically-competent and often underutilized people in-country. In fact, both the IIBE Project Administrative Council and the IEES National Steering Committee have expressed the sentiment that use, where appropriate, of qualified local technicians in consulting roles is an additional and highly valuable means for developing Haitian human resources and for improving the efficiency of the educational system.

### 2.2.4 Issues and Discussion

#### 2.2.4.1 Interrelationship of Proposed Activities

There is a high potential for synergy among the three different branches of the current IEES program in Haiti: educational planning support activities with the Ministry of Education, the Policy Research Initiative, and the IIBE Project. The educational research and planning emphases in the public sector can obviously be highly complementary, the former providing insights to be used in the latter, and planning furnishing an occasion to identify priority areas for new research. Moreover, the strategy adopted in both of these branches of activity is designed to bring representatives of the Ministry of Education and of the University of Haiti

## TABLE 1: TENTATIVE SCHEDULE AND LEVEL OF EFFORT FOR IEES ACTIVITIES IN HAITI IN PROJECT YEAR 4

| Month | EDUCATIONAL PLANNING SUPPORT | | POLICY RESEARCH INITIATIVE | | IIBE PROJECT* |
|---|---|---|---|---|---|
| | Activity | Level of Effort | Activity | Level of Effort | Activity |
| June 1987 | Ed Policy Analysis Workshop | .75 | | | Finalization of Schools for 1987-88 cohort |
| July 1987 | Sector Assessment Planning Seminar | .75 | | | Order school material / Training of primary schools teachers |
| Aug 1987 | Survey Design Workshop<br>Computer Applications Seminar | .5<br>.5 | Study of legal framework for Teacher Civil Service Study (through October) | 1.5 | Training of preprimary teachers |
| Sept 1987 | EHR Sector Data Needs Study | .75 | | | Delivery of school material<br>Prep. of new subcontracts |
| Oct 1987 | | | | | Opening of schools<br>Implementation of monitoring system |
| Nov 1987 | | | Training Seminar on Research Methodology | .5 | First formative evaluation of experimental preprimary centers |
| Dec 1987 | | | Field Visits | 1 | Study trip on community schools for project staff |
| Jan 1988 | | | Initial Developments of Questionnaire | .5 | Distribute perf incent grnts<br>Start income-generating |
| Feb 1988 | | | Pretesting of Questionnaire (through March) | .5 | First census of new schools for 1988-89 |
| Mar 1988 | Local Ed Financing Study | 1 | | | Sel/trng new regional monitors<br>Contact with candidate schools for 1988-89 |
| Apr 1988 | | | Finalization of Questionnaire | .5 | Preparation of curriculum for 1988 tchr trng sessions |
| May 1988 | Evaluation of 1987-88 activities<br>Preparation of new Country Implementation Plan | .25<br>.25 | Training of Survey Team | .75 | Logistic preps tchr trng<br>Initial estimate of schl mat needs for 1988-89 |
| June 1988 | | | Beginning of Data Collection | .5 | Participatory evaluation of 1987-88 school year<br>Order material for new schls |
| TOTAL | | 4.75 | | 5.75 | |

* Level of effort not specified for IIBE Project because technical assistance needs have not yet been quantified

together around policy issues of importance to the country, creating opportunities for the development of more functional working relationships between these two institutions.

At the same time, the coexistence of the IIBE Project with these Ministry-focused planning and research activities gives the consortium an unique opportunity to facilitate better coordination of the two large components of the educational system--public and private schools. Dissension and lack of common structures and norms between public and private sectors constitute the single most important educational planning problem in Haiti today, for even the difficulties experienced by educational reform in the country are due in large part to this underlying dissonance. The potential for IEES having an impact on this critical dimension of system efficiency will not be realized, however, unless the program of centrally-funded activities in the public sector is maintained and energetically developed under the aegis of the National IEES Steering Committee. To date, for both political reasons and staff shortage reasons, it has proved more difficult to carry out a consistent program of activities in the Ministry than in the private sector, and as a result the IIBE Project with private schools is better developed than the IEES program in the public sector. Efforts should be made to correct this imbalance over the upcoming year.

The potential for structural impact in this area and for leveraging assistance from other donors is well illustrated by recent interactions with the Ministry of Education and the World Bank. The Ministry and the Bank are currently undertaking a major evaluation of the implementation of the educational reform in Haiti and have sought to associate all the principal actors in the field of primary education in this effort. The

collaboration of IEES has been sought in particular as the one existing conduit between the public and private sectors. At the Ministry's request, the Bank has also agreed to devote several million dollars over the next two years to working out a system for public subsidization of private teacher salaries in order to help offset the sharp differentials that presently exist and to provide a basis for joint public-private efforts in the areas of school accreditation, teacher certification and quality control. The possibility of channeling these funds through the private education associations set up under the IIBE Project was one of the main factors prompting the Ministry and the Bank to commit themselves to the new initiative.

2.2.4.2 Contextual Setting

Haiti is presently traversing a critical and difficult period in its history. After 30 years of Duvalier dictatorship and a much longer period of struggle with problems ranging from severe underdevelopment and chronic political instability to American occupation, the country is trying to move toward democratic elections and the constitution of a government and a social order that can begin to resolve its many problems. The transition period is not an easy one and has been characterized at times by strikes and civil disorder. Moreover, as long as a popularly supported government is not established and some measure of social reform introduced, the threat of further strife is always present.

All IEES activities in Haiti are affected by these contextual conditions, though programs directly related to the Ministry (educational planning support and the Policy Research Initiative) are somewhat more subject to interruption than those in the private sector (IIBE Project). The most likely result of political strife is that activities will have to

be postponed and schedules revamped in an effort to contribute to accomplishment of the same underlying objectives through other means or in a modified timeframe. An improved political and social context can only contribute to the achievement of greater genuine efficiencies in educational supply.

2.2.4.3 Conclusions

Though some of the components have been slow in developing, the multiple approach of the IEES Program in Haiti offers significant opportunities to improve the efficiency of the educational system over the upcoming year. The external conditions that will influence our degree of success are obviously linked to the political climate and to palpable progress toward democratic government, economic development and social reform. The internal conditions remain much the same as those enunciated in last year's document: solid and consistent technical support from the consortium, active participation of Haitian counterparts in all phases of the program--including, particularly, budgetary planning and the determination of policy--and effective donor coordination.

## 2.3 INDONESIA

### 2.3.1 Project Developments and Accomplishments

Agreement was reached with the Government of Indonesia (GOI) and USAID Mission in April and May 1985 on two areas for IEES assistance. The first area agreed upon was the provision of technical assistance for the USAID-sponsored Education Policy and Planning (EPP) Project. The second area was the conducting of an Education Sector Review. The EPP assistance consists of identification and placement of three long-term technical advisors and additional short-term assistance to work with the Balitbang Dikbud (Research and Development Office of the Ministry of Education and Culture) and provide ongoing technical support to the EPP Project.

The purpose of the EPP Project is to improve the quality of education in Indonesia by increasing the capacity for better policy planning based on more complete and accurate information and better policy analysis. The project strategy has five main elements 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 Informatika) 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.

The EPP Project also provides for technical assistance. In-country training consists of short courses, seminars, and workshops. Participants are drawn from Pusat Informatika, other centers within Balitbang Dikbud, and other agencies at the national and provincial levels concerned with

collecting and using educational and cultural information. The training is aimed at increasing MOEC capacity to collect, analyze, and store information, and to better inform policy formulation and long-term planning. The project is designed in two phases. Phase One will be a period of experimentation and exploration of alternatives in the establishment of an information system. Phase Two will be a period of implementation of the agreed-upon plan. Overall responsibility for project management and implementation will be exercised by a Project Steering Committee established by ministerial decree and consisting of representatives of the major units within the MOEC.

Sector Review. An Education and Human Resources Sector Review was conducted over a six-week period from September 16 to October 31, 1985.

The Sector Review identified, among others, the following constraints to educational development:

1. a policy decision to rapidly expand vocational/technical education programs without a clear linkage to actual manpower needs or careful assessment of resource capabilities;

2. a lack of evaluation research information on the outcomes and cost effectiveness of educational improvement efforts;

3. the need for expansion and quality improvements in the secondary education subsector;

4. the difficulty of recruiting and retaining teachers in the remote areas; and

5. 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 decisionmaking.

The First IEES International Conference (Botswana, November 1985) was attended by three Indonesian officials and the USAID Mission Education Officer. These Indonesian representatives were Moegiadi and Wesley

Simanjuntak of the Balitbang Dikbud, and Daniel Ajamiseba of the Irian Jaya Study Center. Michael Morfit represented the USAID Mission in Jakarta.

In January and February 1986, John Bock, Walter McMahon, and Doran Bernard, all members of the sector review team, returned to Indonesia to present the first draft of the review to the Indonesian Steering Committee and counterparts. Other activities undertaken on that trip were: (a) collaboration with the UNDP team, Neville Postlethwaite and Ken Ross, in identifying a research agenda for Balitbang Dikbud, utilizing the preliminary recommendations of the sector review; (b) preliminary discussions with Gary Theisen of AID/S&T, Catherine Krupnick of Harvard University, USAID Mission, and MOEC personnel regarding future collaboration between IEES and the BRIDGES Project in Indonesia; and (c) meetings with EPP Chief of Party designate, Nat Colletta, and EPP consultants Simon Ju and Jay Salkin to lay the groundwork for the start-up of IEES/EPP activities.

FSU staff subsequently incorporated the substantive feedback from MOEC personnel, completed document editing at FSU, and distributed the bound, eleven-volume sector review to AID/Washington in April 1986 for dissemination to the MOEC and other donor organizations.

IEES Project Activities. IEES consultant Michael Hendricks completed the development of a model for the evaluation of Repelita IV, Indonesia's Fourth Five-Year Plan in June 2 to September 13, 1986. This work was a direct follow-through of recommendations made in the Sector Review and provided input into Repelita V, the Fifth Five-Year Plan. This work was carried out to: (a) define the key questions that will be addressed in the evaluation; (b) develop an evaluation methodology; (c) prepare and implement a data collection plan to obtain three types of data: secondary data, sample data that can be aggregated, and case studies of critical

issues; (d) prepare and implement a data analysis plan indicating which data sources answer to each of the evaluation questions; and (e) prepare a report on evaluation of Repelita IV, surveying items a-d above. The report provided answers to evaluation questions specified and agreed upon by the reference group and indicated channels for disseminating various evaluation answers.

Doran Bernard provided assistance in the design of monitoring systems for development projects of the Ministry of Education and Culture (MOEC) in coordination with the Education Policy and Planning (EPP) Project from June 15 - August 14, 1986. With Indonesia's sophistication and complexity of logistical, communication and geographical constraints, Indonesia could prove a very relevant example for successful development of project monitoring and management information systems in other countries; results of this monitoring system development may also relate closely to the management information systems component of the IEES research initiative. A follow-up review for further refinements or adjustment is tentatively scheduled for mid-1987, pending approval.

IEES Project Director John Bock of FSU and Walter McMahon of the University of Illinois then collaborated with Indonesian counterparts September 21 - October 15, 1986 to develop the Indonesian Country Plan for IEES Activities. The Country Implementation Plan builds upon the sector review's broad distribution and use. The activities specified in this plan are derived from the recommendations of the review. They have been extended and refined as a result of close collaboration with Indonesian counterparts and the USAID Mission in Jakarta.

Indonesia hosted the Second IEES International Conference from February 15-21, 1987. This activity and Indonesia's participation in the

IEES Policy Research Initiative (PRI) are described in detail in the IEES Semi-Annual Progress Report (June 1987). The PRI team in Indonesia is headed by Romli Suparman and is now conducting policy-oriented research in the area of strengthening local education capacity.

The EPP Project. In the area of management information system development, EPP completed a detailed operational plan for a ministry-wide Integrated Management Information System for improved policy formulation and long-term planning. An intensive evaluation study was conducted on the current project monitoring practices in the ministry. The recommendations covered a wide range of improvements, including institutional development/innovation and creation of a computerized monitoring system. A local area network (LAN) with three COMPAQ computers and two printers in the project consultancy working area has also been established. The network is linked with the IBM System 36, currently the host machine for the Pusat Informatik, and provides technical versatility in file and record handling and transfer.

Four training modules on the construction and use of an Education Management Information System for reporting, management control, and planning have been pilot tested and revised. These four training modules are:

1. Basic concepts and computer application 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.

The policy research component of the project has accomplished several major tasks. First, the Quality of Basic Education Study is in the early stages of implementation. Research teams have been formed in three pilot

provinces. These teams are comprised of managers and planners from the local research network universities and the IKIPs. Regional training and domestic seminars have been held to support these research development activities.

Second, a policy study in the medium-term manpower plan for the MOEC has been completed. A set of meetings has been planned to ensure technology transfer and the development of institutional capacity within Balitbang to update this plan on a regular basis. Plans also exist to introduce the methodology to the provincial offices for development of similar provincial level plans.

An evaluation model for Repelita IV has been developed to achieve the following objectives:

1. define the key questions addressed in the evaluation;
2. develop an evaluation methodology;
3. prepare and implement a data collection plan to obtain three types of data: (a) secondary data, (b) sample data, (c) case studies of critical issues;
4. prepare and implement a data analysis plan; and
5. prepare a report on evaluation of Repelita IV.

### 2.3.2 Plans for Project Year Four

#### 2.3.2.1 IEES Central Funding Project Activities

IEES activities focus on the rationale for achieving highly leveraged use of scarce resources within the strategic planning units of the Ministry of Education and Culture. As will be developed below, the IEES Project activities are based on strategies for increasing the internal and external efficiency of human resources in Indonesia, and hence contributing to

faster economic growth. Efficiency in human resources development for growth and equity is a key objective of the Indonesian Five-Year Plan.

IEES planned assistance to Balitbang Dikbud seeks to support the increase of internal and external efficiency of the education sector. These activities are strategically located in relation to the broader scope of events. The research on the relation of education to economic growth is surveyed by Psacharopoulos in Education for Development (1986, Ch. 2 and 3). The research on the relation of education to growth, to increasing equity, and the success stories mentioned above are further developed by W.W. McMahon (1987) in "Education and Industrialization," and will be developed in the forthcoming World Bank paper (1987), "Education Policies for Sub-Saharan Africa."

Because of the strategic role of human resource investment policies to Indonesia's per capita economic growth, industrialization, and equality of educational opportunity, the widest possible consultation was undertaken, involving many of the key persons responsible for human resource development policies in Indonesia. In addition to Balitbang Dikbud, the Education and Labor and Manpower officials in BAPPENAS, the Secretary General in the Ministry of Education, several Director Generals in MOEC, and the Director General responsible for taxes critical to the financing of education in the Ministry of Finance were involved in developing this plan. The desire was to invest the IEES and EPP resources carefully, in order to make the most effective use possible of the limited funds available, or that might become available. At the same time, it was important that the plan proceed with a consensus of common objectives so that the plan became truly a joint effort.

The two groups of activities discussed below (Group A Research and Development Activities and Group B MIS Institutional Support Activities) are both designed to apply efficiency criteria in current human resource development policies for growth and development, while also helping to build more permanent educational policy planning capabilities within the Ministry of Education and Culture. The projects emerged in part as Balitbang Dikbud appointed several task forces to translate and produce an Indonesian version of the Educational Sector Review. Emerging from this Sector review, and the charge given to the task forces, the activities identified have now been grouped within the R&D and Institutional Support categories mentioned, and have been prioritized within those categories.

The proposed objectives were discussed at BAPPENAS with those responsible for the education and manpower sectors. BAPPENAS is concerned with the relative importance and the timing of the objectives in order to assist the Ministry of Education and Culture and the Government of Indonesia in preparing the next Five-Year Plan (Repelita V). Finally, the proposed set of projects are discussed with the Secretary General in the Ministry of Education. The independent ranking by the Indonesian Government led to a remarkable degree of agreement on the priority to be given to the first four objectives in Group A and the first two objectives in Group B listed below. There was also strong support for all of the remaining activities on the list.

These activities form an interrelated and integrated set of plans which focus on the central aspects of the human resources planning process and flow logically from the common aims stated above. The activities focus respectively on external efficiency, internal efficiency, quality, finan-

cing, and institutional support capabilities. Each activity also includes an equity dimension.

The content of the first two activities, their coordination with other agencies, and their timing has been discussed in broad outline with Pak Tilaar, Pak Hasibuan, and others responsible for the education and the manpower portions of the human resource sector in the next Five-Year Plan at BAPPENAS. The relevance of internal efficiency to labor absorption is under continuing discussion with Martin Godfrey, David Clark, Yudo Swasono, all of Department of Labor and Manpower, and will be coordinated with Pak Hasibuan at BAPPENAS. The financing of education activity, and its support role in helping to achieve increased efficiency and equity, has been discussed with Dono Iskandar and with other policymakers concerned with educational finance in the Ministry of Finance. The objectives relevant to the incentives for math and science teachers to serve in remote regions, and for aspects relevant to more advanced science education, were discussed with those concerned with human resource development in LIPI and in the Ministry of Science and Technology (BPPT). Finally, Dr. Moegiadi, Secretary of the Research and Development Office (Balitbang Dikbud), convened a meeting of approximately fifteen persons constituting the various Sector Review task forces, including the three EPP resident technical advisers. At this meeting, each of the activities in the list were carefully discussed and suggestions were received which have been incorporated to improve this plan.

Throughout this iterative process, the Secretary General's Office in the Ministry of Education and Culture as well as officials in the various Director General's offices have been consulted. Consultation with the Ministry of Home Affairs, which has a major role in the financing of

primary education, has not yet been carried out, but this will be done as the activities develop.

The activities described below also were selected on the basis of their convergence with IEES Project objectives. The IEES objectives are consistent with those of the GOI, particularly since the current drop in oil revenues has heightened the sensitivity of Indonesian policymakers to the need for greater efficiency in the utilization of educational resources in order to realize Repelita IV goals of growth with equity.

These Indonesia Country Implementation Plan activities have emerged as a distillation of the research and policy recommendations outlined in the Indonesian Sector Review as mentioned above. Every activity scheduled was first identified in the Sector Review as relating to the improvement of efficiency and quality of education. Each activity is designed to simultaneously aid in the development of a sustained planning capability within the MOEC. Furthermore, each activity is intended to provide three important benefits:

1. the generation of knowledge about the allocation and utilization of scarce education resources;

2. the development of the planning capacity to sustain and apply this knowledge; and

3. the provision of immediate and practical products which can support the current preparation of the Five-Year Plan (Repelita V) and the upcoming next Twenty-Five Year Plan.

These benefits will be sought through two groups of activities:

1. Group A: Research and Development Activities to implement specific analyses of data designed to find empirically based ways of increasing internal efficiency, external efficiency, and equity and

2. Group B: Technical and Institutional Support Services to help implement and sustain this planning capacity.

Other generic project activities such as future Sector Review Updates, Annual Indonesia Country Implementation Plan revisions, and Steering Committee Meetings will be conducted, as in other IEES collaborating countries.

The activities listed below are prioritized within each group in line with the priorities established by MOEC.

GROUP A. RESEARCH AND DEVELOPMENT ACTIVITIES: (Prioritized) Each Includes a Capacity Building Objective.

Activity I. External Efficiency in Education--and in Human Resources Development for Growth in Indonesia.

Activity II. Conduct a Policy Study on the Cost of Quality of Vocational/Technical Education.

Activity III. Identify Teacher Incentives for Improvement in the Quality of Education.

Activity IV. Identify Better Community and Private Financing Sources for Overall Efficiency and Equity in Education.

Group A objectives are interrelated. The implications for greater efficiency of the system (Activity I) drives to some extent the internal MOEC Manpower Plan which is being implemented with EPP support. Both of these need to be started at least by the Fall of 1987, with preliminary results reported as soon as possible in order to assist Balitbang Dikbud, the Secretary General, BAPPENAS with development of the fifth Five-Year Plan. The R&D projects are also interrelated because the financing changes, needed for greater efficiency and equity in the educational systems (Activity IV), are necessary for the support of the work on teacher incentives and the quality of teaching in underserved areas (Activity III). This financing is necessary for the implementation of the Five-Year MOEC Manpower Plan. Financing incentives must not generate inefficiencies, waste, inequity, and inadequate resources. Thus these activities can support MOEC efforts to meet the goals of the Five-Year Plan. Central to

all four of these activities, and to their supporting activities, is their contribution to the development of a continuing planning capacity within the MOEC.

Activity I: Efficiency in Education and Human Resources Development for Growth in Indonesia

1. Policy Paper #1, "Investment Priorities." To be completed following a visit in the Fall of 1987. This paper will focus on policy problems #1 and #3 above; and of necessity must be based primarily on the work done in the Sector Review, plus further analyses of the 1982 SUSENAS (combined national database) tape.

   a. Re-runs of the SUSENAS tape (to get the standard errors, unemployment rates in each category, and to obtain breakdowns by region within the country).

2. Policy Paper #2, "Analysis of Educational Investment Priorities for Growth." By January 30, 1988, hopefully in time for more refined input from MOEC into Repelita V. This study will involve:

   a. Preliminary runs of the newest October 1986 SUSENAS tape, if a copy of the tape is made available.

   b. Reporting employment, underemployment, earnings by level and type of education in each major occupation.

   c. Educational policy simulation model; completion of programming the above results into a microcomputer color simulation diskette that relates different types of investment in education to productivity growth for use by Pusat Informatik.

   d. This second policy paper will focus on updating the results for problems #1, #3, and #4, and develop them in greater depth.

3. Assistance with Design of the Surveys for Data Collection. (For Activity II): Spring 1988

   a. School and Tracer study of vocational/technical education. See issue 4 above. Dr. Hardjono is the tracer study expert in Balitbang and could be of great help in this study.

   b. Efficiency study. This EPP survey, (which is not part of this project) will examine costs of institutions and earnings, especially to supplement the SUSENAS and baseline studies at the college level (see issues 2, 3, and 5 above).

4. Formation of a task force (or Steering Committee) on Efficiency: Spring 1988.

5. Establish system for acquiring a regular and timely flow of SUSENAS and Census data tapes, downloading the relevant aspects onto microcomputer disks to provide analyses to feed into the education section of the next five-year plan: Spring 1988.

6. Analyze the new (October 1987) SUSENAS tapes and prepare major analyses based on them: Spring 1988.

   a. "Investment in Junior and Senior Secondary vs. Improvements in the Quality of Primary Education" (Policy Problem #2 above).

   b. "Investment Priorities in Education for Growth and Equity" (Policy Problems #3 and #4 above).

   c. Refinement of the microcomputer model, using this new data, for formulation of the results and for policy simulations in the Minister of Education and Cultures' Operations Room.

Activity II: Policy Study on the Cost and Means of Improving the Quality of Vocational/Technical Education

1. Assist Balitbang Dikbud in the design of a feasibility study. This study is required for the implementation of the new regional programs by the Directorate of vocational/technical education. This study should cover:

   - assessment of the needs for a regional study program (and of what specific type) in a particular region;

   - an assessment of the minimum available resources in the region necessary to support such a program; and

   - conduct a survey to determine whether there is a sufficient number of students in the region who would participate should such a program become available.

2. The staff of the Directorate of Vocational/Technical Education have reported some success in developing cooperative relationships between vocational/technical programs and private industry. However, there have been difficulties in institutionalizing and generalizing such successes. It would be valuable, to conduct a "best case" study to examine several of these successes. In this way it would be possible to determine the factors responsible for their success and explore the feasibility of generalizing them to other vocational/technical programs throughout the country. This study is to begin July 1, 1987.

Activity III: Quality Education: Teacher Incentives

1. Since the study of Teacher Incentives is primarily a descriptive one, the first product will consist of three integrated sub-studies:

a. a compilation of the current status of the system (numbers of teachers, regional distribution, salaries, etc.);

b. the current rules and regulations relative to teacher incentives;

c. analysis of operational consequences, intended and unintended of these rules and regulations governing recruitment, performance, and retention.

Much of this information already exists in several of the subsectors of the EHR Sector Review and related studies.

2. A study isolating the current status of local data on teacher demographics, categorizing the rural and remote areas, and identifying shortages of specific qualifications and subject areas in specific locations. This will be linked to a policy paper presenting this data, and stating educational goals within the context of these shortages (by February 1988).

3. To supplement these two descriptive and quantitative studies, it is necessary to conduct a qualitative investigation, using in-depth interviews of teachers, administrators, parents to determine how regions, levels, and subject area differ with respect to institutions, incentives, and feasible solutions. There may be marked differences between different regions, cultures, and educational levels within Indonesia as to what constitute incentives for recruitment and retention. For example, within certain sparsely populated settings rotation may be preferable to continuous retention. This information is critical to the design of any teacher incentive program in a country as geographically and culturally complex as Indonesia, and requires a more qualitative approach.

4. Formation of a task force involving the Ministry of Home Affairs to advise policy design of improved teacher incentives, and the regional distribution of teachers with the needed skills.

Activity IV: Identify Community and Private Financing Sources for Overall Efficiency and Equality in Education

1. Policy Paper #1, as defined above by Issue #1. This paper will examine the potential of the Kabupatan property tax at the local level, supplemented by equalization grants or incentive matching grants for the poorest localities. The expansion of Junior Secondary education is efficient, equitable and worthy of serious consideration, if it can be financed.

2. Policy Paper #2, as defined above by Issue #2. This paper will provide an analysis of economic and non-economic incentives. It will then examine the economic incentives underlying the drain of teachers from the rural areas and out of the system in order to present a clearer view of what financing might solve this problem.

3. Policy Paper #3, "Resource Recovery in Higher Education," policy Issue #5 above. Studies of student loans exist (e.g., Maureen Woodhall, World Bank Staff Working Paper #599), but there is little research on work study or financial need analysis in extended-family contexts (see Activity VI). An estimate of the total size of the additional resource recovery that is possible under various assumptions should be part of this activity.

4. During the second year, the Interdepartmental Committee on Educational Finance R&D should be formed and charged with the short-term Issue #3 (property tax guidelines) and the longer-term Issue #5 (how to use the multiplicity of financing sources and decentralized sources to realize greater efficiency). A task force also should be formed to examine these issues as they relate to the work of other donor and government agencies. The World Bank study of local financing of primary and secondary education (available July 1, 1987), should be reviewed by this committee and its task force.

The following Group B activities are designed to provide the technical and institutional support services for the development of a sustained planning capacity within MOEC. They have been prioritized within Group B by Balitbang Dikbud. Each makes important contributions to the support of a more efficient and effective planning agency.

GROUP B. MANAGEMENT OF INFORMATION SYSTEMS DEVELOPMENT: INSTITUTIONAL SUPPORT ACTIVITIES (Prioritized)

Activity V. Improve the Computer Software Model Development Capacities and Training Programs in Balitbang.

Activity VI. Analyze Available EBTANAS Data and Refine and Test a Financial need Analysis Data Collection Instrument.

Activity VII. Develop Library and ERIC Research Support Systems (ERIC and LCS).

It should be noted that IEES funds will be insufficient to implement Activity VII. The research support provided by adequate library resources is vital, this project, therefore, is discussed below even though other sources of funds will be needed.

Activity V: Policy Analysis Support: Institutionalization of Computer Software Development and Training

1. Implementation of tasks 1 and 2 support for Software Development Group and establishment of an Indonesian Policy Modeling Group is already underway, supported by EPP funds. Further specifications of the implementation schedule is being developed by EPP and was not received in time to include here.

2. Support of EPP efforts to develop ongoing policy planning capability in Balitbang Dikbud which would include an MIS training capacity in the Pusat Informatik. This training program should include both technical personnel and information users. The long-term aim is the institutionalization of MIS training capacity within the MOEC. An important component of this training program is to provide training for senior policy analysts in: (1) Balitbang Dikbud, and (2) for all of the MOEC. This training will acquaint them with the use and value of the presently available software packages that have specific applications for planning, management, and forecasting. This training will also be useful as a marketing strategy for persuading senior decisionmakers in the MOEC of the value of the policy planning process being mandated. This task will require a short-term IEES MIS computer training and policy analyst specialist to work with EPP and Pusat Informatik staff between August 1 and September 30, 1987. The timing is due to the budget limitation of the IEES funds during the present project year (ending June 1987).

Activity VI: Analysis of EBTANAS Data and Refinement of EBTANAS and FFS Data Systems

1. Compile secondary school EBTANAS data for continuing analysis within Pusat Informatik as well as pilot Test Family Financial Statement. One has already been drafted, but it needs to be pilot tested.

2. Obtain a flow of better quality primary school leaving EBTANAS data form the provinces. This data will be used for nationwide policy analysis within Balitbang.

Activity VII: Development of Library and ERIC Research Support Systems (not for IEES funding)

1. Provide an IBM XT to the Balitbang librarian as soon as possible.

2. Investigate the possibility of linking Balitbang via a MODEM and telephone lines to the search system in the Jakarta main libraries.

3. Assist the librarian to train assistants to conduct searches. Provide access to a driver-messenger who would make one round of other libraries each day to pick up and return books, delivering them to the Balitbang staff.

4. Acquisition of the ERIC Resources in Education abstracts (RIE) and Current Index to Journals in Education (CIJE) files on floppy disks.

5. A microcomputer printout by the librarian of titles of new research by topic and of titles of new books in education in the Jakarta library that are grouped by the same topic headings should be made available. This could be cut up, duplicated, and only the relevant list circulated to the people that specialize in each topic, this would publicize the retrieval service.

2.3.2.2 EPP Project Activities

The following activities are currently planned for the EPP Project.

MIS Activities

1. Enhance the annual educational statistics data base structure, statistical tables, information display and dissemination. The goals of these activities are:

   - to integrate all the data sets in a functionally efficient manner,
   - create an appropriate data dictionary for the system,
   - to associate statistics data with educational indicators,
   - to display statistics in a graphic mode,
   - enter data for the past years as far back as possible, and
   - to develop a data/information access scheme for all DGs. (Estimated completion date: December 1987)

2. Review current data collection instruments and revise them as appropriate. The goals of this activity are: (Annual Statistics).

   - to review the annual statistical forms for primary, secondary, higher, and non-formal education and culture in view of data utility and relevancy,
   - review associated data collection flows as appropriate, and
   - to implement new data collection methods and instruments (Estimated completion date: July 1987)

3. Develop MIS policies relating to MIS management including hardware/software acquisition and data/information management. The goals of this activity are:

   - to develop hardware/software acquisition policy,
   - to develop policy on data collection maintenance, access and usage,

- to develop MIS plan requirements for Echelon I offices and the province offices, and

- to implement the policy by Minister's decree.
  (Estimated completion date: July 1987)

4. Design and develop a preliminary central data base. The goals of this activity are:

   - to organize the education statistics data for 10 years,

   - to select and organize annual planning data,

   - to select and organize finance and personnel data,

   - to select and organize project monitoring data,

   - to organize all the reference data, and

   - to organize all the above data sets under a suitable data base management system (DBMS).
     (Estimated completion date: October 1987)

5. Produce an Annual Data Plan. The goals of this activity are:

   - to collect all regular data collection forms in the Ministry, and

   - to compile them into a volume to be called "Annual Data Plan."
     (Estimated completion date: October 1987)

6. Produce and maintain the data dictionary. The goals of this activity are:

   - to review all the data items collected or used in the Ministry,

   - to organize them into an appropriate data dictionary format, and

   - to develop the maintenance procedure of the data dictionary.
     (Estimated completion date: October 1987)

7. Establish data/information exchange channels and mechanisms with other related agencies. The goals of this activity are:

   - to improve data/information exchange mechanisms,

   - to provide direct data access privileges to outside agencies as appropriate, and

   - to establish a formal data exchange scheme.
     (Estimated completion date: October 1987)

8. Select and install of the new central data base computer.
   (Estimated completion date: November 1987)

9. Establish a computer network and data communications system. The goals of this activity are:

   - to link the central data base computer and other mini-computers in the Ministry as necessary,

   - to establish an effective LAN for microcomputers clusters in the Ministry,

   - to develop data/information exchange scheme among micro-computer users, and

   - to establish an international data communications link through Indosat.
     (Estimated completion date: December 1987)

10. Establish regional MIS/centers and compose province working consortiums.

   - to establish the regional MIS centers as proposed in MIS Plan,

   - establish working consortiums within the associated provinces, and

   - to establish working relationship between Pusat Informatik and the regions, and the regions and the provinces.
     (Estimated completion date: October 1987)

11. Allocate micro- or mini-computers to province offices as appropriate. The specific goal of this activity is:

   - to acquire and provide two micro-computers to the remaining 24 non-EPP pilot-site provinces.
     (Estimated completion date: July 1987)

12. Technically support the operations of satellite systems in the Ministry. The goals of this activity are:

   - to conduct a feasibility study to identify computerization requirements of each office of the Unit Utamas, and

   - to establish system development plan to accommodate those requirements as appropriate.
     (Estimated completion date: December 1987)

13. Identify required technical resources and conduct appropriate technical training. The goals of this activity are:

   - to conduct computer operations training for the new central data base computer,

   - to conduct systems analysis and programming skill training for the SLG Group,

- to conduct region and province level staff training for MIS management and technology,

- to conduct technical training for user group of the Pusat offices,

- to conduct special software training, and

- to conduct on-the-job training.
  (Estimated completion date: December 1987/Ongoing)

14. Develop and strengthen the MIS infrastructure in the regional offices. The goals of this activity are:

    - to organize MIS units in the regions, as appropriate,

    - to complete required functional alignments, and

    - to secure required technical resources through training and recruitments.
      (Estimated completion date: August 1987/Ongoing)

15. Develop and establish provincial data bases. The goals of this activity are:

    - to identify priority functional areas in administration,

    - to identify relevant data requirements,

    - to compose an effective data base in the province computers, and

    - to implement the MIS training modules developed by the EPP Project.
      (Estimated completion date: September 1987/Ongoing)

16. Allocate additional microcomputers for the headquarters office in the Ministry. The goals of this activity are:

    - to study the microcomputer requirements of the offices of Echelon I and above, and

    - to allocate microcomputers with appropriate capacity and peripherals.
      (Estimated completion date: July 1987)

Policy Research Activities

1. Conduct special policy research studies. The goals of this activity are:

    - to improve the quality of basic education in Indonesia,

- to plan medium-term manpower for the MOEC,
- to implement the evaluation of Repelita IV, and prepare a draft of Repelita V, and
- to conduct "Computers in Education: A Feasibility Study." (Estimated completion date: December 1987)

2. Develop policy research and the MIS. The goals of this activity are:

   - to develop policy research data bases,
   - to develop basic policy research indicators for education, to assist the Modeling Development Groups and the Policy Analysis Group,
   - to develop policy research computer programs and software,
   - to implement MIS-policy research computer linkages between LAN, Data Transfer, and Policy Analysis Software,
   - to conduct education policy research/MIS seminars, and
   - to provide provincial level MIS/policy research support, (Estimated completion date: December 1987/Ongoing)

3. Institutional development of ongoing capacity for inventorying of key policy issues, identification of gaps, and specification of research agenda. The goals of this activity are:

   - to classify issues,
   - to consult with clients, analysts, and so on,
   - to identify data requirements,
   - to assess priority,
   - to review current and completed research,
   - to assess and utilize research,
   - to assess priority to eliminate research gaps,
   - to identify research methodologies,
   - to identify data requirements, data availability, and data feasibility,
   - to identify manpower/financial resource requirements,
   - to prioritize research agenda,

- to create a research agenda schedule, and

- to implement research agenda.
  (Estimated completion date: December 1987/Ongoing)

4. Integrate education policy research activities. The goals of this activity are:

   - to develop inter-ministerial linkages for education-related policy research,

   - to develop intra-ministerial linkages for education-related policy research,

   - to coordinate and assist donor supported policy research activities.
     (Estimated completion date: August 1987/Ongoing)

5. Assess the policymaking process. The goals of this activity are:

   - to review past policy level decisions

   - to consult with policy analysts and decisionmakers, and

   - to establish a forum on the education policy formulation process.
     (Estimated completion date: December 1987)

6. Develop policy research manpower. The goals of this activity are:

   - to assess policy research manpower requirements, and

   - to assess policy research manpower availability.
     (Estimated completion date: November 1987/Ongoing)

### 2.3.3 Staffing Requirements for Centrally Funded IEES Activities

Activity I: External Efficiency in Education: Five-Year Plan (Repelita V) and Policy Planning Assistance

One Educational Economist for 1) 2-3 week visit to Jakarta in late Sept. 1987, 2) 15% of the remaining time during the entire period from Oct. 30, 1987 through June 30, 1988, and 3) full-time for a 6 week visit to Jakarta from January 1-Feb. 15, 1988, plus 4) one half-time research assistant at a minimum is needed for August 23, 1987 to June 30, 1988 (see Potential Personnel in text of Chapter 5, Activity I). Indonesian counterparts will also be involved.
June 11, 1987-June 10, 1988

Activity II: Policy Study on Cost and Quality of Vocational/Technical Education

One vocational/technical education analyst for one month. One counterpart staff member each from Balitbang Dikbud and the Directorate of Vocational/Technical Education.

To begin late June 1987 (if a consultant is available; otherwise Fall 1987).

Activity III: Quality of Education: Teacher Incentives

One IEES consultant with experience in the design and conduct of qualitative studies in education (preferably in Indonesia) for one month (Indonesian counterparts to conduct the study itself in a sample of regions remains to be assigned by Balitbang Dikbud).
Fall 1987

Activity IV: Financing Education: Immediate Five-Year Plan Assistance (Repelita V)

One IEES Educational Economist for two months to assist the MOEC, plus one Indonesian counterpart principal investigator.
June 11, 1987-June 10, 1988.

Financing Education: Community Sources of Teacher Incentive Supplements

One IEES Educational Economist half-time for 10 months (5 p.m.), working closely with one full-time Balitbang Dikbud Educational Finance Specialist.
June 11, 1987-June 10, 1988

Financing Education: Resource Recovery in Higher Education

No staff has been identified for this task.
June 11, 1987-June 10, 1988

Activity V: Institutionalization of Computer Software Development and Training

Tasks (1) and (2) require eleven person months overall of EPP Staff (Simon Ju and Hee Wee Lee) over a two year period. If Ju cannot be available for this length of time, the required technical assistance will be funded from the EPP budget. Task (3) requires one IEES MIS training consultant for two months to work with the EPP and Pusat Informatik Staff.
1987-1988

Activity VI: Analysis of EBTANAS Data for Repelita V

One IEES Consultant for 3 months (3 p.m.) assisted by EPP staff (e.g., Simon Ju, Hee Wee Lee) and Indonesian staff to help with data processing.
June 11, 1987-June 10, 1988

Activity VII: Computerized Library Retrieval System

(1) Microcomputer hardware (see above), (2) assignment of one driver half-time for interlibrary loan runs for Balitbang (and MOEC research staff, and (3) support and guidance from the RTA (Simon Ju) for the Balitbang librarian (1 p.m. per year).
June 11, 1987-June 10, 1990

Staffing requirements for EPP activities will be the responsibility of the EPP COP and will require EPP funding.

2.3.4 Issues and Discussion

The IEES Country Implementation Plan for Indonesia will begin in August of Project Year Four. The development process has provided an opportunity for GOI and USAID Mission to discuss in detail the further activities of the IEES Project in support of improved educational efficiency in this large and complex nation. To date IEES activities in Indonesia have been marked by a high degree of support from both GOI and Mission. This has been achieved through a careful policy of collaborative planning and execution of all activities. The success of this policy is evident in the degree of ownership of the Sector Review now evidenced by GOI. Balitbang Dikbud, working with the Mission, has completed work on an Indonesian version of the Sector Review. This document will serve as a basic reference manual for decisionmakers and planners throughout the MOEC. MOEC policy decisions over the past year have reflected Sector Review recommendations, such as the simplification of curriculum. The Indonesian language version can be expected to have even greater impact.

A mid-term evaluation of the EPP Project is currently being conducted

by AID. The results of this evaluation will be valuable in helping to ascertain the need for mid-term corrections or changes of direction. Also, replacements for the EPP Chief-of-Party and Policy Analyst are being sought due to the unanticipated resignation of Colletta and Salkin. Nominations for both positions have been submitted to S & T/ED, USAID/Jakarta and the Indonesian MOEC. IEES is now awaiting their recommendations. Bock tentatively plans to travel to Indonesia as soon as a preliminary report on the EPP evaluation is released and EPP Long-Term Advisors (LTA's) are selected. The purpose will be to assist the EPP team in responding to the findings and recommendations of the evaluation as well as to help initiate activities scheduled under the Indonesia CIP.

During the Project Year Four, IEES activities will focus on improving the efficiency and quality of education in Indonesia through the formulation of better policy and long-term planning based on more complete and accurate information. This work will be carried out through both EPP and IEES centrally-funded activities as described in Section 2.3.2 above. Given the increased constraints on both routine and development budgets of Indonesian counterpart institutions, the challenge to project management is to plan effectively with GOI and Mission to invest project and country resources in those activities judged to be most critical and likely to have greatest impact on the education sector.

## 2.4 LIBERIA

### 2.4.1 Project Developments and Accomplishments

Work relevant to the IEES Project in Liberia began prior to the start-up of the IEES initiative. A Sector Assessment was completed in November 1982. Since that time, the IEES group has participated in educational development in a variety of ways. Several short-term consultants have been provided, whose work related to the planning for the second phase of the Improved Efficiency of Learning (IEL) Project.

During 1985, IEES work in Liberia came to a virtual standstill. With senior staff changes in the USAID Mission and in the Ministry of Education, the planned second phase of the IEL Project was re-examined, and the IEL II Project Paper was extensively revised. The deteriorating economic condition of Liberia resulted in close scrutiny of the educational assistance programs of some of the donor agencies, including USAID. All of these things resulted in a hold on further IEES-related work for nearly all of 1985 and much of 1986.

Five activities had been scheduled to take place in 1986. These were: (1) a Sector Assessment Update; (2) a study of the potential for integration of the World Bank Textbook Project and IEL II; (3) assistance to the Ministry of Education in the development of a new five-year plan for education; (4) the development of an IEES Country Implementation Plan, and (5) a staff utilization study for the MOE. When the IEES 1986 (Third Project Year) Annual Plan was completed, these five activities were only tentatively scheduled and their scopes of work were not fully defined. Discussions, refining the details of these activities, continued intermittently after the first IEES International Conference, held in

Botswana in November 1985, through the second IEES International Conference held in Indonesia in February, 1987. During this period, the IEES group decided to undertake the IEES Policy Research Initiative and Liberia elected to join in the research effort focused on Teacher Incentive Systems.

Integration Feasibility Study. Of the five planned activities only one was conducted, the study of the feasibility of integrating Programmed Learning with conventional instruction in Liberian Primary Education. A team was fielded in October - November 1986, consisting of Robert Morgan, Richard Kraft, and Milton Adams of Florida State University. Other consultants involved in the study were D. Musuleng Cooper and David Vinton of Liberia, and Clifton B. Chadwick.

The purpose of the study was to examine what practical problems of integration might be anticipated with the introduction of the IEL curriculum into the conventional primary classroom; to determine whether such integration appeared to be feasible; and to recommend those measures to be taken in anticipation of any predicted problems. Cost issues were also of great concern to the Ministry of Education. The MOE wished to determine whether the Liberian government could afford to implement an integrated curriculum and if it could afford the continuation and maintenance of the system in the years to come.

The Study Team gathered and analyzed available relevant data on the current status of Liberian public primary schools, and concluded that integration of the innovative programmed learning system with the traditional instructional programs, and the newly available elementary textbooks, was not only feasible but highly desirable. The report of this study, which included recommendations for the planning and implementation

of the new, integrated Liberian primary education program, was distributed to government and Mission officials in Liberia in November 1986.

IEES Policy Research Initiative. Albert Coleman, Assistant Minister for Teacher Training, was designated as the Country Coordinator for the Policy Research Initiative in Liberia. Coleman met with S. Thiagarajan of IIR and Frances Kemmerer of SUNYA, and the other Country Research Coordinators for the countries involved in the Teacher Incentives Systems research in Sana'a, Yemen Arab Republic, in November 1986. The group met again at the Second IEES International Conference in Denpasar, Indonesia, in February 1987. These meetings resulted in the development of a coordinated research plan for each of three participating countries, which specified the research questions to be addressed, time and resource requirements, and research management procedures.

Project Paper Revision. As a result of the integration study findings and the changing economic condition of Liberia, the Project Paper for IEL II was substantially revised by mutual agreement of the MOE and USAID. IEES consultant Charles Green, a former AID Education Officer, provided assistance with this task from March 9 through April 9, 1987.

### 2.4.2 Plans for the Fourth Project Year

At the second IEES International Conference, general IEES planning meetings were held which included Minister Othello Gongar, USAID/Liberia's HRDO Stanley Handleman, IEES CTO Joan Claffey, and IEES PI Robert Morgan. These meetings focused on the continuing role of IEES in Liberia. Handleman informed the group that Liberia was at that time (February 1987) in serious arrears on its international debt service and had been put on notice that unless these arrearages were reduced to an acceptable level by May 31, 1987, USAID would begin a phase-out of its support programs in

Liberia. The immediate practical implication of this development for IEES activities in Liberia was to delay further work until this issue was resolved. In June, 1987, Liberia had satisfactorily responded to the debt service problems and IEES could begin to be rescheduled.

Consistent with the agreements that were reached in Botswana and in Indonesia, it is anticipated that five IEES activities may occur in Liberia during the Fourth Project Year. These activities are:

- Short-term Technical Assistance to the Ministry of Education.
- Continuation of the Policy Research initiative on Teacher Incentive Systems.
- Conduct of an Education Sector Assessment
- Assistance with the Five Year National Educational Planning Effort.
- Development of the Country Implementation Plan for IEES Activities in IEES Activities in Liberia.

### 2.4.3 Staffing Requirements

Short-Term Technical Assistance to the MOE. USAID and the MOE have indicated a need for short-term consultants to assist with seeking the solution to some urgent problems presently constraining the efficiency of Liberia's educational programs. An adviser is needed to work with the Ministry of Education on improvements in the field and central supervisory processes for primary education. Another adviser will be needed to assist with the planning of the consolidation and coordination of the several teacher training programs presently being operated in Liberia. Other short-term consultant needs are likely to be identified during the Sector Assessment.

Policy Research: Teacher Incentive Systems. The design and methodology for the Teacher Incentive Systems study will be made final

early in the Fourth Project Year and field data collection will begin in the late Summer and early Fall, 1987. The Policy Research Initiative will continue throughout the Fourth Project Year.

Education Sector Assessment. In the Denpasar meetings the possibility of a somewhat abbreviated sector assessment was discussed, because of the comprehensive analysis of the primary education program completed by the Integration Study Team in October - November 1986. However, in the course of the meetings it became apparent that the economic/fiscal situation in Liberia was in such a state of flux that a complete sector assessment was probably indicated. The group agreed on the following focal topics for the sector assessment:

- Macro Economic Analysis
- Micro Economic/Fiscal Analysis
- Administrative/Management and Organization
- Instruction and Curriculum for Primary, Secondary, and Higher Education
- Teacher Training and Supervisory Functions
- Vocational Education
- Nonformal Education

It is expected that an assessment of this scope will require six IEES technical personnel and at least two Liberian participants for six weeks. The Sector Assessment is to occur between September and December 1987.

Five Year National Education Plan. In 1988, the Ministry of Education must complete the next Five Year National Educational Plan. Social and economic conditions have changed significantly since the preparation of the last five year national plan. The new plan cannot be "a little more and a little better" of essentially the same kind of educational programs as in

the past. National resources allocable to education are thought to be less than in the past and the anticipated planning effort must take this reality into account. The integration study and, to a much larger degree, the sector assessment will provide substantial input to the five year planning effort. It is hoped that some of the same professional staff involved in the sector assessment will also be available for assisting with the planning activity. It is expected that this effort will begin early in 1988 (January - February) and will involve two IEES specialists for six to eight weeks each.

Country Implementation Plan. Liberia is the only country participating in the IEES initiative for which it has not been feasible to develop a systematic, long- term plan of project activities. During the coming project year, it is intended to develop such a plan. This will be done collaboratively with MOE and USAID Mission personnel. This activity should take place in April - May 1988 and will involve two people for a total of three weeks each.

### 2.4.4 Issues and Discussion

Many factors have inhibited an orderly implementation of the IEES Project in Liberia during the first three years of the project. An attempted coup d'etat, the economic crisis, changes in senior Ministry personnel, and changes within the key assignments within the USAID Mission, have contributed to the delays in IEES work. Conditions to date have not permitted the development of a Liberian Country Implementation Plan. This has seriously constrained IEES work, as this plan is a major component of IEES strategy and is the principal mechanism for bringing together IEES, government and Mission officials to identify critical and highly-leveraged

activities for optimal use of IEES resources. The Liberian sector assessment is now much out-of-date, due to major changes in the socio-economic conditions of the country. No local IEES Steering Committee has been formed, a situation which poses additional difficulties. However, an unexpected benefit of these constraints has been the closer involvement of the Minister and his senior staff in the planning of IEES work. This involvement has been essential, given the unpredictability of the situation over the past three years.

The most significant barrier to improving the efficiency of Liberia's educational systems presently is the state of economic conditions in the country. A positive consequence of these adverse economic conditions is that national financial hardship makes it imperative that educational efficiency be improved. This task is being addressed by the government with a sense of necessity and urgency not often found in more prosperous societies.

With respect to the future of IEES work in Liberia, there is some cause for optimism. It is essential that a national plan for the implementation of IEES activities be developed and that a national IEES Steering Committee be formed. The Country Implementation Plan, of necessity, will have to be sufficiently flexible to accommodate the changing conditions in Liberia. USAID/Liberia has now moved into the second phase of both its rural radio and IEL Projects. It is unlikely that any large new initiatives in educational development will be undertaken in the near term. It is presently difficult to predict what educational assistance the government may be able to obtain from other international donor agencies. As a result, the focus of the IEES Project in Liberia for the next two or three years will be on assisting with the improvement of

the Ministry of Education's evaluation, planning, and management functions. Assisting the Ministry improve its capacity in these areas could have important and enduring benefits for education in Liberia.

## 2.5 NEPAL

### 2.5.1 Project Developments and Accomplishments

The IEES initial scope of work in Nepal was established during the visits of two IEES teams in 1985. Priority areas were collaboratively identified in January 1985 and were elaborated and refined by an IEES planning team working with MOEC and USAID Mission personnel in May and June 1985. These initial priority areas included: (a) improving the data management and planning capacities of the MOEC Manpower and Statistics Division; and (b) strengthening the evaluation capacity of the Radio Education Teacher Training Project (RETT II). A plan for initial IEES activities was prepared by MOEC officials and submitted to the Secretary of Education in June 1985. Collaboration with the IEES Project and plans for the first year were approved by the Government of Nepal (GON) in September 1985. These plans included the posting of a Resident Technical Adviser (RTA) to oversee implementation of IEES activities.

#### 2.5.1.1 Improving the Management Capacity of the Manpower and Statistics Division

The MOEC Manpower and Statistics Division labors under constraints associated with inadequately trained staff at the central, regional, and district levels. Particular problems which have been identified are: (a) headmasters and teachers do not fully understand the necessity of keeping accurate and up-to-date records on student enrollment and attendance, school characteristics, finances, etc.; (b) little formal coordination within the Ministry among the units and divisions which collect 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 results from these factors serves as a major constraint to planning.

To address these problems, technical assistance was inaugurated by IEES in January 1986. In-country training for six staff members of the Manpower and Statistics Division and ten of their counterparts in the MOEC regional and district offices was begun with the Introductory Information Management Workshop conducted by Michael Green and Frances Kemmerer of SUNYA and IEES RTA Barbara Butterworth.

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 the manpower requirements of the Manpower and Statistics Division and to outline future training priorities. They also produced a draft of a school survey questionnaire which has since been pilot-tested and prepared for national distribution.

Michael Green returned to Kathmandu in May 1986, to lead the Introductory Microcomputer Workshop for staff of the Manpower and Statistics Division of the MOEC. The Introductory Microcomputer Workshop prepared MOEC personnel for data management opportunities and for the eventual conversion of the Ministry's data storage and retrieval procedures to this technology.

#### 2.5.1.2 Strengthening the Evaluation Capacities of the Radio Education Division

Increases in both student enrollments and birth rates indicate that the MOEC will not be able to meet the demand for adequate numbers of trained teachers at the primary level for the foreseeable future. This continuing undersupply of qualified teachers forms the rationale for the

MOEC/USAID Radio Teacher Training Project (RETT II). Its aim is to enhance inservice teachers' knowledge in core subjects (mathematics, science, Nepali, and English) and, in so doing, to prepare them for the critical School Leavers Certificate (SLC) exam. Radio tuition in the core subjects will be phased in over a four-year period. Thrice-weekly broadcasts in English began on a pilot basis in May 1986. Two hundred teachers, concentrated in five of Nepal's seventy-five districts, are participating in the program during its pilot year.

IEES involvement in Nepal's Radio Education Division (RED), and specifically in the RETT II evaluation, are a direct response to requests made by the MOEC and the USAID Mission during the original planning exercises conducted by IEES personnel in January and May 1985. This involvement is base on three objectives:

1. To increase RETT II potential for success through the provision of additional human and financial resources. One of the weaknesses attributed to previous radio education in Nepal was the early abandonment of the formative research required to adjust the content and pacing of radio lessons to meet the needs and learning patterns of the target audience.

2. To ensure that appropriate emphasis is placed not only on faithful implementation of the RETT II multi-media learning package, but also on the range of formative and summative evaluation strategies necessary to guide future decision regarding radio education in Nepal.

3. To prepare a cadre of experienced evaluators within the RED, as well as within related government agencies, who would be capable of training others and of conducting a broad range of program evaluations in radio and other areas in the years ahead.

The design of RETT II calls for a multi-faceted evaluation program to be carried out by two groups: the research unit of the RED and the Research Centre for Educational Innovation and Development (CERID). A critical need foreseen by IEES personnel during their planning visits was to devise a unified evaluation plan that would prevent RED and CERID

researchers from working at cross purposes and that would ensure that data would be fed back into the system in timely and helpful ways. To accomplish this, a two-week 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 English series. Also reviewed were strategies for obtaining demographic, learning, and attitudinal data from the 200 teachers scheduled to participate in the program during the pilot year. By the end of the workshop, an Integrated Evaluation Plan had been outlined, specifying the variety of instruments which would be administered during RETT II first year, along with a tentative schedule for their administration. This outline was subsequently elaborated by RED and CERID personnel with the assistance of Dibya Man Karmacharya, Lecturer in Education at Tribhuvan University and local IEES consultant.

To solidify the RED-CERID relationship, and to address other issues pertaining to the conduct of the RETT II evaluation program in the pilot year, John Mayo of FSU visited Nepal in May 1986. During his visit, a special meeting of the RETT II Research Committee was convened. In addition to ratifying the Integrated Evaluation Plan as revised, the committee requested that IEES consultant Karmacharya continue to provide administrative liaison within the project, thereby enhancing the coordination of data gathering and the timely reporting of results. Furthermore, monthly meetings were scheduled for the Research Committee to monitor enactment of the research agenda and, where appropriate, to commission additional studies.

### 2.5.2 Plans for Project Year Four

Activities for the third year of IEES work in Nepal are based upon the Nepal Country Workplan which was developed by IEES, MOEC, and USAID Mission personnel in June 1986. That document outlines a range of IEES technical assistance and training activities which are planned to strengthen the MOEC planning, management, and evaluation capacities at various levels. For reasons discussed in the previous section, some of the tasks set forth in the workplan for the Third Project Year were postponed. These tasks have been rescheduled for the Fourth Project Year and are described below. In addition, an Educational EHR Sector Assessment has been added to the original list of major IEES activities planned to support the improving educational efficiency in Nepal. The assessment will be a major undertaking and will require approximately two months with five IEES consultants and the IEES RTA. The assessment is scheduled to begin in June 1987. The Sector Assessment will provide immediate and long-term improvements in the quality of data available for MOEC decisionmakers and their counterparts in the Nepal donor community. Along with the IEES work already underway within the MOEC Manpower and Statistics Unit, the Sector Assessment will advance Nepalese efforts to develop a unified strategy for collecting, interpreting, and reporting educational data in the future.

Activities which will be conducted as part of IEES assistance to Nepal during the next project year are discussed in detail below.

#### 2.5.2.1 Strengthening MOEC Planning Capacities

These activities are planned to improve MOEC planning capacities as determined collaboratively with government and Mission personnel and detailed in the Nepal Country Workplan for IEES activities.

On-the-job training in data collection and analysis. This on-going activity is enabling personnel of the MOEC Manpower and Statistics Section to acquire competencies in collecting, processing, and utilizing data for planning and policymaking. RTA Butterworth will spend approximately 60% of her time during in the next year providing tutorial instruction and consultative help to MOEC staff members in these skills. This careful and intensive assistance has proven to be the most effective approach for building MOEC capacity for data collection and analysis.

Second multi-level workshop on microcomputers and data analysis. This activity, originally scheduled for Fall 1986, has been rescheduled for Fall 1987. It is planned to assist personnel from the Manpower and Statistics Section and other MOEC units to acquire advanced competencies in the use of microcomputers to address policy questions. Michael Green (SUNYA), who conducted the initial microcomputer workshop in Nepal in May 1986, will conduct this more advanced, four-week workshop. The dates for this workshop will be scheduled after MOEC personnel have gained sufficient hands-on experience with the microcomputer which was installed in the MOEC last year. A second microcomputer and printer have recently been shipped to Kathmandu in order to increase access and practice time for MOEC officials.

Local training in computer operation, data collection and analysis. This on-going activity is assisting the Manpower and Statistics Section (and other relevant units) to train district supervisors in the collection of accurate, reliable, and timely data. RTA Butterworth and IEES Evaluation Specialist Karmacharya will continue to organize regional workshops for these purposes. In addition to developing survey instruments and data analysis procedures for ministry use, this activity also will

support elements of the MOEC/World Bank School Mapping Project and the IEES Policy Research Initiative in the area of Education Management Information Systems.

Short-term overseas training in data processing and analysis. Two short-term overseas training slots in data processing and analysis will be funded. One training slot will be fully funded by IEES and is scheduled to begin in January 1988. The second is funded primarily by the USAID Mission, with IEES providing airfare. This training will further strengthen MOEC capacity for data processing and analysis.

2.5.2.2 Strengthening MOEC Evaluation and Research Capacities

These activities support MOEC efforts to improve both evaluation and research capacities and were developed collaboratively in the Nepal Country Workplan.

Implementation of RETT II evaluation plan. This activity is derived from the Integrated Evaluation Plan for the Radio Evaluation Teacher Training II (RETT II) Project, which was developed in Fall 1985 and ratified in Spring 1986. IEES Evaluation Specialist Karmacharya will continue to spend 75% of his time coordinating this activity, taking into account whatever changes may be made in the design of RETT II and/or rate of expansion.

Evaluation Workshop II. This activity, originally scheduled for January 1987, was postponed due to the RETT II mid-project review sponsored by USAID/Kathmandu at that time. It will be rescheduled when a revised RETT II timetable has been established and permanent employees have been appointed to the Radio Education Division (RED) Evaluation Unit. The workshop will provide additional training in formative, summative, and cost analysis techniques to personnel involved in the RED evaluation activities.

This three-week workshop will be conducted by John Mayo (FSU), who conducted the previous workshop on this topic, and who assisted in the development of the RETT II integrated evaluation model.

Review of RETT II evaluation and training activities. This activity will provide ongoing review and adjustment of the RETT II evaluation plan. It will also identify training needs and, where necessary, suggest modifications in the roles and responsibilities of evaluation personnel based at the Research Centre for Educational Innovation and Development (CERID) and the RED. IEES activity in this area is coordinated by Mayo in consultation with RED leaders and advisors.

Participation in IEES Policy Research Initiative. This activity will facilitate MOEC participation in the IEES-sponsored, cross-national Policy Research Initiative in the area of Education Management Information Systems. Work on this topic is being directed by David Chapman (SUNYA) and Jerry Messec (FSU). It is being conducted by Nepali researchers based at the MOEC and at New ERA, a private Nepali research firm, and will continue through March 1989. This research, which is further described elsewhere in this document, will increase MOEC capacity for policy-oriented research and provide recommendations for improving information management within the Ministry.

Technical assistance to the School Mapping Project. This activity will assist the MOEC Division of Planning in conceptualizing and carrying out the School Mapping Project, which is funded by the World Bank. IEES contributions to the study will be overseen by RTA Butterworth and may eventually involve additional technical advisors from Nepal and elsewhere.

2.5.2.3 Improving MOEC Educational Policies and Procedures

Conduct of an Education Sector Assessment. In accord with sector assessment strategies developed by the IEES Project and carried out by its representatives in Yemen, Indonesia, and Haiti in recent years, a two-month study of selected aspects of the Nepal educational system will be undertaken, beginning in June 1987. Topics identified for intensive study include: primary and secondary schooling, management, teacher training, donor coordination, and nonformal education, as well as macro- and micro-economic efficiency. The team will be lead by Victor Cieutat (IIR). He will be assisted by five IEES staff (or consultants), including RTA Butterworth. The team is further described in the staffing section of this report. The team will closely coordinate its efforts with MOEC representatives.

2.5.2.4 General Activities

Assistance in Project Formulation. This activity will provide assistance to the Planning Division of MOEC in the preparation and/or review of proposals and plans for various projects funded by external donors. This will require only a small fraction of the RTA's and the IEES Evaluation Specialist's time.

Revision of the Nepal Country Workplan. This activity will identify, develop, and specify IEES Project activities for the remainder of the project to ensure that they are responsive to Nepal's emerging educational needs. It will occur upon completion of the Sector Assessment and will involve a two-person IEES Planning Team and the RTA, working in collaboration with MOEC and USAID Mission personnel.

### 2.5.3 Staffing Requirements

The principal role of the IEES RTA in Nepal is to enhance the continuity and impact of the IEES activities already underway, as well as those which will be added in the coming year. As outlined above, RTA responsibilities include the development and execution of many workshops and other training activities identified in the Nepal Country Workplan. Furthermore, the RTA works closely with Nepali counterparts to ensure development of the latter's managerial and research capacities. Since arriving in Nepal in February 1986, Barbara Butterworth has ably carried out the multi-faceted activities collaboratively developed in the IEES Nepal Country Workplan. During the Fourth Project Year, the RTA will:

1. devote approximately 60% of her time to the Manpower and Statistics Division, where she will coordinate, implement, and provide continuity among the discrete activities designed to strengthen the Division's capacity to collect, analyze, and disseminate information on the characteristics of the national school system;

2. work 10% of the time with the RETT II Project Research Committee and the RETT II staff to coordinate, implement, and provide continuity among the training and evaluation activities designed to optimize the project's effectiveness;

3. contribute 15% of her time to the forthcoming sector assessment by assisting Cieutat and other team members in gaining access to key MOEC decisionmakers, documents and data, and by assuming prime responsibility for one chapter of the report; and

4. work 15% of the time with the IEES Policy Research Initiative team, with the MOEC and with other agencies in developing plans for future research and training activities.

Dibya Man Karmacharya will assist RTA Butterworth in the development of all IEES activities in Nepal throughout the Fourth Project Year. Karmacharya will continue to devote most of his time (approximately 75%) to coordination of the RETT II evaluation. The balance of his efforts will be spent on IEES research and training activities within the MOEC.

The following chart summarizes IEES staffing requirements for Nepal in the Fourth Project Year, exclusive of any activities which may be added as a result of a revised country workplan which will be completed following the sector assessment.

| Activity | IEES Technical Assistance | Month |
|---|---|---|
| Training Personnel within the Manpower and Statistics Division | 7.2 mos. (Butterworth)<br>1.0 mos. (Karmacharya) | ongoing |
| Assisting RETT II Evaluation Program | 1.2 mos. (Butterworth)<br>10.0 mos. (Karmacharya) | ongoing |
| Planning and Liaison Activities with IEES Policy Research Team, MOEC, USAID, and Donor Agencies | 1.8 mos. (Butterworth)<br>1.0 mos. (Karmacharya) | ongoing |
| Microcomputer Workshop 2 | 1.0 mos. (Green) | Fall 1987 |
| RETT II Evaluation Workshop & Review | 2.0 mos. (Mayo) | Summer/Fall 1987 |
| Sector Assessment | 3.0 mos. (Cieutat)<br>3.5 mos. (Pigozzi)<br>1.5 mos. (McMahon)<br>1.8 mos. (Kraft)<br>1.8 mos. (Axinn)<br>1.8 mos. (Butterworth) | July-August 1987<br>" "<br>" "<br>" "<br>" "<br>" " |
| Country Workplan Revision | 3.0 mos. (To be decided) | Fall 1987 |
| Policy Research Initiative | 1.0 mos. (Messec) | Summer/Fall 1987 |

### 2.5.4 Issues and Discussion

A variety of training and evaluation activities have been initiated by the IEES Project in Nepal in collaborating with and strongly supported by the MOEC. Full realization of IEES goals continues to be handicapped by program and staffing uncertainties within collaborating units of the MOEC and by the time which is required in order to diffuse any innovation beyond

the bureaucratic confines of Kathmandu. IEES continues to be realistic in its expectations, focused in its their efforts and, perhaps most importantly, prepared to invest a great deal of time in day-to-day training sessions with Nepali counterparts. IEES representatives Butterworth and Karmacharya have achieved excellent working relationships with MOEC personnel, as well as with representatives of the international donor community in Nepal. Progress remains slow but steady.

The transfer of Ishwar Upadhya from the post of Joint Secretary for Planning to the National Office of Examinations was a blow to IEES initiatives. More than any other Nepali official, Upadhya was the architect of IEES activities in Nepal. He was responsible for vital elements of both the information management and the radio education activities over the past two years. Furthermore, as Nepal's representative on the IEES International Steering Committee, he had gained insight into IEES objectives and aspirations across the collaborating countries.

Kasab Nepal, the new Joint Secretary for Planning, attended the Second IEES International Conference in Indonesia in February 1986, which informed him about IEES strategy and the implementation of program components in collaborating countries. Numerous new data management and analysis procedures have been adopted by the MOEC Manpower and Statistics Section. District authorities have been trained to gather and report school-level data in ways that have already enhanced the accuracy of MOEC educational analyses and projections. At the same time, continuous technical assistance and training, as well as much more hands-on experience at all levels, is required before the new techniques can be expected to take root and become self-sustaining.

The nature of IEES evaluation design and training efforts in the MOEC RED remains in suspension, pending resolution of the many problems recently identified by the RETT II mid-project review. The current priorities assigned to teacher training and tuition may be modified or even abandoned in favor of a more direct role for radio in classroom instruction. It is clear that the RED will require an enhanced, in-house evaluation capability, one which resident IEES advisors and backstop personnel can help to provide.

The major addition to the IEES Nepal Country Workplan for the coming year will be the conduct of the Education Sector Assessment. As both process and product, this activity can focus thinking on improving educational efficiency and become the basis of educational planning in Nepal in coming years. To do so, the assessment will have to engage levels of the MOEC leadership (and that of other agencies) in ways they have not previously been engaged. Historically, externally-funded and staffed assessment and feasibility study teams have visited Nepal, conducted intensive investigations, and communicated their results and recommendations in lengthy reports which were only partially understood--and rarely acted upon--by local authorities. For this reason, an important indicator of the forthcoming sector assessment's success will be the degree to which the process genuinely engages Nepali officials in the conduct and interpretation of the data. Such engagement will provide the basis for a continuing policy dialogue among the MOEC, USAID, and the entire donor community, thereby enhancing the chances for significant educational reform in the future.

## 2.6 ACTIVITIES IN SOMALIA

### 2.6.1 Project Developments and Accomplishments

Ministry of Education (MOE) plans for qualitative improvement in the EHR Sector were seriously disrupted by the August 1986 decision of the World Bank and USAID to postpone project support for education. This decision was prompted in part by the GSDR's own preference for investments in the immediately productive sectors and in part by uncertainty concerning the potential effectiveness of further investments in the EHR sector.

While the new donor projects by themselves would not have solved the problems facing the education sector in Somalia, the absence of support has greatly exacerbated the MOE's fiscal and management constraints on stopping further sector decline, and has halted all hopes of reversing it. Nowhere have these constraints had more impact than in the primary subsector. Over the past two years, enrollments in primary schools have declined by 8%. Forty-three elementary and 37 intermediate schools have been closed. Extremely low teacher salaries have resulted in high rates of teacher absence. Recent studies have reported that few schools have textbooks or other necessary instructional materials.

In response to these circumstances and the resulting sector decline, an IEES team in August 1986, composed of Douglas Windham and Frances Kemmerer of SUNYA, Jerry Messec of FSU, and S. Thiagarajan of IIR, assisted the Ministry of Education in developing a Transitional Strategy for Primary Education. The strategy was first labeled "transitional" to signify that it was not a replacement for the MOE's long-term goal of establishing a professional teaching corps to work in well-furnished and equipped schools. As the strategy was developed during subsequent IEES assistance in 1986 and early 1987, it was renamed Integrated Strategy for Primary School Improvement

to emphasize that it was an integral part of MOE planning. The essence of the strategy is to provide a mechanism for ensuring that the inputs to schooling which are already available (teachers, textbooks, and supervision) reach the classroom.

### 2.6.2 Plans for Project Year Four

IEES, MOE, and USAID Mission have jointly established a single overriding objective for all IEES assistance in Somalia during Year Four. This objective is to assist the Ministry in carefully preparing for the implementation of the Integrated Strategy for Improving Primary Education (ISIPE). ISIPE strategy, as described in the previous section, is based upon the maximization of available inputs. The success of the projected ISIPE implementation (one year from now) is, therefore, dependent on both skilled project management and efficient allocation of existing resources.

The operation of this initiative, whose strategy places it near the frontier of technical efficiency, demands increased and more reliable data on students, teachers, the distribution of textbooks, the efficacy of the new textbooks and inservice training, and the Ministry's own expenditures on schooling by level and type. In addition to improvements in the quality and quantity of information available to the Ministry, improvements will be needed, as implementation expands, in the portion of the teacher incentive system controlled by the Ministry, particularly in performance standards, and textbook production and distribution.

The proposed Project Year Four activities described in the next section are designed to provide support to the Ministry efforts to realize this set of objectives. Since IEES resources are small relative to this

task, IEES will continue to assist the Ministry in seeking the support of other donors assisting the education sector in Somalia.

2.6.2.1 Detailed Plans for Year Four Activities

Training Activities

1. Assistance in the Preparation of Inservice Teacher Training Subject Matter Modules in Somali and Mathematics and Assistance in the Revision of Teacher Guides (6 pm, RTA)

Teacher subject matter competency and the availability of high quality programmed teacher guides are essential to improving the quality of classroom teaching. The IEES Project will support a new RTA who will spend approximately six months of her time training Department of Teacher Training personnel in the design and development of inservice training modules in Somali and mathematics and assisting CDC staff in the revision of teacher guides, where such revision in necessary to improve effectiveness and efficiency. Shirley Burchfield has been selected for this position and will begin work as IEES RTA in Somalia in July 1987.

2. Instructional Design Workshop (.75 pm, RTA; .75 pm, STTA)

The work on the inservice teacher training modules will begin with a ten day workshop for Teacher Training Department personnel. It will be jointly conducted by the RTA and a short-term technical advisor (instructional design specialist) in order to maximize continuity between the work done in 1986 and the development of the modules. The workshop will result in a detailed scope of work for development of the Somali and Mathematics Inservice Training modules, a format for their development, and a timeline for their completion.

3. Introductory Computer Training Workshops 1 & 2 (RTA support)

The introductory computer training provided during Years One and Two

of the project by short-term technical assistant will be repeated for Administration, Board of Examiner, and CDC personnel. The workshops will be conducted by Planning Department with support from the RTA. The first workshop will cover care and maintenance of the computer and an introduction to and practice in Multimate, a word processing program modeled on the WANG word processing program. The second workshop will be devoted to the use of Lotus 1-2-3, a data management program. Between workshops, hands-on assistance will be provided to the Administration and CDC by two Department of Planning personnel. One of the workshops will be funded with CIPL funds requested by IEES on behalf of the Ministry of Education.

4. Primary and Secondary Headmasters Workshops (RTA support)

CIPL funds have also been approved for training workshops for primary and secondary headmasters. These workshops will be designed by Planning Department, Teacher Training Department, and CDC personnel to support the testing of the Integrated Strategy in selected classrooms in Mogadishu. The workshops will emphasize the headmaster's role as instructional leader in the school and provide intensive training in classroom observation and teacher feedback skills.

Research and Development Activities

5. Assistance to the MOE in the Preparation of the World Bank Proposal (1 pm, RTA; 3 pm, STTA)

If during the coming project year, the MOE is invited to submit a full proposal to the World Bank for a Fifth Education Project, the IEES Project will to assist in proposal development.

6. Strengthening the Administration Department and Board of Examiners Capacity for Data Analysis (1 pm, RTA)

The MOE has identified major data needs that have not been addressed and indeed cannot be addressed effectively with the low level of technology available to the Administration Department and the Board of Examiners. Chief among these needs is estimation of recurrent expenditures by level of schooling and category (teachers, instructional materials, etc.) and information on the number, location, and status of teachers (full-time, part-time, active, inactive). Ready access to the latter is a necessary prerequisite to ensuring that all assigned teachers are in fact currently serving. Both detailed financial records and teacher records are necessary for the full implementation and monitoring of an integrated strategy for primary education.

Similarly, routine and systematic analysis of the results of the elementary and intermediate school leaving examinations is important for both the planning of inservice teacher training and the textbook and teacher guide work undertaken at the CDC.

To assist the MOE in this area the IEES Project will provide the MOE with a microcomputer with a 20 megabyte hard drive, printer, stabilizer and appropriate software to be shared by the Administration Department, the Board of Examiners, and others with large data sets. The new equipment will be housed in the Ministry's computer room. Training in the use of the computer will be provided by already trained Planning Department Personnel (see Introductory Computer Workshops 1 & 2).

The RTA will spend the equivalent of one month's time over the project year assisting the Administration Department and the Board of Examiners in designing the structure of their computer files in order to ensure ready access to the data needed.

7. Technical Assistance to the CDC in the Creation of a Materials Evaluation Unit (1 pm, STTA)

The CDC designed the New Reform Curriculum and translated that curriculum in textbooks for Grades 1 through 4. Many of the teachers guides have also been prepared for the elementary subjects. Work is now underway on textbooks for the intermediate grades. The heavy press of text production has meant little attention was devoted to the systematic, formative evaluation of the textbooks.

The CDC views the development of a capacity for systematic materials evaluation as fundamental to both its mission and the successful implementation of the Integrated Strategy. The IEES Project will provide an instructional design specialist to assist the Director of the CDC in realistically assessing the Department's evaluation need and designing a formative evaluation system which feeds back into revision activities. He will also provide hands-on training for CDC staff in the construction and use of evaluation instruments, the analysis of the data, and the translation of conclusions into revised text. The workshop component of this activity will be ten days with two days in the field; one day for the testing of instruments and a second day for collecting data.

8. Increasing the Efficiency of Textbook Production at the CDC

The Integrated Strategy for Primary Education, which was proposed by the IEES Project and which now forms the basis of the World Bank Action Plan, is a materials-based program for improving the quality of instruction which Somali children receive in the schools. At the present time, the processing of pages of texts from first to final draft requires repetitive typing and layout is done by hand. In addition, the CDC does not now have

the technological capacity for detailed analysis of the field-based testing of its material.

The IEES Project will provide the CDC with a microcomputer, laser printer, stabilizer, and word processing, data management, and desktop publishing software. Training in basic computer literacy and the use of the word processing and data management programs will be provided by Planning Department personnel (see Introductory Computer Workshops 1 & 2). The requirements of desktop publishing suggest that training in this area be postponed until Year 5 (June 1988). At that time, the personnel at the CDC will be versed in the necessary prerequisites. UNICEF will provide the supplies needed for the computer and printer in conjunction with other support given to the MOE.

9. Assistance to the Planning Department for Increasing Its Management Capacity for Project Design, Development, and Implementation (RTA, 2.5 pm)

Successful implementation of the Integrated Strategy and all other programs will depend, to a large extent, on the Planning Department's capacity for design of a detailed plan that: (a) assigns responsibilities to appropriate department heads; (b) includes development of monitoring and evaluation mechanisms; and (c) provides opportunities for swift corrective action. The RTA will spend approximately 2.5 months assisting the Planning Department in developing the institutional capacity for project preparation, development, and implementation and redesigning the statistical yearbook.

10. Policy Research Initiative Studies (3 pm, STTA)

Somalia is one of two countries participating in two of the IEES Policy Research Initiative studies. The policy research studies are

crossnational, 2-year activities designed to address specific policy issues. The MOE opted to participate in the Education Management Information Systems (EMIS) and the Teacher Incentive Systems research projects. The EMIS Policy Research Initiative is designed to identify each participating country's strengths and weaknesses in the collection of reliable and valid data needed for policy analysis. The policy questions which will be addressed not only at the central level but also at the regional, district, and school levels include but are not limited to the following: Who decides what data to collect? Who collects the data? What incentives/disincentives are currently in the system for collecting reliable and valid data? Who decides what type of analysis will be carried out? Who uses these analyses and for what purpose?

The other two countries participating in the EMIS research are the Yemen Arab Republic and Nepal. Ali Hassan Gaal, Director of Planning, Ministry of Education, serves as the Country Team Leader for the initiative and David Chapman of the State University of New York at Albany and Jerry Messec of Florida State University serve as Project Team Leaders.

The purpose of the Teacher Incentive Systems Policy Research Initiative is to address policy questions related to the recruitment and retention of teachers in the primary subsector. A background paper for the study in the GSDR was prepared in August 1986. The study will identify existing incentives/disincentives for primary teaching for individuals with different characteristics, teacher's preferences related to non-salary incentives (food, housing, instructional materials, opportunities for professional growth, career development, etc.), the reasons why former teachers left teaching, etc.

The other two IEES countries participating in the study are the Yemen Arab Republic and Liberia. Hussein Mohamed Said, Director General, Educational Development, Ministry of Education, is the Country Team Leader for the Study and Sivasailam Thiagarajan of IIR and Frances Kemmerer of SUNYA are the Project Team Leaders.

Both studies have fieldwork components. The sites selected for the implementation of the Integrated Strategy will also serve as field sites in order to maximize the information the MOE has on the selected districts, as well as provide MOE personnel with greater opportunities to monitor and evaluate the implementation.

Generic IEES Activities

11. Resident Technical Advisor (11 pm, RTA)

IEES will place a new Resident Technical Advisor, Shirley Burchfield, in Mogadishu in July 1987. The estimated allocation of the RTA's time is as follows:

- 6 person months providing training to Teacher Training Department personnel in the design and development of inservice training modules and assisting the CDC in the revision of teacher guides, as necessary;
- 1 person month assisting the MOE in developing a proposal for the World Bank;
- 1 person month assisting the Administration Department and the Board of Examiners in structuring their data bases;
- 2.5 person months assisting the Planning Department in designing a management system for the implementation of the Integrated Strategy; and
- 0.5 person months on IEES Country Implementation Plan development.

To ensure a smooth transition between RTAs, Mark Berger, the current RTA between Project Years 2 and 3, will return to Mogadishu for the orientation of the new Resident Technical Advisor.

12. Revision of Somalia Country Implementation Plan for IEES Activities Development (.5 pm, RTA; .5 pm STTA)

The formulation of Year Five Activities will take place toward the end of Year Four. This fifth annual Country Implementation Plan will be based on judgments related to the relative success of the training, research, and development activities carried out in the fourth year (June 11, 1987 - June 10, 1988).

### 2.6.3 Staffing Requirements

The staffing requirements for Year Four activities are summarized in the Table 6.1.

### 2.6.4 Issues and Discussion

The two goals of the IEES Project in Somalia are to assist the government to: (a) increase its capacity to plan, develop, deliver, and monitor quality programs in the area of EHR development; and (b) improve both the internal and external efficiency of its educational system. Target opportunities within these two areas were selected on the basis of the findings and recommendations of the GSDR/IEES sector and subsector research. The most appropriate opportunities for IEES assistance are described below.

The EHR Sector Assessment and the School Quality Enhancement study concluded that the management problems experienced by the MOE stem from at least four sources: (a) the rapid growth of the education system; (b) poor transportation and communications infrastructures which make it difficult and, at times, impossible to supply schools and communicate with regional and district offices; (c) the lack of management training of Ministry and personnel; and (d) the lack of reliable information on which to base decisions.

TABLE 6.1

Staffing Requirements For Year Four Activities

| | | |
|---|---|---|
| 1. | Assistance in the Preparation of Inservice Teacher Training Modules | 6 pm, RTA |
| 2. | Instructional Design Workshop | .75 pm, RTA; .75 pm, STTA |
| 3. | Computer Training workshops 1 & 2 | RTA support |
| 4. | Primary & Secondary Headmasters Workshops | RTA support |
| 5. | Assistance in the Preparation of the World Bank Proposal | 1 pm, RTA; 3 pm, STTA |
| 6. | Assistance to the Administration Department & the Board of Examiners | 1 pm, RTA |
| 7. | Technical Assistance to the CDC for the Creation of a Materials Evaluation Unit | 1 pm, STTA |
| 8. | Increasing the Efficiency of Textbook Production at the CDC | RTA support |
| 9. | Assistance to the Planning Department in Developing a Project Management System | 2.5 pm, RTA |
| 10. | Policy Research Initiatives | 3 pm, STTA |
| 11. | New RTA | .75 pm, STTA (Berger) |
| 12. | Country Implementation Plan Development Improved Management Capacity. | .5 pm, RTA; .5 pm, STTA |

The MOE is the largest civilian ministry in Somalia, employing nearly half of all civil servants. The rapid growth of the Ministry, from 2,900 employees in 1969 to 22,650 in 1983, resulted in the promotion of individuals with little or no management training into administrative positions of considerable responsibility at all levels of the educational system. This lack of trained administrators inhibited the development of an effective management system within the Ministry even as the rapid growth of the system posed more complex problems of coordination and information flow.

The need for development of more effective management structures has long been recognized by the leadership within the Ministry. The major impediments to the development of such a system have been (a) the lack of reliable, current, and appropriate data on enrollments, the quantity and quality of teachers actively serving, and material resources, and (b) the scarcity of personnel trained in the appropriate type of analysis to assist in the formulation and evaluation of policy alternatives responsive to trends in the parental demand for children's schooling and in the labor market demand for individuals with primary, secondary, and vocational/ technical certificates.

While substantial progress has been made during the past three years in reducing the constraints on effective management, particularly in planning and evaluation, at the central level, a scarcity of trained individuals continues. Scarcity carries with it the danger that critical skills will be lost if trained personnel choose to leave the Ministry. Moreover, the value of a cadre of highly skilled personnel at the central level is reflected in the opportunity it creates to effectively train regional, district, and school level personnel.

Improved Resource Allocation. Reduction of the constraints governing the development of an effective management system is a necessary first step in improved resource allocation procedures. Improvement in resource allocation procedures is particularly critical given the continued economic environment for education. Improvements are needed in financial accounting, rationalization of MOE expenditures, rationalizations of positions and functions in MOE, and budgeting.

Quality Enhancement of Primary Schooling. The continued decline in the demand for schooling particularly primary schooling, regardless of its causes, provides the opportunity for quality improvement that was not possible when the educational system was larger. Given the centrality of primary education to later academic achievement, quality enhancement of primary schooling is critical not only because it is the only schooling most of the population will receive, but also because the quality of primary schools is a determinant of improved health, well-being and economic productivity, as well as secondary school achievement. There can be little doubt that the secondary curriculum is now being sacrificed to remedial work. The knowledge that the deficits of primary education are exported to all higher levels of education, as well as to the labor market, suggests that all educational reform has to start at the lowest level.

The IEES focus on improved management capacity, improved resource allocation procedures, and quality enhancement of primary education are consistent with the priorities of the MOE and complementary to those of other donors in Somalia.

## 2.7 YEMEN ARAB REPUBLIC

This section of the IEES Project Plan sets forth the opportunity targets and their accompanying strategies, identified within the context of the Yemen Arab Republic (YAR), to achieve the overall goals within the conceptual framework of the IEES project. These targets and strategies are planned to improve the efficiency of resources allocation within the education and human resources (EHR) sector of the country. The IEES Project activities are also directed at institutionalizing within the YAR the capacity to establish and maintain a fully integrated and systemic approach to assessing, planning, and managing an efficient and effective human resources development domain.

The first section below (2.7.1) summarizes IEES activities in Yemen for the first three project years, from inception through June 10, 1987. The second section (2.7.2) describes the activities proposed by the project staff for the Fourth Project Year. (These activities are described in detail in the 1987 Yemen Country Implementation Plan for IEES Activities, which was completed in May of 1987). The staffing requirements for the fourth year are given in the next section (2.7.3), and this is followed by a discussion of issues (2.7.4) related to project activities in the YAR.

The activities proposed for assistance to the YAR for the Fourth Project Year are coordinated with and follow from the activities that have taken place during the first three years of project activities. These are coordinated around basic themes identified in the Yemen EHR Sector Assessment which was conducted in the Fall of 1984. Results and recommendations of the sector assessment form the basis for the identification and justification of the highly-leveraged activities for IEES assistance. These thematic objectives have continued to govern the selection of activities to

date, as well as those proposed for the Fourth Project Year, as described more fully in the following sections of this Project Plan.

### 2.7.1 Project Developments and Accomplishments

Target Opportunities. There are two overriding goals for the IEES Project in Yemen. The first is to assist the government to increase its capacity to plan, develop, and monitor quality programs in the area of education and human resources development. The second is to improve both the external and internal efficiency of the nation's educational system. The specific needs of Yemen within these two areas were identified through the EHR Sector Assessment, which was conducted in the Fall of 1984, and extensively reviewed with government officials in the Fall of 1985. The Executive Summary of the assessment was translated into Arabic by the government and has been widely used as a planning and policymaking document. The six major challenges to development were identified by the assessment as the following.

1. Shortage of current, reliable, and appropriate data on which to base planning decisions; problems of data quality, availability, and utilization.

2. Imbalances in access to schooling, particulars between males and females.

3. High attrition and repetition rates, particularly at the primary level.

4. Lack of effective incentives to retain teachers.

5. Financial consequences of Yemenization of the teaching force.

6. Improvements needed in the quality of instruction.

Based on the findings of the sector assessment and the subsequent sector assessment review by government officials, the most appropriate opportunities for IEES assistance are in the following three areas:

1. Improved planning and management of education and human resources development, particularly in the Ministry of Education (MOE), the Educational Development and Research Center (EDRC), and the Ministry of Civil Service and Administrative Reform (MOCSAR).

2. Teacher recruitment, training, and retention.

3. Literacy and income production training, particularly as this can be accomplished through nonformal education. This area of concern will be addressed during the early years of the IEES Project through long-term planning activities.

Instructional materials development, production, and implementation were also identified in the sector assessment as comprising a priority area for technical assistance. However, USAID/Yemen and the YAR government already have developed and approved a bilateral curriculum implementation project to address important needs in this area. Consequently, the IEES Project will concentrate its efforts and resources on the three areas identified above. Where appropriate, IEES activities will be designed and scheduled to support and assist the activities of the bilateral primary education project. The rationale for selecting these areas is discussed below.

Improved Management of EHR Development. The management challenges to the MOE cited above flow from three major sources: (1) the rapid growth of the education system; (2) the need for more administrative and management training for school level and ministry level personnel; and (3) the shortage of reliable information on which to base policy and planning decisions. Between school years 1973/74 and 1981/82, primary school enrollments in the YAR increased by an average annual rate of 32.7%, a rate that would strain the financial and administrative capacity of even a highly developed country. From 1982/83 to 1994/95, primary enrollments are projected to increase at an even greater rate from 602,202 to 2,546,374 students. En-

rollment increases at the preparatory and general preparatory levels are estimated to be as high as 454% and 590% respectively. Not unexpectedly, this rapid growth has exceeded the capacity of the MOE to supply schools with sufficient numbers of Yemeni teachers and administrators.

The sector assessment found that, while the quality of management within the EHR ministries and higher level institutions is of critical concern, the major administrative problem in the EHR system is the need for improved leadership at the primary, preparatory, and secondary schools. The problem is particularly dramatic at the primary level where many schools have no designated administrator and very few have a full-time administrator. This has a depressing effect on student and teacher morale and discipline, detracts from data collection activities, and is a barrier to improved implementation of the national curriculum. The sector assessment recommended that inservice teacher training focus on principles and practices of educational administration.

A similar problem is encountered at the Local Education Centers and the Governorate Education Offices (GEOs). Those agencies presently lack sufficient manpower, supervisors have not received appropriate training, and the shortage of transportation seriously hampers supervisor visits to local schools.

The need for more effective management is recognized by the leadership within the MOE. However, two factors restrict the development of an effective management system: a lack of reliable, current, and appropriate information on the current status and trends in education enrollments, resources, and national labor supply and demand; and a lack of personnel trained to assist with the preparation and evaluation of policy alternatives in response to the identified trends.

Teacher Recruitment and Retention. The need for a rapid increase in the number of Yemeni teachers comes from three major sources. First, school enrollments are growing rapidly, resulting in an increasing demand for teachers at all levels. Second, attrition of Yemeni teachers has been high due to alternative and more highly paying employment opportunities available to trained personnel. Third, the majority of teachers are non-Yemeni.

The MOE is committed to a policy of Yemenization of the teaching force. The importance of this policy is heightened since an increasing number of expatriate teachers have become the direct financial responsibility of the government in recent years. The combined effect of these factors is a severe shortage of Yemeni teachers. The present system of teacher preparation almost certainly will not be able to meet these new demands. At the preparatory and secondary levels, the present system will be unable to meet even the replacement needs of teachers at all schools.

The government is implementing two strategies to encourage students to enter and remain in teaching careers. First, rather substantial stipends were introduced in 1981 to attract students into teacher training. This incentive system has been successful in attracting entrants into teacher training at the Teacher Training Institutes (TTI) and the University and also into teacher retraining programs. However, while providing a strong rationale for participation in teacher training, these incentives may not reduce attrition among teachers who have already completed their training. As a second strategy to help reduce teacher attrition, the government in 1985 issued a decree reducing the opportunities for teachers to be employed by private or public agencies other than the MOE. The impact of this policy on teacher supply has not yet been determined.

Literacy and Income Production Training. The 1975 census estimated that only 13% of the population was functionally literate. This low level of literacy poses a serious impediment to the development of the modern sector of the economy. Consequently, the government has assigned considerable importance to nonformal education as a means of increasing literacy, both in the adult population and in the large population of school age children (over 50%) who do not achieve literacy within the formal system. Two programs have been undertaken, the National Literacy Campaign (NLC) and the District Training Centers (DTC).

The NLC emphasizes literacy, numeracy, and religious studies. It takes two years to complete with an additional two-year follow-up course available. Due to financial limitations, it has so far offered only limited skill training. The long duration of the training, and limited skill training offered with the literacy and numeracy training, has resulted in lower enrollments and higher attrition than anticipated.

The DTC program lasts eight months and combines literacy, numeracy, and skill training. In this respect, it is more responsible to client interests than the NLC program. However, the high costs of the DTC's are more representative of cost levels associated with the formal education system than nonformal.

To achieve government objectives, it is essential that the NLC and DTC programs develop instructional strategies that are realistic in terms of government resources, client interests, and the social and economic needs of the nation. Government should give serious consideration to expanding all literacy programs to include basic skills training and to emphasize functional literacy rather than formal school equivalence.

The IEES focus on these three areas--improved management of EHR development, teacher recruitment and retention, and literacy and income production training--is consistent with the priorities of the government, given that a curriculum enhancement project is being undertaken under a separate bilateral agreement between the government and USAID/Yemen. Further, these activities are complementary with other activities of USAID/Yemen and other major education sector donors.

The research, development, and training conducted through IEES activities will support and enhance the curriculum implementation activities of the bilateral curriculum project. This support is already underway as the results from the sector assessment have directly contributed to the curriculum project planning. IEES also provided an economist to participate on the project paper design team for the curriculum project. This support will continue with other IEES activities. Studies conducted by the IEES Project, such as the impact of salary level on teacher attrition, or the types of employment secured by secondary leaders, will contribute to the planning and implementation of the bilateral curriculum project. As appropriate, the IEES Project will collaborate more closely with the bilateral project, particularly in the conduct of studies identified to support curriculum planning and improvement activities at the school, regional, and central ministry levels.

This section has identified three areas of opportunity for IEES activities in the YAR. The next section discusses more specific objectives of the long-term IEES work and from that discussion that derives a detailed plan for the fourth year activities to improve educational efficiency in Yemen.

Objectives. The proposed objectives for the IEES Project work in the YAR are presented immediately below within the three targets of opportunity identified above. These objectives will be further elaborated upon and additional objectives will emerge from continued IEES work in the YAR. This will occur both because of rapid economic and social changes underway in the country and because of new insights that government staffs and project personnel develop over time. The eight activities addressing these three targets of opportunity are summarized below.

Improved Management of EHR Development. The first five objectives focus on improved management of development within the education and human resources sector. These five objectives set forth below are described in greater detail in the 1987 Yemen Country Implementation Plan for IEES activities (April 1987).

Objective 1: Assist the MOE with long-term planning for the education sector.

Objective 2: Assist the MOE design, implementation, and use a national education information system.

Objective 3: Analysis of MOE organization, operation, and preparation of proposals for realignment; and preparation of workplan for an MOE organization and training needs assessment.

Objective 4: Improve the capacity of the MOE and the ERDC to conduct research, planning, implementation, and evaluation activities.

Objective 5: Assist the Ministry of Civil Service and Administrative Reform (MOCSAR) to improve the quality of information on the relationship between education and training to employment.

Teacher Recruitment and Retention. Objectives 6 and 7 support the target of improving teacher recruitment and retention. They are also

described in detail in the 1987 Yemen Country Implementation Plan for IEES activities.

Objective 6: Assist the MOE to identify, design, and implement specific strategies to increase the recruitment and retention of Yemeni teachers.

Objective 7: Assist 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. The eighth and final objective is focused on literacy and income production training.

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

Summary of Activities Completed Through Year Three. Table 7.1 summarizes all IEES activities in the YAR for the first three years of IEES assistance (1984-1987). These activities are described more fully in the previous Yemen workplan, Yemen Arab Republic Country Implementation Plan (February 1986).

TABLE 7.1

Country Plan Activities (1984-1986)

| Date | Activity | IEES Staff | Coordinating Agency |
|---|---|---|---|
| October-November 1984 | Prepare draft Education and Human Resources Sector Assessment | D. Windham<br>F. Kemmerer<br>J. Applegate<br>D. Chapman<br>W. Howard<br>H. Nassif<br>M. Riyani | Ministry of Education (MOE) and Educational Research and Development Center (ERDC) |
| January 1985 | Distribution of draft sector assessment and Arab language version of Executive Summary | D. Windham<br>F. Kemmerer | Ministry of Education |
| October-November 1985 | Revision of draft sector assessment | D. Windham<br>D. Chapman<br>M. Riyani | Review committee chaired by Deputy Minister Abdoraboh Garadah |
| January 1986 | Publication of sector assessment | D. Windham<br>D. Chapman | Ministry of Education |
| February 1986 | Country Implementation Plan | D. Chapman | Deputy Minister Abdoborah Garadah |
| February-March 1986 | Training workshop for computer operation and data coding | R. Boothroyd | MOE Statistics and Planning Office and ERDC |
| April-May 1986 | Data assistance: MOE Five-Year Plan | D. Windham<br>J. Messec | Ali Ahmed Al-Komeim Director General of Technical Affairs; Hamud Abdu Naji, Chief of Statistics and Planning Office |
| May-June 1986 | Phase II of Data assistance activity (in Albany, NY) | J. Strudwick | MOE Statistics and Planning Office |
| June-July 1986 | Phase III of Data Assistance Activity (including enrollments and teacher requirements projections) | J. Strudwick | MOE Statistics and Planning Office |

| Date | Activity | IEES Staff | Coordinating Agency |
|---|---|---|---|
| July 1986 | Data processing/micro-computer workshop (in Albany, NY) | M. DeMasi<br>R. Boothroyd<br>J. Kaufman<br>A. Lobosco<br>W. Tehyuan | YAR Participants:<br>Hassan Ali Abdulmalik<br>Samira Abdul Kader<br>Ghaleb Hamood Sultan<br>Abdul Baki Anam<br>Ali Mohamed Al Kowri<br>Hamud Abdu Naji |
| July-August 1986 | (A) Design of Educational Management Information System | D. Chapman<br>C. O'Brien | MOE |
| | (B) Planning of training needs assessment | D. Chapman<br>C. O'Brien | Ministry of Civil Service and Administrative Reform |
| | (C) Manpower planning exercise | C. O'Brien | Ministry of Agriculture |
| November-December 1986 | Economic and financial analysis of USAID/YAR Project Paper | S. Hoenack | MOE |
| November 1986 | Policy Research Initiative on Eductional Management Information Systems (in Kathmandu, Nepal) | D. Chapman<br>D. Windham | Kassim Berihe; Sana'a University (Consulting with MOE) |
| November 1986 | Policy Research Initiative on Teacher Incentives | S. Thiagarajan<br>F. Kemmerer | Noman Alaswadi; MOE |
| November 1986 | Revision of 1986/87 Country Implementation Plan | D. Windham | Abdoraboh Garadah, Deputy Minister of Education |
| January-February 1987 | Development of basic data collection questionnaire and formats for educational finance data | R. Boothroyd<br>J. Strudwick | Statistics and Planning Office |

### 2.7.2 Plans for Project Year Four

The eleven activities proposed for the YAR in Year Four of the IEES Project are summarized within Table 7.2. These are designed to support capacity building and efficiency improvement activities which comprise the central focus of the IEES Project. The activities were endorsed by the MOE and USAID/Yemen in April, 1987, and were set forth for review in a draft of the 1987 Country Implementation Plan. The draft was reviewed by members of the IEES Executive Management Committee, the IEES Project Cognizant Technical Officer, and the Mission EHR Officer. All comments and suggestions received were then incorporated into the final version of the plan.

The activities are in four groups: continued assistance to the MOE in the collection, analysis, and use of information for decisionmaking (Activities 1-5); assistance to the MOE to conduct an organization and training needs assessment (Activities 6-7); assistance to the MOCSAR to conduct a manpower and training needs assessment across public sector agencies and ministries (Activities 8-0); and generic project activities (Activities 10-11). Detailed scopes of work for these activities are given on the following pages.

A. Continued assistance to the MOE for the collection, analysis, and use of information for decisionmaking. Work in this area will include six types of activities, some of which will be scheduled to occur simultaneously:

   - o assistance with the data base design and implementation of a teacher data base system,
   - o assistance with the design of school record keeping forms,
   - o microcomputer training,
   - o assistance to the MOE staff to write and debug the computer program (within SPSS/PC) to be used for analysis of the data to be collected during 1988 with the new school-level data form,
   - o policy analysis workshop to assist MOE personnel with use of the new data and further develop analytic capacities to address policy issues, and

TABLE 7.2

Proposed IEES Actitivies for the Fourth Project Year (1987/88)

| Grouped Activities | Level of Effort | Proposed Time | Proposed Staff |
|---|---|---|---|
| A. Continued assistance to the MOE with the collection, analysis, and use of information for decisionmaking | | | |
| 1. Microcomputer Workshop I (computer use) | 2 pm | July 1987 | R. Boothroyd<br>M. DeMasi |
| 2. Microcomputer Workshop II (policy analysis) | 2 pm | January 1988 | R. Boothroyd<br>C. O'Brien |
| 3. Sector Assessment Update<br>• Financing<br>• Teacher data base development<br>• Further work to develop EMIS | 8 pm | October 1987 | TBA |
| 4. Continued participation in the IEES Policy Research Initiative for EMIS | 1 pm | July 1987 & June 1988 | J. Messec<br>K. Berihe |
| 5. Continued participation in the IEES Policy Research Initiative for Teacher Incentives | 1 pm | TBA | S. Thiagarajan<br>F. Kemmerer<br>N. Alasawadi<br>and staff |
| B. Analysis of MOE organization, operation, and proposals for realignment; and preparation of a workplan for an MOE organization and training needs assessment | | | |
| 6. Analysis of the current organization and operation of the MOE | 1 pm | July-September 1987 | TBA |
| 7. MOE organization and training needs assessment | 4 pm | January-February 1988 | TBA |

TABLE 7.2 (Continued)

| Grouped Activities | Level of Effort | Proposed Time | Proposed Staff |
|---|---|---|---|
| C. Assistance to the MOCSAR to conduct a manpower planning and training needs assessment across public sector agencies and ministries | | | |
| 8. Assistance in study design, instrument development, and pilot testing procedures | 2 pm | June 1987 | J. Strudwick TBA |
| 9. Analysis of pilot study and revision of study design and instrumentation (continues in year 5 @ 6 pm) | 3 pm | November 1987 | J. Strudwick TBA |
| D. Generic Project Activities | | | |
| 10. Country plan development for Project Year Five | 0.5 pm | March 1988 | V. Cieutat |
| 11. International conference | | June 1988 | N/A |

- continued participation in the IEES Policy Research Initiative on the impact of educational management information systems on educational policy formulation.

This agenda will be addressed by four project activities scheduled for Project Four. Scopes of work for these four activities are given below.

1. Microcomputer Workshop I (computer use) (2 person/months)

   The purposes will be (1) to review the fundamentals of computer operation and the use of selected software with MOE personnel who attended the 1986 computer training workshop at Albany, and (2) to provide introductory training in microcomputer and software use (i.e., word processing, data management, and data analysis) to additional MOE staff. The workshop will be used to write the SPSS-PC program for analyzing data that will be collected on the new school-level data form and to illustrate its use with a dummy data set created using the new form. Attention will be given to how the data can be analyzed and presented so that it will address policy issues which face the MOE.

   Proposed Staff: R. Boothroyd, M. DeMasi

2. Microcomputer Workshop II (policy analysis) (2 person/months)

   This workshop will continue training and support for microcomputer use in the MOE by offering intermediate level training in word processing, data management, and data analysis software. Emphasis of the training will be on (1) helping participants formulate policy questions that can be addressed with data and (2) presenting results of their analysis in ways that are useful for decision-makers. Along with this policy analysis workshop will be a series of special, separate training sessions in computer use for senior staff of the MOE. The emphasis will be on introducing high level decisionmakers to ways in which data are entered, analyzed, and stored in computers. The purpose of these training sessions is to help senior staff understand the usefulness and limitations of computer-based data systems and the types of policies and procedures they will need to implement and support if an EMIS is to be successful in the MOE.

   Proposed staff: R. Boothroyd, C. O'Brien

3. Sector Assessment Update (8 person/months)

   The MOE has requested a sector assessment update that will focus on a financing study requested by the World Bank and desired by the Ministry. The details of this study are set forth in Annex C of the 1987 Country Implementation Plan for Yemen. The MOE also would like the sector assessment update to include work on development of a teacher data base and further activity related to the preparation of the educational management information system, as described below.

IEES consultants will work closely with MOE staff to design a national teacher data base appropriate for use on a microcomputer. The five elements of the activity will include: (1) identification of type and source of teacher data currently available in the MOE and across other agencies; (2) design of a teacher coding system with which at about the same teacher currently located in different places can be merged; (3) design of a codebook for a teacher data system, to include both data presently available and data that yet need to be collected; (4) design of a computer program (within SPSS-PC) to serve as a basic shell program ready for the addition of specific commands needed for data management and analysis; and (5) assistance to the MOE staff with identifying the policy questions that the teacher data base can be used to address.

At the same time, the team will continue work with the MOE to design the data forms to be used by schools to record and maintain their school records. It is anticipated that the team's work on the design of the teacher data base will inform their work on the school record keeping forms.

Proposed staff: Six person/months from the proposed RTA, R. Boothroyd, C. O'Brien, possible TBA short-term staff, plus 1 person/month from the BRIDGES project staff.

4. Continued Participation in the IEES Policy Research Initiative for Educational Management Information Systems (EMIS) (1 person/month)

Research activities initiated during Project Year Three will continue during Year Four following the implementation plan developed by Kassim Berihe, Country Team Leader for the EMIS research in Yemen. His plan calls for: (1) a study of what education data decision makers need; (2) what education data are already available; (3) a mapping of the current education data flow to identify constraints on data collection, analysis, and use; and (4) a study of the special problems associated with microcomputer applications in Yemen. During Year Four, the majority of the data collection, and analysis for all four of these studies, will be completed. The one person/month budgeted for this activity reflects the time of the IEES Research Team Leader for trips to Yemen to work with Berihe and his team. Funds to support the work of the in-country research team are budgeted under the Policy Research Initiative.

Proposed staff: J. Messec

5. Continued Participation in the IEES Policy Research Initiative for Teacher Incentives (1 person/month)

Research activities initiated during Project Year Three will continue in Year Four following the implementation plan developed by Noman Said Alaswadi, Country Team Leader for the teacher incentives research project in Yemen. His plan calls for instrument development, field data collection, and analysis of the data to occur by the end of Project Year Four. The one person/month budgeted for

this activity reflects the time of the Research Team Leader for trips to Yemen to work with Alaswadi. Funds to support in-country research costs are budgeted under the Policy Research Initiative.

Proposed staff: S. Thiagarajan, F. Kemmerer

B. Analysis of the MOE organization, operation, and proposals for realignment; and preparation of a workplan for MOE organization and training needs assessment. This task is divided into three component activities, the first two of which are scheduled to occur during Project Year Four. These activities include: (1) analysis of the current organization and operation of the MOE; (2) an MOE organization and training needs assessment; and (3) training of MOE personnel, as appropriate, to support improved efficiency in the operation of the MOE.

6. Analysis of the Current Organizational Operation of the MOE (1 person/month)

IEES consultants will work with MOE senior staff to conduct a three part activity. Part one will involve in-depth interviews with senior and intermediate staff to document what each Directorate and Office does and what each person (or title) within that office does. In part two, this information will be used to design a detailed organizational plan of the MOE as it currently exists. This plan then will be discussed with senior Ministry personnel to confirm its accuracy. Part three will involve interviews in other Ministries and agencies to identify the nature and extent of MOE functional relationships with those groups. Again, this information will be presented to MOE senior staff to confirm the accuracy and interpretation of the information collected.

Proposed staffing: TBA

7. MOE Organization and Training Needs Assessment (4 person/months)

On the basis of the data and analysis performed as part of Activity 6 (above), and IEES consultant team will perform an assessment of alternative organizational structures for the MOF which will facilitate its capacity to carry out its organizational mandate, achieve national objectives for education, and plan its future development. The purpose of this consultancy is for the consultant team to engage in a series of discussions with appropriate MOE personnel to help the MOE identify alternative organizational arrangements, and strategies to accomplish them, and to identify the training needs associated with the organizational plan which the MOE favors.

Proposed staff: TBA

C. 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 is divided into four activities, only the first two of which are scheduled for Project Year Four. The four activities are the following:

- assistance in developing indicators, instruments, and pilot testing procedures for a study of manpower planning and training needs;

- assistance in analyzing data from the pilot survey and using the findings as the basis for revising the study design and survey instrument as necessary;

- conduct of a microcomputer training and data analysis workshop (in Albany) to assist the MOCSAR staff to analyze and interpret results of the full study; and

- continued assistances in interpreting results of the study within the policy framework of the MOCSAR and identification and implementation of follow-on studies (e.g., tracer studies)

The funding of these activities will be shared by the project and the USAID/Yemen Mission. The more complete proposal agreed to by the MOCSAR, USAID/Yemen, and IEES is attached as Annex B of the 1987 Country Implementation Plan for Yemen. The description of Year Four Activities with the MOCSAR follows.

8. Assistance in Study Design, Instrument Development, and Pilot Testing Procedures (2 person/months)

   IEES consultants will assist the MOCSAR to: (a) assess the labor force data needs of the Ministry; (b) complete an economic indicators analysis to determine anticipated growth in the private sector; (c) develop data collection forms (questionnaires) and coding procedures that will permit the Ministry to gather data on labor force supply and demand; and (d) develop with the MOCSAR a procedure for pilot testing the questionnaire.

   Proposed Staff: J. Strudwick, TBA

9. Analysis of Pilot Study Data and Revision of Study Design and Instrumentation (3 person/months)

   IEES consultants will conduct an in-country workshop on data base formation employing the completed pilot survey questionnaires. If computers are available at the MOCSAR, the workshop will be extended to include an introductory course in their use as it relates to data base formation and management. Results of the analysis of the pilot data and a review of the experience of conducting the pilot study will be used as the basis for revising the data collection instrument and procedures as necessary. Concurrent with this workshop, IEES consultants will work with the MOCSAR senior staff to arrange final procedures and logistics for implementation of the full data collection and to specify the focus and scope of the three follow-on studies planned under this initiative.

Proposed staff: J. Strudwick, TBA

D. Generic Project Activities

10. Country Implementation Plan Development for Year Five (0.5 person/months)

IEES Project personnel will consult with Ministry and Mission personnel to: (1) review IEES project activities of the previous year; and (2) design and budget specific activities for the next project year.

Proposed staff: V. Cieutat

11. IEES International Conference

The IEES Project sponsors conferences of selected Ministry and Mission personnel from each country in which IEES is working. MOE Deputy Minister Garadah attended the Second IEES International Conference in Indonesia in February 1987 and emphasized the importance of YAR participation in this forum for discussing project accomplishments and plans.

### 2.7.3 Staffing Requirements

The staffing requirements for Project Year Four are given in the level of effort column of the table in section 2.7.2 and are summarized in Table 7.3. Full descriptions for each of these tasks are presented in the annexes of the 1987 Yemen Country Implementation Plan for IEES activities.

### 2.7.4 Issues and Discussion

IEES Project activities in Yemen have significantly increased over the past sixteen months, as discussed more fully in the 1987 Yemen Country Implementation Plan. With these activities as a background, and with those proposed in the plan itself for the 1987/88 project year, substantial progress can be made toward achieving project goals and objectives over the period covered in this Project Plan. There are six issues to which attention should be directed over the next year, and these are discussed below. They are related to the smooth transition to an IEES Country Coordinator

TABLE 7.3

Estimated IEES Year Four (1987/88) Staffing Requirements

| | Activity | Person/ Months | Short-term TA p/m | RTA p/m |
|---|---|---|---|---|
| 1. | Workshop I | 2.0 | 2.0 | --- |
| 2. | Workshop II | 2.0 | 2.0 | --- |
| 3. | S.A.U. | 6.0 | 2.0 | 6.0 |
| 4. | PRI (EMIS) | 1.0 | 1.0 | --- |
| 5. | PRI (T. Incent.) | 1.0 | 1.0 | --- |
| 6. | MOE Assm't I | 1.0 | 1.0 | --- |
| 7. | MOE Assm't II | 4.0 | 4.0 | --- |
| 8. | MOSCAR I | 2.0 | 2.0 | --- |
| 9. | MOSCAR II | 3.0 | 3.0 | --- |
| 10. | C.I.P. Update | 0.5 | 0.5 | --- |
| 11. | Conference | --- | --- | --- |
| | Totals | 22.5 | 4.5 | 6.0 |

for the YAR, staffing requirements associated with these proposed activities, the orientation and management of the Resident Technical Advisor (RTA) recommended for the YAR, the specification of the focus of the Sector Assessment Update, the timing and staffing of the Yemen Country Implementation Plan revision for the 1987/88 year, the development, refinement, and monitoring of progress indicators for IEES work in Yemen. These are each discussed in the paragraphs below.

County Coordinator Transition. The role of the IEES Country Coordinator for Yemen was filled by David Chapman of SUNYA until May of 1987, when this assignment was shifted to Victor Cieutat of IIR due to time restrictions on the part of the SUNYA staff and other consideration. Cieutat served as the Team Leader for the Yemen Country Implementation Plan update (March 30 to April 9 1987), and began serving in the Country Coordinator role following that field activity. Because Cieutat will be out of the country from about June 8 to about August 17, 1987 (serving as Team Leader for the Nepal Education and Human Resources Sector Assessment). Activities scheduled for the August-October period require recruiting assistance. David Chapman is assisting with preparation for the Microcomputer Workshop I (computer use) scheduled for July of 1987, Activity 1 in the 1987 Yemen Country Implementation Plan. Recruiting for Activities 6 and 8 is pending.

Staffing. One of the reasons for the success of IEES Project work in Yemen has been that a number of individuals have worked on a regular basis in the country, slowly building a strong base of trust and confidence with government officials. This group of professionals has been able to develop a close working relationship with Yemeni government officials, as well as with the education staff of the USAID/Yemen Mission during the past few years. Their work has also made them familiar with the opportunities and

constraints associated with working in Yemen, and has thus enabled them to function effectively. It is important to have these same individuals continue to be available to work in Yemen so that the intra-consortium capabilities can be increased and so that they can assist in developing a depth of qualified and experienced personnel to facilitate staffing for short-term activities.

RTA Orientation and Management. Prior to fielding the RTA for Yemen, the person selected should receive an in-depth two-week orientation in the United States, including an intensive study of project records and publications (with a focus on prior activities in Yemen) a visit to the consortium member institutions for discussions with key personnel, and meetings with the S&T/ED staff in Washington. In addition, it is recommended that this individual submit brief and concise weekly field reports of activities and plans to the Project Principal Investigator and to the IEES Country Coordinator for Yemen.

Sector Assessment Update Focus. The Sector Assessment Update is scheduled as an eight person/month activity to begin about October of 1987. The focus of this update, as set forth more fully in the 1987 Yemen Country Implementation Plan, is on financing of education, teacher data base development, and further efforts to prepare the Educational Management Information System (EMIS). This scope of work should be modified to include the identification of specific indicators of progress toward project objectives and any other portions of the 1984 EHR Sector Assessment where significant new and more reliable data may have become available over the past three years.

Country Implementation Plan Update (1989-1989). Activity 9 in the 1987 Yemen Country Implementation Plan is scheduled for March of 1988, with

a level of effort of one-half person/month. Two recommendations are made with respect to this activity. First, the RTA should begin groundwork for this update shortly after arrival in Yemen, scheduled for approximately October of 1987. Second, to the extent possible, other activities should be scheduled near the March 1988 period so that personnel with extensive prior experience in Yemen, such as David Chapman, Frances Kemmerer, or Jeremy Strudwick, could serve on short-term assignments during this time to assist in an advisory capacity with the update.

Indicators of Progress. An important part of the RTA's assignment should be the development of specific and quantifiable indicators of progress in Yemen toward IEES Project goals and objectives. This will not be an easy task because many of these goals and objectives are long-term and will not be manifest in education system changes until a few years in the future. Also, because of many other activities in the education and human resources, sector, some of which will be directed at these same goals and objectives, the attribution of changes to specific IEES interventions will not be easy. Nevertheless, specific measures should be identified for monitoring progress toward the IEES goals and objectives. These should include, but not be limited to, the three objectives cited in the Yemen Country Implementation Plan: improved management of EHR development, teacher training and retention, and literacy and income production training. Baseline data for improvement within the domain of the overall project goals and objectives, as well as these three areas of IEES emphasis in Yemen, should be derived from information available in the 1984 EHR Sector Assessment. The RTA should establish a systematic procedure for periodically monitoring progress towards these goals and objectives, both in terms of short-term as well as long-term indicators. Immediate outcomes

of each Project activity in Yemen also should be identified and periodically reported upon by the RTA.

# 3.0 OTHER IMPLEMENTATION WORK

## 3.1 CONCEPTUAL DIRECTION AND KNOWLEDGE BUILDING

This section of the IEES Project Plan for Project Year Four presents the flow from the conceptual basis of the IEES Project (which establishes the rationale for project activities) to structural design components (which determine what activities are carried out), and finally to evaluation design (which allows the project to determine if it is achieving its purposes). The section then focuses on specific efforts planned in Project Year Four to develop, test, and elaborate the concepts and methodologies that will guide further implementation of the project.

Conceptual Basis. The conceptual basis of the IEES Project (Figure 3.1) derives from four major assumptions. The first is that 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 differs from one nation to another among the diverse set of nations collaborating with the IEES Project, the problem of educational resources scarcity is common to all of them.

The second assumption, which is 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. However, 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.

FIGURE 3.1

IEES 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 decision-making 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.

The third major assumption of the IEES Project is that a commitment to data-based analysis and decisionmaking in the EHR sector is essential to improving efficiency. Such a commitment can both 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 fourth and 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.

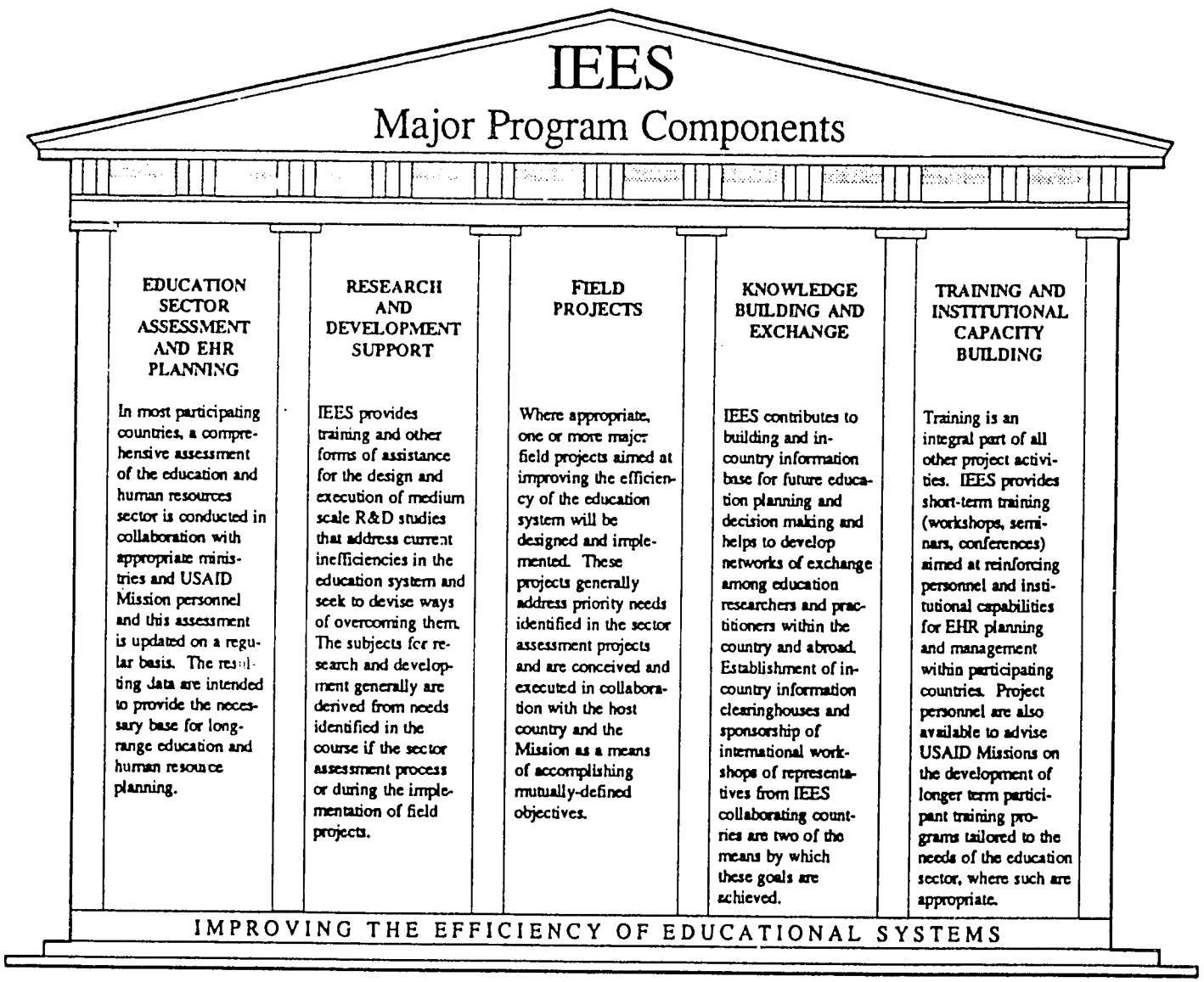
Structural Design. The structural design of the project focuses upon those major program components in each country (Figure 3.2) for which a careful orchestration of external assistance can most enhance capacity to use resources more efficiently. These are education and human sector assessments, updates and EHR planning, research and development, field projects, training, and networking. The ultimate goal of the IEES Project is the development of existing national capacities to conduct these structural activities.

The planning and implementation of these structural components, and the project's experience with them in each of the collaborating nations, is discussed in the country sections of this Project Plan.

Component Characteristics. The structural components of the IEES Project alone are not sufficient to guarantee success in improving educational efficiency. To achieve project goals, these components must successfully be implemented to ensure both significant increases in government capacity to carry out the activities, and to ensure the

FIGURE 3.2

IEES Major Program Components



commitment to institutionalize the activities in a manner appropriate for local institutions following the completion of the IEES Project. To accomplish this, the following characteristics are essential while carrying out the planning and implementation of all IEES assistance:

1. Collaboration. Participants in collaborating countries are full partners in the design, conduct, and evaluation of all IEES activities.

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

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

4. Continuity. Through the placement of IEES 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 IEES Project will develop a continuity of commitment to each of the participating nations.

5. Conceptually-based and Purposeful. The activities of the IEES Project are closely focused toward the goal of the project, i.e., to improve the efficiency of education systems. They are undertaken with a common methodology which is open to testing and revision through the joint efforts of IEES and personnel in collaborating countries.

The experience of three years of IEES activities has demonstrated the significance of adhering to these component characteristics. They distinguish IEES activities from less successful assistance efforts, and have resulted in the present positive situation of confidence and close collaboration between government officials and IEES Project personnel.

Evaluation Design. Evaluation of the IEES Project is to enable frequent checking of whether progress is being made toward the goals of the project, i.e., to improve the performance of education systems and to strengthen country capabilities for assessing, planning, and managing their

education systems. To assess progress toward these goals, the project is working to identify an appropriate set of indicators, measurements, and milestones. An IEES monograph dealing with this work will be completed early in the Fourth Project Year and will further this effort. The project must also consider whether it is focusing on the optimal components and the extent to which these are being implemented properly. Finally, evaluation must regularly assess whether the project is being implemented in the most desirable way.

IEES International Steering Committee. The IEES International Steering Committee plays a vital role in reviewing project activities, providing policy guidance, and collaboratively planning project activities affecting all countries working with the IEES initiative to improve educational efficiency. The committee is composed of the country representatives shown below.

## IEES International Steering Committee

Botswana..... Jakes Swartland

Haiti..... Frantz Lofficial

Indonesia..... Moegiadi (Chairperson)

Liberia..... E. Othello Gongar

Nepal..... Kesab Nepal

Somalia..... Ali Hassan Gaal

Yemen Arab Republic..... Abdul Rabo Garada

The committee convened at the First IEES International Workshop (Botswana, November 1985), again at FSU in May 1986, and at the Second IEES International Conference (Indonesia, February 1987).

The discussion now turns to specific Project Year Four Plans to elaborate the concepts and methodologies that guide project development. To ensure continued linkage of conceptual, structural, and evaluative aspects of the project, the Executive Management Committee (EMC) commissioned two substantive papers to define key conceptual areas of the project. One paper was authored by David Chapman, in cooperation with Douglas Windham, and dealt with the nature of evaluation of the efficiency of education systems and the special constraints imposed on the evaluation in the developing nation context. This paper was completed in April 1986, The Evaluation of Efficiency in Educational Development Activities. The second commissioned paper dealt with indicators and issues of educational efficiency and the constraints and opportunities that exist with methodologies for measuring school efficiency. An outline of the paper was distributed to consortium members for reactions and suggestions in April 1986, but the authors did not complete it as projected for Fall 1986. Douglas Windham of SUNYA agreed to take on the task. A draft expected for consortium review by mid-July 1987 and the final version of the paper is expected by September 1987.

Special opportunities for enriching the conceptual base of the project exist in linking the IEES Project to the new AID project, Basic Research and Implementation for Developing Education Systems (BRIDGES). AID and the IEES Project management strive to ensure that the widest possible cooperation and exchange of experience exist between the two projects. IEES and BRIDGES coordinate in-country project activities, based on plans

made during meetings between IEES and BRIDGES staff in Indonesia and Washington in 1986. BRIDGES reports and travel plans are regularly reported in the IEES Communique and BRIDGES Project Officer Gary Theisen participated in IEES planning activities at the Second IEES International Conference in Indonesia in February 1987.

In Year Three of IEES, the conceptual and knowledge building activities were carried forward by the following means: (a) the implementation of the IEES Policy Research Initiative; (b) the completion of first versions of two IEES training manuals, the IEES monographs on Evaluation of Educational Efficiency Projects, and the Indicators of Educational Efficiency; (c) special reports of IEES field experiences; and (d) the IEES Second International Conference.

## 3.2 IEES POLICY RESEARCH INITIATIVE

### 3.2.1 Introduction

The IEES Policy Research Initiative (PRI) was proposed by Douglas Windham of SUNYA in March 1986. The proposed PRI structure was divided into four components: (1) rationale, (2) structure, (3) topics and personnel, and (4) implementation and scheduling. The initiative was reviewed and approved by the IEES International Steering Committee at FSU in May 1986.

### 3.2.2 PRI Administrative Structure

The PRI design is based on collaborative research teams which conduct coordinated projects on three research topics. The research agenda calls for studies of three topics; Education Management Information Systems (EMIS), Strengthening Local Education Capacity (SLEC), and Teacher Incentive Systems (TIS). Each topic was originally to be researched in

three countries from among those currently collaborating with IEES to improve educational efficiency. Following PRI team changes in Project Year Three, the research teams are currently distributed by country and topic as shown.

| | EMIS | SLEC | TIS |
|---|---|---|---|
| Botswana | | ● | |
| Haiti | | | ● |
| Indonesia | | ● | |
| Liberia | | | ● |
| Nepal | ● | | |
| Somalia | ● | | ● |
| Yemen Arab Republic | ● | | ● |

The Principal Investigator (PI), in coordination with the Cognizant Technical Officer (CTO), is responsible to the IEES International Steering Committee (ISC) and EMC for initiation, conduct, evaluation, and dissemination of PRI activities.

The original PRI structure delegated to a Project Research Coordinator (PRC) the ongoing, day-to-day responsibility for the policy research program. Douglas Windham of SUNYA served as PRC until February 1987. Since that time, Project Team Leaders (identified below) have reported directly to the Project PI on research activities. Jerry Messec of FSU has served as central administrator for PRI support.

The PRC, with approval of the ISC, has appointed the following IEES Consortium personnel as the PRI Project Team Leaders (PTL).

| | |
|---|---|
| David Chapman<br>Jerry Messec | Education Management Information Systems |
| Jeremy Strudwick | Strengthening Local Education Capacity |
| S. Thiagarajan<br>Frances Kemmerer | Teacher Incentive Systems |

3.2.3 Education Management Information Systems.

One of the consistent findings across all of the sectors assessments conducted thus far has been the existence of significant data gaps in all EHR data collection systems. What has been more surprising, however, has been the equally consistent finding that the data that are available have been underutilized or ignored by policymakers and planners. Frequently, the assessments have revealed that these decisionmakers may be unaware of the existence of raw data that could be used to inform the judgments they have to make.

The goals of this IEES research effort are to:

1. identify the types of statistics that are most critical and/or most frequently required for policy and planning activities in the EHR sector;

2. develop pro forma for the collection of the basic data necessary to produce the required statistical information;

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

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

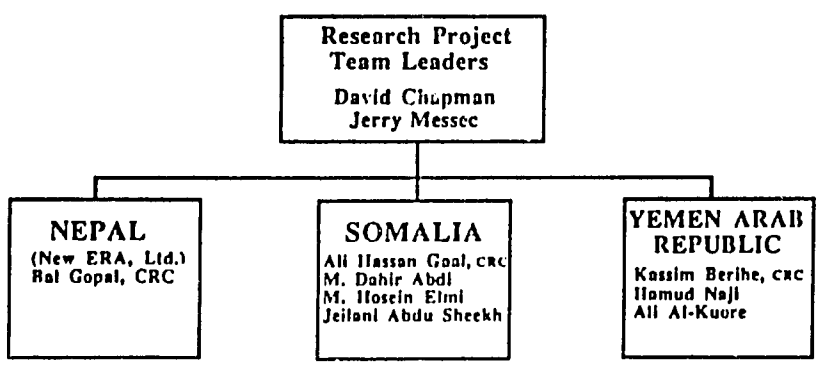
5. identify the training needs of the EHR ministries in the area of data analysis and report preparation and identify or design appropriate training regimens to develop the local capacity to fulfill these duties;

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

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

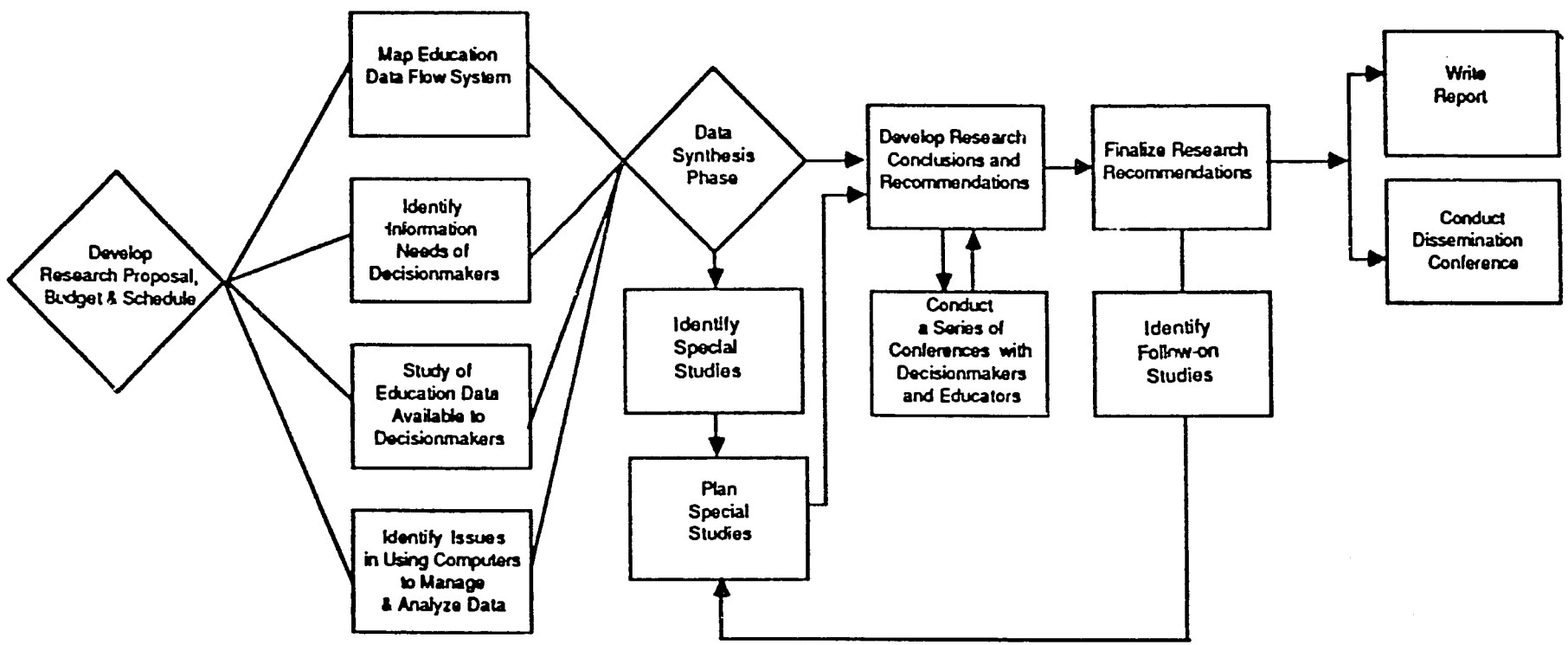
A potential contribution of this activity is to provide a generic standard against which existing data collection and utilization systems could be compared. By incorporating the consideration of training and organizational placement, the study also provides suggested remedial step to improve existing systems that are found to be inadequate for the needs of planners and policymakers. EMIS Project Team Leaders are David Chapman of SUNYA and Jerry Messec of FSU. The EMIS research teams are organized as follows:

IEES POLICY RESEARCH INITIATIVE
Education Management Information Systems




The sequence of EMIS activities is represented in the chart on the following page.

## Flow Chart of Research Activities



Detailed activities for each of the three EMIS teams were published in March 1987, following PRI training workshops in Indonesia at the conclusion of the Second IEES International Conference. EMIS research in the three participating countries is described below.

3.2.3.1 Nepal

Nepal, along with Somalia and Yemen Arab Republic, decided to participate in policy research on the topic of EMIS. The Ministry of Education and Culture (MOEC) identified New ERA, a private non-profit research organization, to conduct the study in Nepal. Madhup Dhungana of New ERA attended the PRI workshop following the second IEES International Conference in Indonesia and will organize the EMIS research in Nepal. The contracting process with New ERA continued through the end of the Third Project Year. Research activities will begin early in the Fourth Project Year.

Objectives of the Study. The main purpose of the EMIS research is to examine the impact of these systems on national level educational policy formulation in developing countries. The issues of particular interest are:

- To what extent is there congruence between (a) the information MOE decisionmakers say they need, (b) the information currently available to MOE decisionmakers, and (c) the types of data and standards of data quality that the literature says decisionmakers should use.
- To what extent does the development of an EMIS system contribute to greater congruence among these factors.
- To what extent is the development of an EMIS related to increased use of quantitative information in educational decisions at a national level.

During the initial meeting of the EMIS research teams in Kathmandu (November 10-17, 1986), it became apparent that these issues were also

pertinent to Nepal. Therefore, the specific objectives of the research study in Nepal are as follows:

- To identify data needs of the MOEC and other agencies involved in the educational sector of Nepal;
- To assess quality, coverage, and timely availability of information currently available to decisionmakers at the MOEC and other agencies;
- To examine how currently available educational data are being used by decisionmakers, opinion makers, and others;
- To identify existing data gaps and their effect on the decisionmaking process;
- To identify policy issues related to the development of an EMIS to respond to the data needs of the MOEC and other relevant agencies; and
- To identify issues related to the use of microcomputers in EMIS.

Scope of the Study. Since the focus of the IEES Project is improving the efficiency of the formal school system, the study will concentrate on the EMIS as it relates to the formal school system.

Approach. The study will examine policy issues concerning the development and use of an EMIS appropriate for the needs of MOEC and other agencies involved with the development and use of EMIS in developing countries. Research literature indicates that successful EMIS are those which emphasize participation of the users in all stages of system development. For this reason, the approach will be to involve potential users, especially the MOEC staff, in all stages of this study.

Research Activities. To attain the objectives of this study, a number of research activities will be carried out. These activities can be grouped into the following five phases:

1. Preliminary phase;
2. Data collection phase;

3. Data analysis and synthesis phase;

4. Dissemination phase; and

5. Policy development phase.

These phases of the research activity are discussed below.

Preliminary Phase

Activities in this phase will include:

- Preliminary visits to government offices (MOEC and otherwise) in Kathmandu to obtain existing basic information, reports, and data collection forms;
- Review of all relevant documents collected;
- Preparation of protocols for visits to units involved in data collecting, reporting, and utilization;
- Preparation of draft data collection instruments (e.g., questionnaires and interview schedules);
- Pretesting of data collection instruments;
- Finalization of data collection instruments;
- Detailed sampling design for selecting districts and schools within the districts;
- Printing of data collection instruments;
- Identification of field staff and their training;
- Preparation for field visits; and
- Formation of a research advisory group which will include MOEC staff and other relevant persons.

Data Collection Phase

The central activity of this phase will be the collection of data from field level offices of the MOEC, schools, and other relevant agencies. During this data collection phase, four different phases of activities will be conducted:

1. Description of the current situation of available data.

   Identification of currently available education data, both within the MOEC as well as other sources. This phase will determine the type of information currently available, the quality of these data, and how they are maintained in reporting.

2. Pattern of data flow. This phase is designed to map the data flow through the educational system. During this phase, information will be traced from the initial data provided at the school level through the district and regional level to the central MOEC.

3. Identification of data needs of decisionmakers. This phase will identify information needs of decisionmakers, and determine the gaps between their data needs and existing data availability.

4. Special issues in computer use in EMIS. This phase will consider those issues relating to the use of microcomputers in the possible design, implementation and operation of an EMIS.

Data Analysis and Synthesis Phase

Based on information gathered in the preceding phase, the research team will accomplish the following:

- Map data use flow pattern;
- Identify contradictions and congruences in the perception of different units involved in data collecting, reporting, and use;
- Identify data gaps;
- Identify redundant data, i.e., data which is collected, but are never used nor are likely to be used;
- Identify issues and information for group sessions; and
- Identify participants for the workshops and arrange workshops.

Dissemination Phase

This phase will disseminate information and findings of the study, and discuss issues identified by the research team. The dissemination and discussions of issues will first be carried out in small groups. The recommendations generated during these group sessions, along with findings

of the study, will then be discussed with workshop participants to solicit their reactions and comments.

Policy Development Phase

In this phase, policy recommendations for setting up an EMIS will be developed. The recommendations will emphasize the identified information needs.

A final report incorporating findings of the study and above recommendations will also be prepared in this phase. The report will also identify further areas of research and investigation which may be required to strengthen the system.

Sources of Information

Apart from the MOEC and its offices, there are other organizations which are involved with the formal school system. All of these generate and/or use educational information in various ways. These organizations are the audience for the findings and outcomes of this study. At the same time, they are also the sources of information for this study. Researchers will contact and solicit information from all these organizations.

3.2.3.2 Somalia

Overall Goals. The overall goals for the EMIS activity in Somalia are to provide relevant data background information, systematic procedures, policy recommendations and analyses of alternatives so that policymakers in the Ministry of Education (MOE) can select and implement appropriate strategies to improve the quality of Somalia's education system through an effective EMIS.

Products. The following products will be produced during and after the research activity.

1. Intermediate products:

   - Preliminary statement of problems, policy issues and research questions
   - Inventory of management system currently operating
   - Design for policy research studies
   - Recommended research procedures
   - Sample questionnaires for collecting data
   - Guidelines and budget worksheets for coordinating the study
   - Description and discussion of existing EMIS
   - Definition and description of critical features of an effective EMIS
   - A procedural model for improving data management
   - A glossary of terms related to data management

2. Final products:

   - Final report
   - Policy recommendations for developing an effective EMIS
   - Policy recommendations for establishing an effective EMIS

Outcomes. A major objective of the policy research initiative is to improve the capacities of research institutions in the host countries. As a result of participating in this research, capabilities in Somalia will improve in these areas:

- Policy research design
- Construction of survey instruments
- Data collection
- Data analysis
- Report preparation
- Policy analysis

- Project management
- Collaboration in cross-national policy research initiatives

Statement of the Problem. An EMIS is an organized process by which information relevant for decisionmaking is obtained. The validity and reliability of the information obtained influences the fairness of judgments and soundness of decisions. The effectiveness of any program is dependent on the quality of the data available at all stages of planning, strategy setting, implementation, and final assessment.

Organization of the system is an acute problem in the educational development of Somalia. The causes of this problem include the following:

- Little is known about the migration of the population.
- Communication between central, regional, district, and school levels is difficult and results in delays and other inefficiencies (inaccuracies, missing data, etc.) in decisionmaking.
- Regions and districts do not follow a uniform system of data collection and recording.
- There is a lack of fit between the information currently collected and the needs of each level of the educational hierarchy, other ministries, and donor agencies.

As a result, the data available at the central level are not reliable for planning and decisionmaking purposes. Since central planners have inadequate knowledge of the situation in the different regions and districts, they cannot undertake indepth diagnoses of the population group to be served or of the teaching conditions in different types of schools. Consequently, educational policy is based on national averages. Where such averages are far from the reality of the regions, the educational objectives set are unrealistic and the content and methods of education ill-adapted to the special needs of the region or district.

The low level of importance attached to the ways in which decisions are implemented in the field is an obstacle to program success. Very often, educational planning ceases with the publication of the national plan. The implementation of policies is left to the discretion of the regional or local administration. The central education services produce circulars and directives, but these are not relevant to every situation and are often either vague or restrictive. In the absence of adequate information and direction, local administrators do not know what measures to adopt in order to address their particular educational problems. Some do not take any initiative and simply leave things to run their course according to previous trends; others, in contrast, take inappropriate actions.

In addition to the MOE's need for reliable and valid information, such data are also needed by donor representatives, who are accountable to their agencies for the results of their assistance.

The flow of information from the central to the local level (and vice-versa) is too slow to meet the timelines indicated in the MOE's decision tables. Realizing the seriousness of the information management problem, the MOE includes improvement of the data management system in the Five Year Plan for 1987-1991. The Ministry, with the help of UNICEF, conducted school mapping studies in four regions in Somalia in 1986 and expects to conduct similar studies in two additional regions in 1987. Establishment of a computer unit in the Department of Planning with the assistance of the USAID/IEES Project has improved the efficiency of the data recording and management at the central level. Central level staff have also trained regional planners in data recording.

The intention of this study is to evaluate the existing EMIS from the

grass roots level to central administration. The processes by which data are organized, coordinated, and transmitted among various levels will be assessed. The kinds of data needed for decisionmaking at each level will be identified. The operational plan of the study covers the flow of data from grassroot level (schools) to decisionmaking levels (central). Assessments will be made on the kinds of data needed by decisionmakers and the degree of efficiency in obtaining accurate information.

Policy Issues. There are three major sets of policy issues related to the effectiveness of an EMIS. The first set of issues is related to what types of data should be collected and for what purpose. The second set concerns the types of training, incentives and disincentives, equipment, and administrative support needed at each level (central, district, regional, and school/community) for the collection of reliable and valid data and the analysis of such data for the relevant audience. The third set of issues concerns identification of the most efficient means to collect data not now available (e.g., unit cost data) and to facilitate communication across levels.

Methodology. The study of the EMIS in Somalia is primarily descriptive. Phase 1 of the study will describe the current status of the system and address the issue of the relevancy of the data currently collected to decisionmakers at each level. The reasons for lack of timeliness and the absence of important information (e.g., unit cost data) will be systematically explored. Data necessary to meet the objectives of this phase will be collected from the following sources:

- Literature Search. Collection of all governmental and non-governmental critiques relevant to the Ministry's data needs and its procedures for the collection, analysis, and reporting of data.
- Information from Relevant Ministry Personnel. In order to arrive at a full understanding of the Ministry's needs, information will

be obtained from the current producers and users of the current information management system through interviews, questionnaires, workshops, and direct observation by Planning Department personnel. The extent to which existing data are used and the way they are used by policymakers will be examined.

The gaps in the data and administrative difficulties identified in Phase 1 will be systematically explored in Phase 2. This phase addresses the more micro level issues related to the training, incentives and disincentives, equipment, and administrative support needed by planners and decisionmakers at each level of the educational hierarchy.

Interview and questionnaire protocols, as well as direct observation, will be administered at all levels in order to collect the information needed to meet the objectives of this phase. To maximize the efficiency of the data collection for the study, a workshop will be held for the regional planners who will administer the protocols.

Two typical districts, together with their schools and regional planning offices have been tentatively selected as field sites for Phase 2. Since the same sites will be used for the Teacher Incentive Systems Study and the new Integrated Strategy for Primary Education, an indepth profile of each district can be developed. The profile will enable the identification of new variables critical to policymaking, as well as the relationship among variables which best capture the local demand (or lack of demand) for schooling. Possible alternatives are the percent of the population in different occupational categories, the density of the population, the survival rate of schools in the area, etc. Similarly, the detailed information derived from these profiles will permit judgments on the probable direction of casualty. Are schools closed due to lack of demand or lack of teachers or some combination of the two? The third benefit of indepth study is that it will permit observation of the EMIS in

action. Reasons for problems in the working of the current system will be confirmed by observation. It is likely that the results of observation will reveal more of the day-to-day difficulties than will be articulated by central, regional, district, and school personnel.

Phase 3 of the Somalia EMIS study will consist of the formal analysis of the data collected. The raw data will be organized and summarized, appropriate statistical approaches will be selected for analysis of the problems related to the collection, processing, and reporting of reliable and valid data within and across levels.

An important activity in this phase will be the organization of a National Dissemination Conference for 30 of the key personnel (central, regional, district, and school level) in data management. The purpose of the Conference is to present the findings and elicit feedback on the conclusions drawn and the recommendations for improving the EMIS.

During the final phase (Phase 3) of the study, a report will be prepared which synthesizes the findings of the different phases of the study, as well as the feedback from the National Conference. Alternative methods for improving the system and their costs will be presented.

Limitations of the Study. The limitation of the sample--due to resources and the selection of representative districts (with their regions and schools) rather than the random sampling of regions, districts, and schools--suggests that the full range of differences in capacities and problems related to the collection of reliable and valid data will not be identified.

It is, however, questionable whether with even a large random sample the full range of differences could be captured. The tradeoff is that with

the smaller sample, information needs, uses, and the critical variables are more likely to be discerned.

The study is viewed as an important first step in rationalizing the current system and conceptualizing future directions.

This research study will be implemented in five phases as follows:

Phase 1: Data Status Review. The purpose of this phase is to identify and analyze the status of the current EMIS documents available in Somalia. Activities conducted during this phase include:

- Collection of relevant EMIS documents,
- Interviews of those producing documents,
- Analysis of document contents, and
- Report writing.

Phase 2: Data Needs for Decisionmakers. The purpose of this phase is to identify the information needs of decisionmakers in Somalia, to determine the discrepancy existing between data availability and data requirements, to identify data redundancy, and to document the problems encountered by MOE personnel in their use of data to formulate policy. Activities conducted during this phase include:

- Development of an interview protocol for MOE,
- Interviews of MOE management personnel,
- Development of an interview protocol for other Somali ministries and agencies,
- Comparison of information available and information requirements of decisionmakers, and
- Reporting of the results of these activities.

Phase 3: Mapping Data Flow. The purpose of this phase of research activity is to map the data flow through the school, district, region, and

central levels of the Somalia education system. During this phase, activities will examine the data flow, decision points, and filters at all of these levels. Phase 3 activities will include:

- Developing an interview protocol,
- Interview of personnel at all levels of the system,
- Verification of data at each level,
- Analysis of data performed at each level, and
- Reporting of these research activities.

Phase 4: Data Analysis. The purpose of this phase is to analyze the results of the previous three phases of research activities. The activities conducted during this phase include:

- Preliminary analysis and finding,
- Identification of critical needs in the existing EMIS,
- Review of analysis and finding with decisionmakers, and
- Finalizing recommendations for improving the existing EMIS.

Phase 5: Final Report and Dissemination. The final phase of EMIS research activities in Somalia will focus on final reporting and dissemination of findings. Activities conducted during this phase include:

- Drafting of the final report of research activities,
- Review of findings in final report with decisionmakers,
- Planning and organization of the EMIS National Dissemination Conference,
- EMIS National Dissemination Conference to present research findings and provide a forum for discussion of issues, and
- Printing and dissemination of the final report.

School Sample Frame. The research sample will include 60 schools and several district and regional offices representative of each level of the

education system. The schools will be selected randomly from a group of rural, urban, and nomadic.

Management Structure. The Country Team Leader has the responsibility for managing the entire project. He receives advice from two groups: the IEES Project Team and the Somali Project Advisory Committee. Four Research Associates help the Country Team Leader to implement different project activities: The Research Associate for Status Review prepares a report on the current status of teacher incentives in Somalia. The Research Associate for Field Work trains the interviewers and coordinates the survey of different groups of primary teachers. The two Research Associates for Analysis coordinate the coding, tabulation, and analysis of all interview data. A Project Secretary carries out clerical and secretarial responsibilities for the project.

3.2.3.3 Yemen Arab Republic

The Yemen Arab Republic (YAR), typical of nations in a similar stage of development, has yet to develop an EMIS that satisfactorily meets the increasing information needs articulated by planners, policymakers, and practitioners. In order that the MOE can move expeditiously toward establishing an efficient and comprehensive EMIS, it is necessary to complete a systematic analysis of: (1) data flow through Yemen's educational system; (2) information needs of policymakers; (3) educational data currently available; (4) information gaps between the needs of decisionmakers and the present availability of data. This research initiative is designed primarily to meet objectives identified above, and to develop a set of recommendations which, if implemented, will assist in improving the quality and availability of information for policy debate.

Policy Issues. The YAR, is presently faced with a number of key educational policy issues which require extensive study and planning. Two of the most pressing are:

1. Meeting the needs of a rapidly expanding educational system; Primary school enrollment in Yemen has increased 269 percent over the last five years from 335,249 to 901,898 students. Likewise, the number of primary school teachers has risen 235% from 6,767 to 15,898 during the same period. Projections for the next five years suggest that this rapid growth will continue.

   As a result, the MOE is faced with the major task of providing districts with teachers, materials, and facilities. The MOE ability to systematically plan for the future is directly linked to its capability to attain reliable information in a timely fashion. It is anticipated that the results of this study will facilitate improved data collection and analysis.

2. Maximizing access to education within the fiscal constraints of the national budget.

The success of the MOE in responding to these issues is limited by the ability of decisionmakers to attain accurate and current information. The study of the current data management system and identification of existing and potential data requirements should result in recommendations that will assist in developing an EMIS that will permit the MOE policymakers to more effectively and efficiently plan to meet local, regional and national needs as they arise.

As with all studies, limitations exist. The following is a discussion of the two primary limitations of the EMIS study in the YAR.

1. The EMIS study is restricted to certain levels of the educational system. Included in the study will be schools on the primary level, preparatory level, and secondary level. Other educational levels such as illiteracy programs, non-formal, and teacher training institutes are excluded.

2. The findings of this research may not be easily generalizable to countries other that Yemen because of the nation's unique characteristics.

Format of the Study. The YAR EMIS study will be divided into six phases. Phase one will be the organization phase. The purpose of this phase is to organize and refine the specific project activities and develop a time table of completion dates. Activities in this phase include:

- Selecting staff
- Training staff
- Developing the sampling frame
- Developing an interview schedule
- Printing materials needed for the research
- Printing materials needed for the research
- Logistical arrangements
- Preparing an accounting system

Phase two is designed to map the data flow through the YAR educational system. During this phase, information will be collected to trace the original data request from the MOE to the schools, as well as the flow of the data from the school level back to the MOE and other government agencies. The data collected will include the number of times information is transferred from one form to another, who records the information, when the informations is reported, and to whom. The activities in this phase include:

- Developing an interview protocol
- Interviewing persons at each level of the educational system
- Verifying the information
- Analyzing the data
- Developing an information flowchart
- Writing a report on information flow

Phase three involves a systematic analysis of the current educational management information system. The purpose of this phase is to determine the type of information currently available, the quality of these data, and how they are maintained and reported. Specific activities in this phase include:

- Reviewing the literature on EMIS
- Compiling a bibliography of EMIS literature

- Hiring and training interviewers
- Developing an interview protocol
- Interviewing school personnel
- Coding and analyzing the data
- Reporting the results

Phase four will focus on the data needs of planners and decisionmakers. The purpose of this phase is to identify the information needs of decision makers, determine the gaps existing between data needs and availability, identify data redundancy, and document the problems encountered by MOE personnel in their use of data to formulate policy. Specific activities in this phase include:

- Developing a protocol for MOE personnel
- Interviewing MOE management staff
- Comparing data presently collected with information decisionmakers require
- Reporting the results

The purpose of phase five is to develop a set of recommendations regarding modifications of the present educational information management system. The activities in this phase include:

- Clarifying and confirming preliminary findings
- Identifying barriers in the present EMIS
- Reviewing recommendations with policymakers
- Finalizing recommendations

The sixth and final phase of this project involves information dissemination. The activities in this phase are:

- Drafting the final report
- Revising the final report
- Coordinating an in-country seminar to present and discuss the study
- Presenting the results at an international conference

Inclusion of all schools in the YAR is impossible due to both fiscal and time constraints. A typical procedure in conducting research is to select a sample in a manner which will be representative of the population

as a whole. After consultation with the Statistics and Planning Office at the MOE it has been determined the 30 schools will be selected using a stratified random sampling procedure.

All schools in the country will first be stratified on three variables:

1. School Location - two levels, Urban, and Rural;
2. School Enrollment - three levels, Small, Medium, and Large, and
3. School Level - three levels, Primary, Preparatory, and Secondary.

Schools will then be randomly selected from each of the resulting 18 strata, yielding the 30 schools to be included in the study.

Urban and rural school location will be determined by local population densities determined for census data. School size will be determined by student enrollment figures. One-third of the schools with the largest enrollment will comprise large schools, 1/3 of the schools with the second largest enrollment will comprise mid-sized schools, and 1/3 of the schools with the smallest enrollment will comprise small schools. School level will be determined by MOE records. Schools having more than own level will be placed in each category. Thus, it would be possible for the same school to be selected twice (e.g., Urban/Large/Primary and Urban/Large/Preparatory).

3.2.4 Strengthening Local Education Capacity.

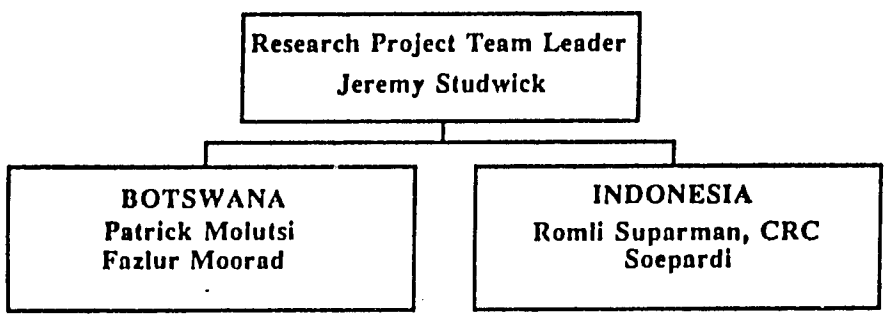
A major policy issue in the education area for international donors, as well as for host country personnel, is the topic of governmental decentralization and the strengthening of local support in the delivery or support of instructional activities. This issue is very much an efficiency one as decentralization 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 to improve internal resource allocation.

The outcome of this research will be to provide more current and detailed information to policymakers (both in the collaborating countries and in the donor community) on the realistic expectations that may be attached to the implementation of 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.

Research Project Team Leader for the Strengthening Local Education Capacity (SLEC) effort is Jeremy Strudwick of SUNYA. Organization of the SLEC research teams is shown in the chart below.

**IEES POLICY RESEARCH INITIATIVE**
**Strengthening Local Education Capacity**




Detailed proposals for SLEC research in the two participating countries were published in March 1987. These research activities are described in the following pages.

3.2.4.1 Botswana

Introduction. The Strengthening Local Education Capacity (SLEC) study in Botswana is a two-year, two-phase project; Phase I concentrating on the preparation of a Status Report, with Phase II taking the form of an extended study of selected aspects of SLEC. The foci of Phase II will be determined as a result of an in-country review of the Status Report. This proposal outlines the intended activities, personnel requirements and anticipated budget of Phase I of the study.

Goals, Objectives, and Products. The overall goals of the SLEC study is to provide relevant data, background information, systematic procedures, policy, recommendations and analysis of policy alternatives so that policy makers can select and implement appropriate strategies to develop local capacity to support education activities.

The objectives in preparing a status report are to provide:

1. a comprehensive description of the current local/community support/involvement in educational activities, and
2. an indication of the policy research needs for SLEC.

It is assumed that an understanding of the extent of current regional and local involvement in educational, and education related activities in Botswana, and the constraints on and opportunities for such involvement will greatly assist in defining a valid research agenda for the second phase of the study.

It is also intended that the process of preparing a status report and using that report as a basis for identifying research foci will improve the competence and capabilities of individuals and institutions participating in the project in the areas of policy research design. construction of

survey protocols, data collection and analysis, report preparation and project management.

The following are the products of Phase I of the project:

1. Intermediate products

   - Report of the first six weeks activity
   - a mid-activity report
   - a draft status report
   - an annotated bibliography
   - a glossary of terms related to SLEC
   - a workshop to discuss the draft status report and determine the research agenda for the second phase of the study (tentatively scheduled for August 4 or 5, 1987)

2. Final products

   - a proposal and proposed budget for the second phase of the study
   - a final status report, that may include preliminary policy recommendations for SLEC.

Phase I is scheduled to be completed in six months (March 1-August 31, 1987).

Methodology. Phase I is a descriptive study which will draw on existing documents and a limited series of interviews to analyze the impact of current policies, regulations and guidelines that affect local participation in education activities. Included will be comprehensive reviews of:

1. current policies, procedures and guidelines that impact on non-national level participation in education activities;
2. research and seminar reports;
3. related policy and non-policy documents (national, regional, and local); and

4. other relevant documents as they are identified, particularly those that relate to community participation in education activities.

These four sources are expected to provide the following:

- a description of system parts for identifying

  - Local, regional or community units
  - functional or policy task-specific units

- a description of policy development and ministry(ies) roles

  - clarifying formal education structure
  - providing guidelines that affect informal structures or normal practices

- a description of a small number of policy decisions for modeling decisionmaking concerning regional/local participation in education activities

  - defining local diversity - in terms of demographic and/or socioeconomic variation
  - identifying variations in local resource bases
  - showing any regional variations in administrative structure
  - identifying differential policy impact
  - hypothesizing impact in authority redistribution
  - suggesting likely financial or in kind education support capabilities
  - showing past regional/local involvement in education support activities

- a description of ministry organizational charts and formal flow of authority - in part to explain regulatory constraints imposed by previously taken policy decisions.

In addition to the extensive document and literature review described above, it will be necessary to conduct a series of interviews in order to clarify and expand on the issues as they are identified during the course of the development and preparation of the status report. Interviews and/or group meetings will be conducted to gather information from relevant policy makers in Botswana, administrators at central, regional, and local levels, community leaders and parents.

Interviews. The following key persons at central and local government

and community levels will be interviewed (figures in parentheses reflect maximum number of interviews):

- Ministry of education (6 senior and middle level officers)
- Ministry of Finance and Development Planning (3 officers)
- Ministry of Local government and Lands (3 officers)
- Ministry of Home Affairs and Labor (2 officers)
- District Education Officers (Primary and Secondary Schools, 6 officers)
- Council Secretaries and District Commissioners (8 officers)
- Local Authorities (Chiefs and Councilmen, 8 persons)
- Headmasters, Primary and Secondary Schools (10 persons)
- Community Development Committee (including Governors of Community Junior Secondary Schools, 6 members)

Total interviews: 55 persons

The interviews will require the SLEC research team to travel to five of the nine districts in Botswana. In addition, education officers and community leaders will be selected from the town of Sobatse and the city of Gaborone.

The interviews will be open-ended and structured to elicit information which will, from interviews with ministry personnel:

- describe and clarify administrative (formal) structure,
- provide a preliminary description of informal structure,
- identify a range of policy issues and options,
- justify or determine representativeness and importance of selected policy decisions,
- identify perceptions of other input of other stakeholders for comparisons involving the decision-making process, and
- describe range of current policies and priorities.

from interviews with school directors and teachers:

- loosely define policy impact and priorities,
- describe school-community relations or interactions,
- describe community-related student characteristics pertaining to performance,
- describe basic elements of school quality,
- describe parental participation in schooling, and
- identify policy relevant needs.

from interviews with community leaders:

- describe resource base in general terms,
- describe existing or potential local resource contribution,
- outline attitudes toward schools and community differences,
- explain special community-school relationship, and
- describe exceptional cases of community influence.

In summary, it is intended that the interviews will provide information on:

1. current policies and procedures that affect the manner in which local officers, teachers, community and private organizations participate in education activities;

2. perceptions from a sample of education policy makers in the central, regional, and local offices concerning policies and policy issues related to SLEC;

3. system wide behavior that results from policy interpretation;

4. the impact of current policy, that is to say, how particular policies are actually operationalized (whether they are followed in their entirety, in pare, or not at all); and

5. characteristics of the school system and the extent of school-community relationships, this will include but not be limited to, types of schools, their locations, relevant school quality factors, human and institutional resources, existing and potential local (non-centrally) funded education activities.

The results of the literature and document review and the analysis of interview data will be used to describe the current status of regional and local education support activities. These results will be presented at the end of July 1987 in the form of a draft status report.

During the first week of August, a one-day workshop is planned to discuss the draft status report. There the key policy issues and potential research agenda for the second phase of the project will be determined. One tangible result of the workshop will be input from participants which will be used to guide the revision of the status report. By August 31, 1987, a final version of the status report will be available.

3.2.4.1 Indonesia

Goals, Objectives, and Products. The overall goal of SLEC research in Indonesia is to provide relevant data, background information, systematic procedures, policy, recommendations, and analysis of policy alternatives so that policy makers can select and implement appropriate strategies to develop local education capacity and thereby increase the access, relevance, and quality of education in Indonesia.

The objectives in preparing a status report are to provide:

1. a comprehensive description of the current local/community support/involvement in educational activities, and

2. an indication of the policy research needs for SLEC.

It is assumed that an understanding of the extent of current regional and local involvement in educational, and education related activities in Indonesia, and the constraints on and opportunities for such involvement will greatly assist in defining a valid research agenda for the second phase of the study.

It is also intended that the process of preparing a status report and using that report as a basis for identifying research foci will improve the competence and capabilities of individuals and institutions participating in the project in the areas of policy research design, construction of survey protocols, data collection and analysis, report preparation and project management.

The following will constitute the products of phase I of the project:

Intermediate products

- a report of the first six weeks activity
- a mid-activity report
- a draft status report
- an annotated bibliography
- a glossary of terms related to SLEC

- a workshop to discuss the draft status report and determine the research agenda for the second phase of the study (tentatively scheduled for August 4 or 5, 1987)

Final Products

- a proposal and proposed budget for the second phase of the study (due August 24, 1987); and
- a final status report, that may include preliminary policy recommendations for SLEC (due September 7, 1987).

Phase I is scheduled to be completed in six months (March 1 - August 31, 1987).

Methodology. Phase I is a descriptive study which will draw on existing documents and a limited series of interviews to analysis the impact of current policies, regulations and guidelines that affect local participation in education activities. Included will be comprehensive reviews of:

1. current policies, procedures and guidelines that have an impact on non-national level participation in education activities
2. research and seminar reports
3. related policy and non-policy documents (national, regional, and local)
4. other relevant documents as they are identified, particularly those that relate to community participation in education activities.

These four sources are expected to provide:

- a description of the national school system in Indonesia (general background information);
- a description of system parts for identifying
  - local, regional or community units
  - functional or policy task-specific units;
- a description of policy development and ministry(ies) roles
  - clarifying formal education structure

providing guidelines that affect informal structure or normal practices;

- a description of a small number of policy decisions for modeling decisionmaking concerning regional/local participation in education activities;

- a description of school and community characteristics

  - defining local diversity - in terms of demographic and/or socioeconomic variation
  - identifying variations in local resource bases

  - showing any regional variations in administrative structure
  - identifying differential policy impact
  - hypothesizing impact in authority redistribution
  - suggesting likely financial or any kind education support capabilities
  - showing past regional local involvement in education support activities; and

- a description of ministry organizational charts and formal flow of authority--in part to explain regulatory constraints imposed by previously taken policy decision.

In addition to the extensive document and literature review described above, it will be necessary to conduct a series of interviews in order to clarify and expand on the issues as they are identified during the course of the development and preparation of the status report. Interviews and/or group meetings will be conducted to gather information from relevant policy makers, administrators at central, regional and local levels, community leaders and parents.

Interviews. The CTL, Research Associate and interviewer(s) conducted the interviews in the third month of the SLEC study in Indonesia (May 1987). The data gathered during these interviews is being analyzed during June 1987.

The interviews were open-ended and structured to elicit information which will:

1. from interviews with ministry personnel:

- describe and clarify administrative (formal) structure,
- provide a preliminary description of informal structure,
- identify a range of policy issues and options,
- justify or determine representativeness and importance of selected policy decisions,
- identify (express) perceptions of other input of other stakeholders for comparisons involving the decision-making process, and
- describe range of current policies and priorities.

2. from interviews with school directors and teacher:

   - loosely define policy impact and priorities,
   - describe school community relations or interaction,
   - describe community-related student characteristics pertaining to performance,
   - describe basic elements of school quality,
   - describe parental participation in schooling, and
   - identify policy relevant needs.

3. from interviews with community leaders:

   - describe resource base in general terms,
   - describe existing or potential local resource contribution,
   - outline attitudes toward schools and community differences,
   - explain special community-school relationship, and
   - describe exceptional cases of community influence.

In summary, the interviews will provide information on:

1. current policies and procedures that affect the manner in which local officers, teachers, community and private organizations participate in education activities;

2. perceptions from a sample of education policy makers in the central, regional, and local offices concerning policies and policy issues relate to deconcentrating educational management;

3. system wide behavior that results from policy interpretation;

4. the impact of current policy, that is to say, how particular policies are actually operationalized (whether they are followed in their entirety, in part, or not at all); and

5. characteristics of the school system and the extent of school-community relationships, this will include but not be limited to, types of schools, their locations, relevant school quality factors, human and institutional resources, existing and potential local (non-centrally) funded education activities.

The results of the SLEC literature and document review and the analysis of interview data will be used to describe the current status of regional and local education support activities. These results will be presented at the end of July 1987 in the form of a draft status report.

During the first week of August, a one-day workshop will be held to discuss the draft status report. There the key policy issues and potential research agenda for the second phase of the project will be determined. One tangible result of the workshop will be input from participants that will used to guide the revision of the status report. By August 31, a final version of the status report will be available in both Bahasa Indonesia and English.

### 3.2.5 Teacher Incentive Systems

A common theme throughout the sector assessments conducted by USAID and by the World Bank is that instruction in schools remains a teacher-centered activity. The 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.

The research of Teacher Incentive Systems (TIS) concentrates upon examining the incentives to become teacher trainees, incentives for retention and graduation from teacher preparatory programs, incentives (including assignment and pay policies) for becoming and remaining a teacher, and incentives for professional development of teachers through informal activities, formal inservice programs, or supplementary full-time training.

This TIS analysis takes into account the issues of differential impacts among regions, between urban and rural areas, among subject specializations, and by level of the school system. The nature of the

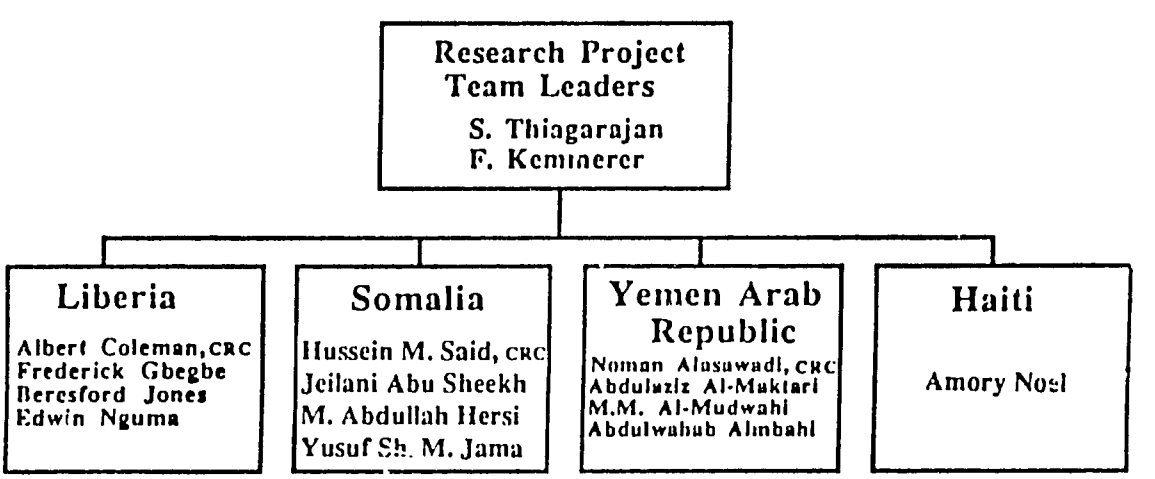
incentives considered goes beyond salary and other explicit financial considerations to include the nature of the assignment process, the possibilities for further training and/or promotion, and the future career opportunities in non-teaching positions in and outside of government.

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

The product of the TIS research should be an enhanced ability to restructure public sector incentives for teacher training, employment, and retention. Like all IEES activities, the emphasis should not be on simply an expanded reward system, but on suggestions for reallocation (if possible) and better targeting of incentives to promote the goals of the school system's specific levels and types of programs.

TIS Research Project Team Leaders are S. Thiagarajan of IIR and Frances Kemmerer of SUNYA. TIS research organization is illustrated below.

## Teacher Incentive Systems



Proposals for TIS research were completed in February 1987 and presented at the Second IEES International Conference in Indonesia. Since that time, Haiti has requested to participate in this research and a proposal is now being completed for this study.

The plans for TIS research in Liberia, Somalia, and the Yemen Arab Republic are described below.

3.2.5.1. Liberia

Liberia faces the problem of maintaining a highly committed, dedicated and qualified teaching staff in the school system. It is often argued that the stagnation which permeates the fabric of the Liberian schools can be attributed, in large measure, to the increasingly large number of undertrained and untrained personnel in the system. Statistics on the teaching force in Liberia confirms this: The 1984 and 1985 National Education Survey reported that 35% of the 8,390 teachers in the Liberian Educational system was said to be qualified to teach (2,401). The same report revealed that of the 8,390 teachers in the system, 5,909 were said to be untrained, which is about 65%.

Rationale. Available information on the supply of teachers in the Liberian School system has shown that the supply of teachers from the Teacher Training Institute has dropped in the last four years. Information also shows that trained teachers are not being attracted into the teaching profession. The argument has been advanced that because of the present state of the teaching profession and the present conditions of service, teachers will not be attracted to the teaching profession in the future.

This study is therefore needed because it will identify ideas and ways by which the supply of teachers can meet the demand. It will also identify reasons for the retention and recruitment levels of the system. This

information is important as Liberia faces a serious financial and moral problem in the teaching profession. The acute shortage of teachers, if alleviated, it is hoped, will be one of the answers to the many problems of Liberian education.

Overall Goal. The overall goal for the TIS research in Liberia is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to strengthen the teacher incentive system. This will support ministry efforts to achieve improved recruitment, increased retention, and effective instruction and, thereby, improve the quality of education in the nation's schools.

Products. Several products will be produced during and after the teacher incentives project. The expected intermediate products are:

- Preliminary statement of the problem, policy issues, and research questions,
- Inventory of system characteristics that affect teacher incentives,
- Design for policy research studies on teacher incentives,
- Recommended research procedure,
- Sample questionnaires for collecting data on teacher incentives,
- Guidelines and budget worksheets for coordinating the study,
- Bibliography of the literature on teacher incentives,
- Descriptions and discussions of major teacher incentive strategies,
- Descriptions and analyses of current incentives and disincentives in each cooperating country,
- Descriptions and analyses of the perceptions of teacher incentive systems by different stakeholders,
- Definition and description of critical features of teacher incentives systems,

- A procedural model for improving teacher incentive systems, and
- A glossary of terms related to teacher incentive systems.

The expected final products are:

- Final report on each country study,
- Policy recommendations regarding teacher incentives for each country,
- Final report synthesizing the finding from the three countries,
- Policy recommendations for teacher incentive systems in developing nations,
- Report and recommendations on conducting cross-national policy research studies, and
- Updated review of the literature on teacher incentives.

Outcomes. The major purpose of the TIS study in Liberia is to examine and determine the extent of teacher shortage and the possible incentives that would attract and retain teachers in the profession. The study will identify and analyze way and means by which teachers in Liberia will become more committed and dedicated to the profession.

The objectives of the study are:

1. to determine the extent of incentives on individuals in Liberia to become teacher trainees; and
2. to determine what incentives other than salary would attract and retain teachers in the profession.

A major objective of the IEES PRI is to improve the capacities of research institutions in the host countries. As a result of participating in this research initiative, individual competencies and institutional capabilities will improve in these areas:

- Policy research design,
- Data collection,

- Construction of survey instruments,
- Report preparation,
- Policy analysis,
- Project management, and
- Collaboration in cross-national policy research initiatives.

3.2.5.2 Somalia

Overall Goal. The overall goal for the TIS research in Somalia is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives to policy makers in the Somalia Ministry of Education. This will support MOE efforts to select and implement appropriate strategies for strengthening the teacher incentive system in order to achieve improved recruitment, increased retention, and effective instruction, and thereby, improve the quality of education in Somalia's schools.

Products. Several products will be produced during and after the TIS research in Somalia. The expected intermediate products are:

- Preliminary statement of the problem, policy issues, and research questions;
- Inventory of system characteristics that affect teacher incentives;
- Design for policy research studies on teacher incentives;
- Recommended research procedure;
- Sample questionnaires for collecting data on teacher incentives;
- Guidelines and budget worksheets for coordinating the study;
- Preliminary review of literature on teacher incentives;
- Bibliography of the literature on teacher incentives;
- Descriptions and discussions of major teacher incentive strategies;

- Descriptions and analyses of current incentives and disincentives in each cooperating country;

- Descriptions of the current policy-making mechanisms in each cooperating country;

- Descriptions of the perceptions of teacher incentive systems by different stakeholders;

- Definition and description of critical features of teacher incentives systems;

- A procedural model for improving teacher incentive systems; and

- A glossary of terms related to teacher incentives systems.

Here are the expected final products:

- Final report on each country study,

- Policy recommendations regarding teacher incentives for each country,

- Final report synthesizing the finding from the three countries,

- Policy recommendations for teacher incentive systems in developing nations, and

- Updated review of the literature on teacher incentives.

Outcomes. A major objective of the PRI is to improve the capacities of research institutions in the host countries. As a result of participating in this research initiative, individual competencies and institutional capabilities will improve in these areas:

- Policy research design,
- Construction of survey instruments,
- Data collection,
- Data analysis,
- Report preparation,
- Policy analysis,
- Project management, and
- Collaboration in cross-national policy research initiatives.

Statement of the Problem. Nations at every level of development debate issues related to incentives for teaching. Concern for teacher

incentives reflects a concern for the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited in teaching. In developing nations, however, where school systems are still expanding, infrastructures (communication, roads, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of a much greater magnitude than it is in countries where both human and material resources are not so sharply constrained.

One advantage of emphasizing teacher effectiveness in discussions of incentives is that it forces the debate beyond the narrow interests of particular units responsible for one aspect or another of the teacher service. This, in turn, may generate greater support both within the ministry and across ministries for strengthening incentives for teaching. A second and more important advantage is that each incentive will be measured directly against the value it will potentially add to improving teacher performance over time. Such procedure makes explicit the tradeoffs between the goals and means related to recruitment and those related to retention and therefore maximizes the set of options available to policy-makers.

Policy Issues. If the problem is how to improve teacher productivity (that is, how to help teachers facilitate student learning), given current resource constraints, the major policy issues are who is to be recruited at

what price, and who is to be retained at what price. Price, in this context, connotes the total package of rewards, including both direct and indirect monetary and non-monetary benefits. In many countries, the price of recruitment includes both preservice training and beginning teachers salaries while the price of retention includes not only salary and allowances but also inservice training, headmaster and inspector's time devoted to supervision, etc. The magnitude of these investments in both salary and training require justification in terms of their efficiency in producing the desired teacher behaviors.

If, for instance, a significant portion of those trained for teaching never teach or leave the service before government has realized a sufficient return on its investment in training, a hard look has to be taken at the characteristics the system is recruiting for. It may well be that entry characteristics are too high relative to the compensation package. If this is the case, one option is to reduce the entry requirements (and possibly salaries) and provide greater inservice training and instructional support for teachers. Thus, if the target group for recruitment consists of secondary graduates, government may decide to temporarily admit secondary dropouts to teacher training until market conditions or government fiscal capacity changes.

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

Obviously, the first step in addressing issues related to providing incentives for teacher productivity is to define the minimal acceptable behaviors for payment of salary and those set of behaviors which will be

rewarded beyond salary (by promotion, inservice opportunities, public recognition, etc.).

Theoretical Framework. Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and guidance. Outside the classroom, teachers are often typically expected to participate in school level decisionmaking, assist each other and meet with parents. The literature suggests that the factors which influence teachers' willingness and ability to carry out their responsibilities effectively are as follows:

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

The factors that affect performance affect the subgoals of recruitment and retention. Teaching is one of the few professions in the modern sector that the public is familiar with. Individuals who have gone to school know the status of the teacher in the community, the salaries of teachers, and their working conditions. This knowledge, as well as their own experiences in school, determines, to a large extent, their perception of teaching as an attractive occupation. The status of the school system thus feeds back into the ability of the teacher service to recruit new teachers. In

addition, there is also considerable research which suggests that the individual's perception of the quality of his/her first teaching assignment (school environment, opportunities for promotion and professional development, status in the community, instructional support), as well as his/her sense of success in teaching also affects decisions related to exiting or staying in the teaching service.

Research Questions. The overall goal of the TIS research in Somalia is to provide relevant data, background information, systematic procedures, policy recommendations, and analysis of alternatives to that policy makers can select and implement appropriate strategies to strengthen the incentive system for teacher performance. In order to achieve this goal, information will be gathered from policy makers, present teachers, and former teachers on their training and, therefore, both its absolute value and its relative value as an incentive for performance would obviously require a separate study. By the same token, since teacher incentives vary with school level, it would be difficult to deal with more than one level at a time. For these reasons, the TIS study in Somalia is limited to the investigation of the efficacy of the current incentive system for the recruitment, performance, and retention of primary teachers and alternatives for strengthening it. Primary teachers are defined as Somalia public school teachers of grades 1-6.

Methodology. The study of teacher incentives in Somalia is primarily a descriptive one. Phase I of the study will consist of three parts. First, the current status (numbers of teachers, salaries, etc.) of the system will be presented. Secondly, the current rules and regulations affecting primary teachers will be summarized. Third, the balance of

current incentives and disincentives embedded in the rules and regulations governing recruitment, performance, and retention will be analyzed.

In the second phase of the study, currently serving primary teachers will be interviewed regarding their perceptions of the incentives and disincentives for teaching. Grade 1-6 teachers will be stratified by gender and urban/remote rural school location.

The country team leader, in collaboration with colleagues in the Ministry will select urban/remote rural districts where teachers will be interviewed. Male and female teachers within districts will be randomly selected until there are 50 within each cell.

In order to see whether the perceptions of former teachers, prospective teachers, and secondary teachers differ from primary teachers, approximately 50 members of each of these groups will be interviewed in Phase III of this study. If the results indicate significant differences, more systematic sampling could be undertaken in Phase IV of the study.

Phase IV will be primarily devoted to an analysis of the interview items using such techniques as the chi square. The results of the analysis, together with the cost and benefits of the alternative approaches to strengthening the incentive system suggested by the analysis, will be presented to the Somalia incountry Steering Committee as well as to the Project Team Leaders. In addition, considerable effort will be taken to disseminate the results of each study and the lessons from all three in the international educational community.

3.2.5.3 Yemen Arab Republic

Overall Goal. The overall goal for the Teacher Incentive Systems (TIS) research in the Yemen Arab Republic (YAR) is to provide relevant data, background information, systematic procedures, policy

recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to strengthen the TIS to achieve improved recruitment, increased retention, and effective instruction. These strategies will, in turn, improve the quality of education in Yemen's school.

Products. Several products will be produced during and after the TIS research in the YAR. The expected intermediate products are:

1. Preliminary statement of the problem, policy issues, and research questions;
2. Inventory of system characteristics that affect teacher incentives;
3. Design for policy research studies on teacher incentives;
4. Recommended research procedure;
5. Sample questionnaires for collecting data on teacher incentives;
6. Guidelines and budget worksheets for coordinating the study;
7. Preliminary review of literature on teacher incentives;
8. Bibliography of the literature on teacher incentives;
9. Descriptions and discussion of major teacher incentive strategies;
10. Descriptions and analyses of current incentives and disincentives in each cooperating country;
11. Descriptions and analyses of the current policy-making mechanisms in each cooperating country;
12. Descriptions and analyses of the perceptions of TIS by different stakeholders;
13. Definition and description of critical features of TIS;
14. A procedural model for improving TIS; and
15. A glossary of terms related to TIS.

The expected final products of the research are:

1. Final report on each country study;

2. Policy recommendations regarding TIS for each country in the TIS study;

3. Final report synthesizing the findings from the countries participating in the TIS study;

4. Policy recommendations for TIS in developing nations;

5. Report and recommendations on conducting cross-national policy research studies; and

6. Updated review of the literature on TIS.

Outcomes of the Research. A major objective of the TIS study in the YAR is to improve the capacities of research institutions. As a result of participating in this research, individual competencies and institutional capabilities will improve in these areas:

1. Policy research design,

2. Construction of survey instruments,

3. Data collection,

4. Data analysis,

5. Report preparation,

6. Policy analysis,

7. Project management, and

8. Collaboration in cross-national policy research initiatives.

### 3.2.6 PRI Administration and Staffing

#### 3.2.6.1 Education Management Information Systems

The administration and staffing of EMIS research in the three participating countries is presented below.

Nepal

Research Administration. Administratively, New ERA will assume overall responsibility of the EMIS study in Nepal. However, the actual

research implementation will be a collaborative endeavor between the New ERA research team and the concerned Ministry of Education and Culture (MOEC) staff.

To ensure continued involvement of the concerned MOEC staff, a Research Advisory Body (RAB), consisting of concerned MOEC staff, IEES Resident Technical Advisor, senior members of the New ERA research team, and other educators who can contribute to the study, will be formed. The RAB will meet regularly (on an average of once a month) to oversee the progress of the study and to provide necessary guidance. During the first and last two phases of the study, this group will need to meet more frequently.

Although the EMIS study has been approved by the MOEC, considerable time will be required to obtain clearances for the formal nomination of the MOEC staff to the RAB. Therefore, New ERA will invite the concerned MOEC staff to join the RAB on an individual basis. This will ensure participation of the appropriate MOEC staff with minimum of bureaucratic complication.

It would be most advantageous to include a MOEC Staff member as regular member of the research team. This person might join the New ERA research team on deputation from the MOEC. This kind of involvement, however, will require formal clearance from the MOEC and, therefore, is contingent upon the approval of the MOEC.

The Research Team. To conduct successfully an EMIS study requires a variety of skills. These skills include knowledge of research methods, familiarity with computer hardware and software, familiarity with the education sector of Nepal, and field data collection techniques. The proposed research team collectively possesses all the skills necessary to

carry out this study. A brief description of the individual members of the research team and their role in the study is given below.

Madhup K. Dhungana, Country Research Coordinator/Computer Systems Analyst. Dhungana is a computer applications specialist. Before joining New ERA, he worked at he MOEC as a Section Officer. Over the past 12 years he has participated in many studies in the education sector, including Problems of Supply and Utilization of Educational Materials at the School Levels in Nepal (1974), The Impact of Free Textbook Distribution on Primary School Enrollment of Nepal (1977-1979), and Literacy Retention Study (1979). Dhungana has two M.Sc. Degrees--one in Mathematics from the Tribhuvan University, Nepal, and the other in Computer Application from the Asian Institute of Technology, Bangkok, Thailand.

Dhungana will be a full-time member of the research team. His responsibilities will include preparation of detailed research design, preparation of data collection instruments, training of field researchers, analysis of data, preparation of a revised data management system, organization of group discussion and workshops, liaison with the MOEC staff, and report preparation.

Bal Gopal Baidya, Study Associate/Project Executive Manager. Baidya is the executive Director of the New ERA and has 14 years of professional experience in designing and implementing research studies in Nepal. Before joining New ERA, he worked as a teacher for several years. Baidya has a Ph.D. in Economics from University of the Philippines.

As the Project Executive Manager and the Study Associate, he will participate in all aspects of the study and will be responsible for the quality control study. He will be especially involved during the design

phase (preliminary phase), data analysis phase, and in report preparation. His total involvement in the first year is estimated to be four months.

Field Research Supervisors. There will be five field research supervisors for the EMIS study in Nepal. Each will be responsible for all aspects of field data collection in one of the five education regions.

One research supervisor will join the research team at the beginning of the study and will assist the senior members of the research team in the preliminary data collection phase, as well as the data analysis and report preparation. The four other research supervisors will be involved only during the field data collection phase.

Professional level New ERA staff members with extensive experience in supervising data collection in the field will be used. The New ERA field research supervisors generally possess post-graduate degrees.

Research Assistants. The main responsibility of the EMIS research assistants will be to collect data from schools and other offices in the districts. They will work under the supervision of the field research supervisors. Altogether, five research assistants will be used during the data collection phase of the study. Research assistants generally have college degrees.

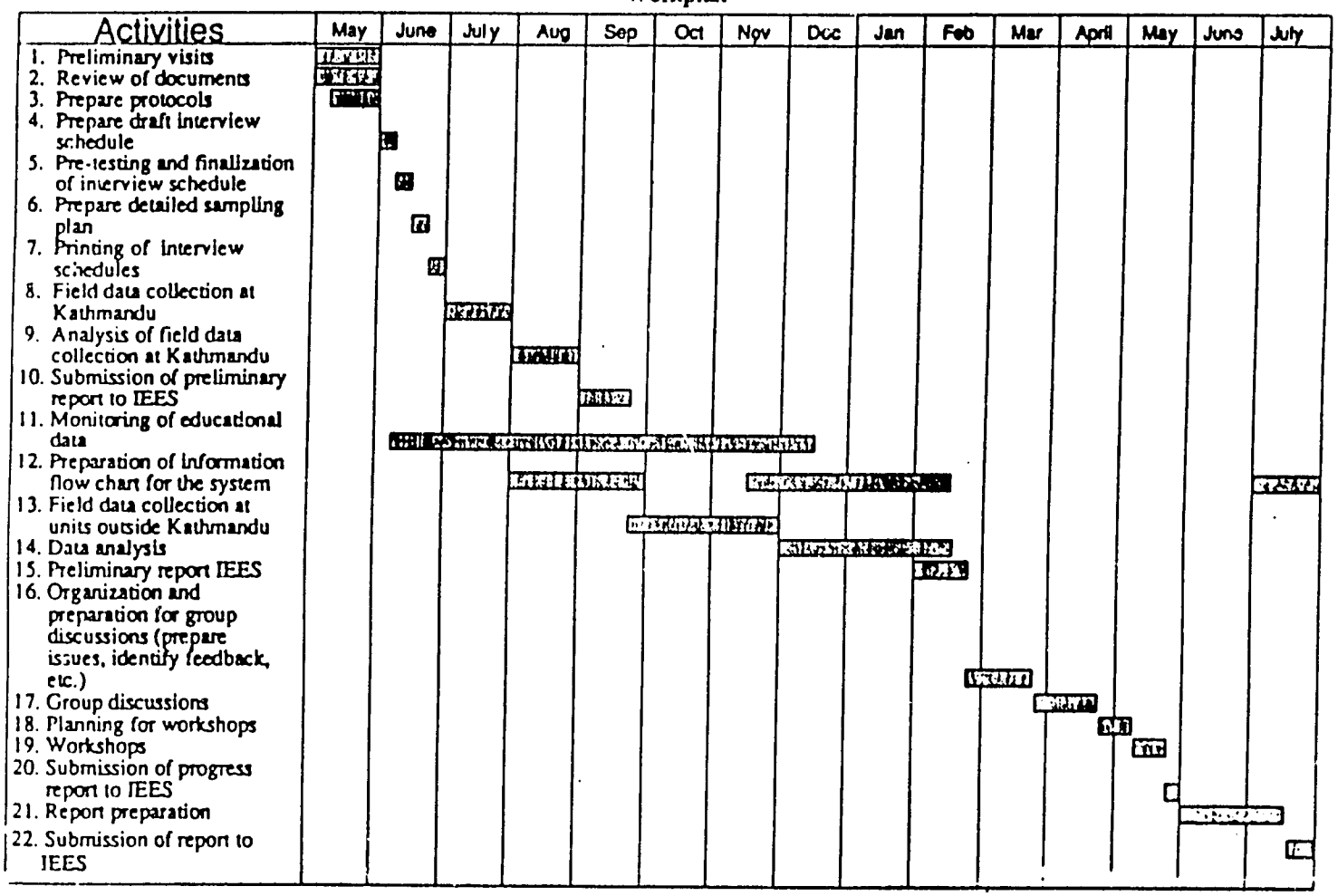
Consultants. Services of individuals with specific skills may be required from time to time, and these will be hired on an as-needed basis. Provision of five months of consultant time has been included in the research budget.

Secretarial Support. Secretarial support to the EMIS research team in Nepal will be provided by the central secretarial pool on New ERA.

A proposed schedule of research activities is provided below.

SCHEDULE OF RESEARCH ACTIVITIES

Improving the Effenciency of Eduactional Systems
Policy Research Initiative
Nepal
Education Management Information Systems
Workplan




Somalia

Proposed Management Structure. The overall management structure for the Somali EMIS Study is described below. The Country Team Leader has the responsibility for managing the entire Project. He receives advice from two groups: the IEES Project Team and the Somali Project Advisory Committee. Four Research Associates help the Country Team Leader to implement different project activities: The Research Associate for Status

Review prepares a report on the current status of teacher incentives in Somalia. The Research Associate for Field Work trains the interviewers and coordinates the survey of different groups of primary teachers. The two Research Associates for Analysis coordinate the coding, tabulation, and analysis of all interview data. A Project Secretary carries out clerical and secretarial responsibilities for the project.

IEES Project Team. The IEES Project Team provides technical and professional advice to the Somali EMIS research staff. The IEES coordinators visit the project periodically, review the progress, and provide suitable inputs on the technical aspects. They also frequently correspond with the Country Team Leader and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

Project Advisory Committee. Because of the potential national impact and the complexity of the project, an EMIS Research Advisory Committee will be formed to represent different stakeholders and policymakers. During the life of the project, members of this committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible fro the control of the project which will be the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The advisory Committee will be composed of a representative from each of the following agencies or institutions:

Ministry if Education, Vice Minister

Ministry of Education, Director General for Schools

Ministry of Education, Director of Planning

Ministry of National Planning, Director of Human Resources

Ministry of Finance

Thus there will be a total of five members in the Somalia EMIS Research Advisory Committee. During the 2 years of the project, the Advisory Committee will meet six times, at 4 month intervals. Members of the committee will be responsible for the following functions;

- Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory.
- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project.
- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

Country Team Leader. Ali Hassan Ga'al will be the Somalia Country Team Leader for the EMIS study. He is currently the Director of Planning in the Ministry of Education in Somalia. As Country Team Leader, Ga'al will be responsible for all the processes and products for the EMIS study in Somalia. He will work in this capacity for the entire 2 years (24 months) on a half-time basis.

The Somalia Country Team Leader will be responsible for the following functions:

- Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the EMIS research design and in the construction of the interview protocols. Adapt the research deign to suit the needs, resources, and constraints of Somalia while preserving comparability among participating nations.
- Management structure. Design effective division of labor for the study and designate individuals for core responsibilities.
- Position description. Identify different positions and describe the functions and responsibilities of each.

- Budget preparation. Prepare a budget for personnel, materials and supplies, in-country travel, and report and instrument preparation related to the research activities.

- Advisory Committee. Identitify and select decision makers in the MOE, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive systems in Somalia.

- Personnel management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

- Financial management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

- Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

- Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.

- Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

- In-country dissemination. Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums.

Research Associate for the Status Review. Mohamed Dahir, Head of Planning Service, will be the Research Associate for the EMIS Status Review in Somalia. He will work in this capacity for the first 5 months of the project on a half-time basis.

The Research Associate for the Status Review will carry out the following functions:

- Summarize all collected data. Supervise all interviews. Organize and collect all relevant government documents and comparable information from nongovernmental agencies and donors.

- Prepare draft and final report on the current status of data management in Somalia.

Research Associate for Field Work. Mohamed Dahir, Head of Planning Service, will be the EMIS Research Associate for Field Work in Somalia. He will work in this capacity from month 6 through month 17 (12 months) of the project on a half-time basis.

The Research Associate for Field Work will be responsible for the following functions:

- Develop the criteria for the selection of interviewers.
- Select interviewers.
- Prepare appropriate training materials and train interviewers.
- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.
- Develop guidelines for conducting the interviews.
- Arrange logistical support for the interviewers.
- Develop a time table for administering the interviews.
- Monitor and supervise data collection in the field.
- Collect all completed interviews.
- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

Research Associates for Data Analysis. Mohamed Dahir, Head of Planning Service, and Mohamed Hussein Elmi, Head of School Construction and Mapping Service will be the EMIS Research Associates for Data Analysis. Mohamed Hussein Elmi and Mohamed Dahir will work for a period of 5 months (month 17 through month 22) on a half-time basis.

The Research Associates for Data Analysis will be jointly responsible for the following functions:

- Train data coders.
- Monitor and supervise the coding of all completed interview forms. Analyze data from the interview forms.

- Prepare a draft and final reports of the analysis.
- Integrate the status report, interview report, and the analysis report into a final project report.

Computer Assistant. Jeilani Abu Sheikh, Head of Statistical Service, will work for 4 months on a half-time basis from month 15 through month 19.

Other Staff. Other EMIS Research Staff in Somalia will include Mohamed Yusif Ali as project secretary and typist on a half-time basis for 2 years (24 months). Fifteen (15) members of the Somalia MOE Central Inspectorate will be used for interviewing and data coding.

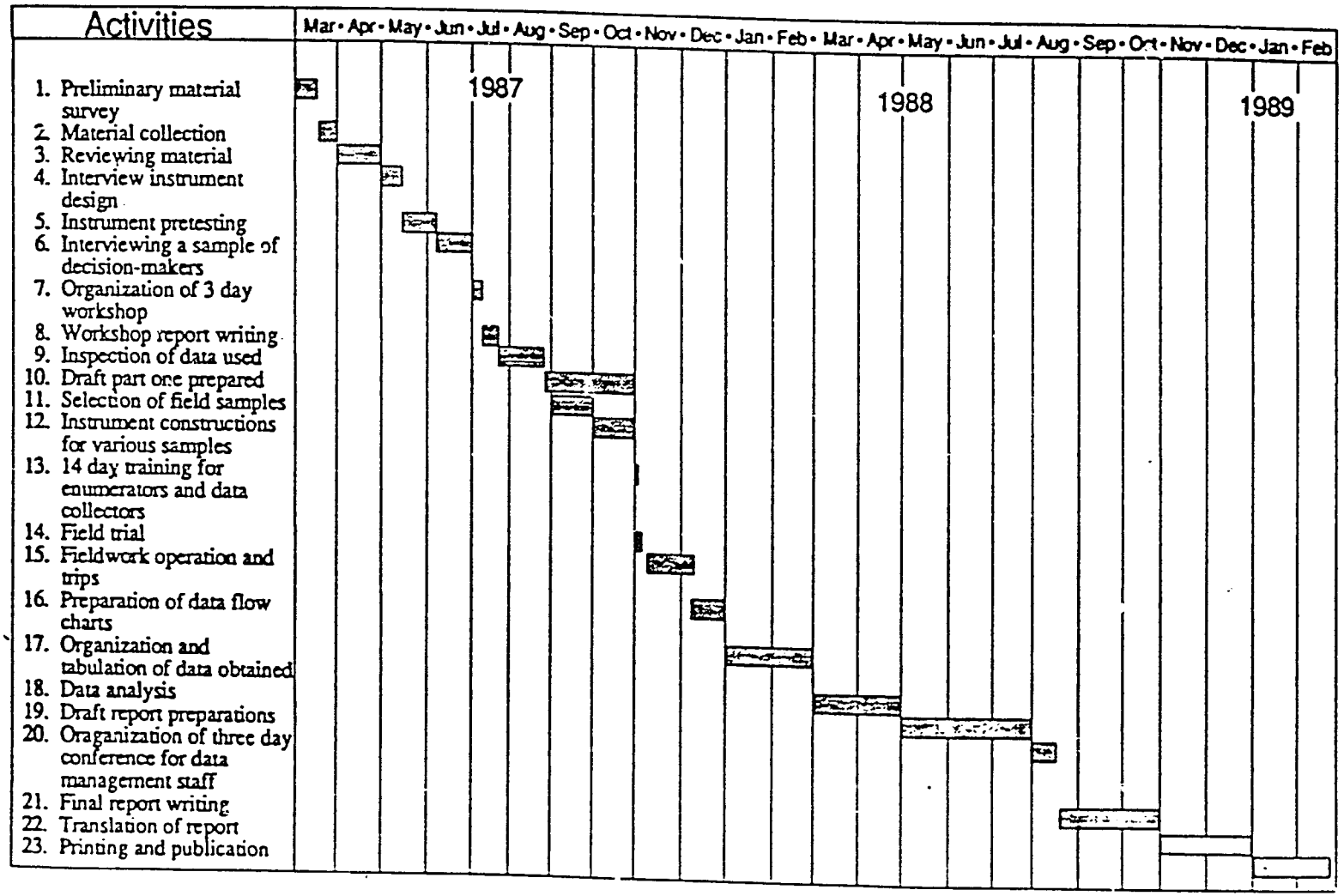
A proposed schedule of EMIS research activities in Somalia is provided on the following page.

IEES Policy Research Initiative

Education Management Information Systems

# Somalia

## Schedule of Activities



Yemen Arab Republic

Management Structure Overview. The management structure of the EMIS research study in the Yemen Arab Republic (YAR) is presented in the figure on the following page. The project management structure consists of the following individuals:

1. Kassem Berihe is the Country Team Leader (CTL)
2. Hamud Naji is the Research Associate for Analysis
3. Ali Mohammed Al-Kouri is the Research Associate for System Status
4. Project Secretary
5. Twelve interviewers for administering the questionnaire. (They will be university students)
6. Six data coders from the MOE

The management structure for the EMIS research in the YAR places the CTL with the responsibility for managing and coordinating all aspects of the research project. Responsibility for implementation of specific research activities will be divided among the CTL and the two research associates. Each research associate will be charged with overseeing the completion of specific project activities under the supervision of the CTL.

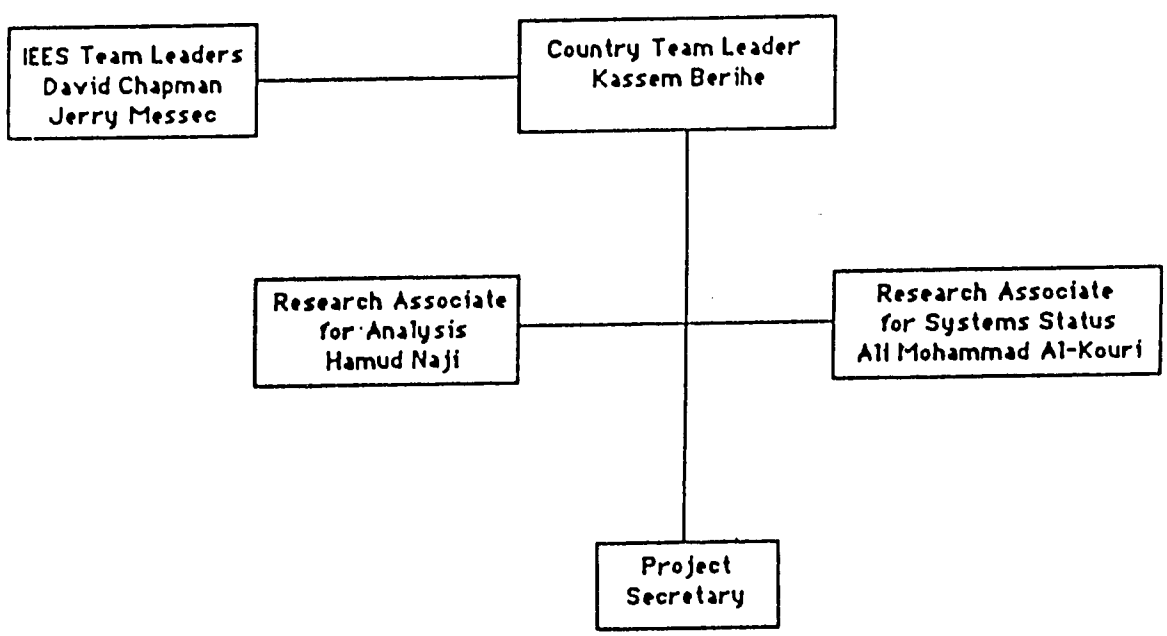
The IEES Project will provide needed technical and professional advice to the CTL. The assistance includes suggestions related to the research design, questionnaire construction, and data analysis. Reference materials on arrangement information systems will also be provided.

Responsibilities of the Country Team Leader (CTL). The CTL in the YAR is Kassem Berihe. As country team leader he will devote 50% of his time to this project for a period of 24 months. Berihe will be responsible for:

1. Proposal Development. The CTL, with collaboration from the IEES Project, has designed and developed the research proposal which includes: 1) a statement of the problem; 2) the research design, research questions, and an appropriate methodology; 3) the project

IEES POLICY RESEARCH INITIATIVE
Education Management Information Systems

Yemen Arab Republic



management structure outlining the division of labor and responsibilities for project personnel; and 4) proposed budget documenting cost for personnel, travel, materials, and report preparation.

2. Staff Supervision. The CTL is responsible for developing the selection criteria and hiring the 12 interviewers and six data coders. He will also coordinate the activities of the two research associates. The CTL assumes responsibility for the timely and acceptable completion of the project personnel's duties.

3. Deliverables. The CTL is responsible for submitting the intermediate and final products, previously described, to the IEES coordinators, David Chapman and Jerry Messec. In addition, he assumes responsibility for completion and revision of the final report on the EMIS research initiative.

4. Cost Accounting. The CTL is responsible for developing a comprehensive project accounting system and will document and verify expenditures in each budget category and devise a procedure for reporting these expenditures to the IEES Coordinator on an eight-week basis.

5. Data Flow Mapping Survey. The CTL is responsible for the activities related to the EMIS mapping activity. Specific responsibilities include:

   - hiring and training interviewers
   - developing, pilot testing, and revising interview protocol
   - developing guidelines for conducting interviews
   - developing a time table for data collection
   - arranging logistical support for interviewers
   - integrating the status report, interview report, and analysis report into the final report.

6. Information Dissemination. The CTL is responsible for writing and submitting interim reports as requested and the final report to the IEES Project, translated into English, at the completion of this study. In addition he will coordinate an in-country conference, at which time the results of the research effort will be presented. The CTL, in collaboration with the IEES Project will present the results of the study and the suggested recommendations at an international conference hosted by the IEES Project.

Responsibilities of the Research Associate for Status Review. Ali Mohammed Al-Kauri, who presently works in the Planning Office at the MOE, will be the EMIS Research Associate for Status Review in the YAR. Al-

Kauri's level of effort will be 50% for a period of six months. The responsibilities of the position are as follows:

1. Summarizing the History of EMIS. The Research Associate for Status Review will be responsible for documenting the development of EMIS in the YAR. This activity will provide a historical account of earlier data management procedures, documentation of reasons why an EMIS is thought to be needed, and the identification of the internal and external sources of support for improving the EMIS in YAR.

2. Describing Current Organization of EMIS. The Research Associate for Status Review will be responsible for identifying the present organization of the EMIS in Yemen. This activity will identify persons at the MOE who are responsible for data management, their level of training, how the data is reported and to whom, and how an EMIS fits into the administrative structure of the Ministry of Education.

3. EMIS Utilization. The Research Associate for Status Review will be responsible for identifying and documenting the present use of information by planners, policy makers, and practitioners. This will include the ways in which educational data are used to monitor progress, develop, and plan for the future.

4. Report Preparation. The Research Associate for Status Review will be responsible for writing and revising a final report on the current status of EMIS in YAR.

In all of these activities the Research Associate for Status Review will receive support, assistance and guidance from the CTL.

Responsibilities of the Research Associate for Analysis. Hamud Naji, Head of the Planning and Statistics Office at the Ministry of Education will be the EMIS Research Associate for Analysis in the YAR. He will devote 50% of his time to this project for a period of 24 months. His responsibilities relate to the data analysis of this research projects. Specific activities include:

1. Train Data Coders. The Research Associate for Analysis will be responsible for developing and conducting a training program for the 12 data coders. The purpose of the program is standardize the data collection procedures.

2. Monitor Data Collection. The Research Associate for Analysis is responsible for the accurate data collection by the twelve

interviewers. As part of this responsibility, he will make field decisions regarding data collection, ensure acceptable data collection procedures are followed, and verify the accuracy of the information collected.

3. Analysis of Interview Data. The Research Associate for Analysis will be responsible for developing a data coding system, supervising the date coding, and analyzing the interview data.

4. Report Preparation. The Research Associate for Analysis will draft and revise a report on the EMIS survey. The report will include sections on the training of the data coders, survey design, data collection techniques, data analyses, and results.

5. Final Report Preparation. The Research Associate for Analysis will assist the CTL in drafting the final project report. His primary responsibility will be to integrate the status and analysis reports into the final report.

In all of these activities the EMIS Research Associate for Analysis in the YAR will receive support, assistance, and guidance from the CTL.

Responsibilities of Other Staff

1. Project Secretary. The Project Secretary will be responsible to the CTL for all clerical duties associated with the research project. Specific duties include: typing of questionnaires, training materials, recording and filing project expenditures and assisting the CTL with logistical arrangements. The project secretary will work for 24 months at 50% time.

2. Interviewers. Twelve college students will be employed each for 10 days. They will conduct the School site visit and record the desired school level information. The interviewers will report to the Research Associate for analysis.

3. Data Coders. Six data coders will be hired for six days each to code the school level data and assist the Research Associate for Analysis in the analysis and report of results.

3.2.6.2 Strengthening Local Education Capacity (SLEC)

The administration and staffing of SLEC research in the two participating countries is presented below.

Botswana. Six persons will be involved in the preparation of the SLEC status report for Botswana. Except for the Country Team Leader, Research

Associate for Status Report, and the Project Secretary, these will be engaged on a part-time basis for periods ranging from two weeks to two months. The six are: Country Team Leader (PTL), Research Associate for Status Report, Research Associate for Field Work, two Research Assistants, and the Project Secretary.

Patrick Molutsi of the University of Botswana serves as SLEC CTL. Molutsi manages the project and will be involved throughout the preparation of the status report. His responsibilities include:

- recruitment of required personnel, prepare job descriptions, and monitor personnel performance;
- participation in the document review and the preparation of an annotated bibliography and, together with a Research Associate, conduct the interviews (up to fifty-five);
- identification and selection of decisionmakers in the Ministries of Education, Finance, and Planning and other appropriate organizations whose support and input are essential to the SLEC study in Botswana;
- preparation of the intermediate and final reports (the status report will be prepared jointly by the CTL and the Research Associates);
- communication of the status report findings to relevant national and IEES personnel;
- preparation of a proposal for Phase II of the study during the sixth month; and
- maintenance of all necessary financial records and submition of receipts and vouchers at specified intervals to IEES.

F. Moorad will be employed by the study as Research Associate for SLEC Status Report in Botswana. He will serve for two months on a part-time basis. His duties include:

- preparation of initial bibliography;
- review of all literature pertaining to local education support activities in Botswana;
- participation in the preparation of reports;

- collection of documents from school districts; and
- limited interviewing.

M. Mpotokwane will serve as SLEC Research Associate for Field Work in Botswana. He will serve for one month on a part-time basis. His duties include:

- training of two research assistants;
- interviewing persons identified above (with the CTL);
- supervision of field work;
- preparation of part of the status report; and
- assistance with preparation of intermediate reports.

Two SLEC Research Assistants will be engaged for two weeks, These will accompany both the CTL and the Research Associate for Field Work during field trips. Research Assistants will, when necessary, be required to assist the Project Secretary.

An SLEC Project Secretary will be employed by the study in Botswana for six months on a part-time basis. The Secretary will be responsible for the preparation of letters, reports, questionnaires, photocopying and filing of all research papers.

An advisory committee of six persons will be formed and will meet twice during Phase I of the study. The committee has the following responsibilities:

- review of the progress of the study and suggestions and guidelines to assist in producing a quality final product; and
- advice to the CTL on the role of their respective agencies or offices in respect to the formation, dissemination. and implementation of policy recommendations resulting from the research study in Botswana.

Indonesia. Ten persons will be actively involved in the preparation of the SLEC status report in Indonesia. Except for the Country Team Leader, Research Associate (Status Report) and the Project Secretary, these will be engaged on a part-time basis for periods ranging from two weeks to two months. The six are:

The Country Team Leader (CTL)
Research Associate (for status report)
Two Research Assistants (for documentary research)
Four Research Assistants (subject experts)
Interviewer
The Project Secretary

Anticipated Duties.

1. Country Team Leader, Romli Suparman - as the manager of the project the CTL will be involved throughout the preparation of the status report. His responsibilities include:

   - recruitment of the personnel required, prepare job descriptions, and monitoring personnel performance;

   - participation in the document review and the preparation of an annotated bibliography and together with a Research Associate conducting the interviews (up to ninety-eight);

   - identification and selection of decision makers in the Ministries of Education, Finance and Planning and other appropriate organizations whose support and input are essential to the SLEC study;

   - preparation of the intermediate and final reports (the status report will be prepared jointly by the CTL and Research Associates) and making arrangements for their translation;

   - organizing the workshop;

   - communicating the status report findings to relevant national and IEES personnel;

   - preparing a proposal for Phase II of the study during the sixth month; and

   - maintaining all necessary financial records and submitting receipts and vouchers at specified intervals the IEES.

2. A Research Associate (Status Report) will be employed by the SLEC study in Indonesia for four months on a part-time basis. His duties include:

   - preparation of initial bibliography;
   - review of all literature pertaining to local education support activities and summarizing the data;
   - participation in the preparation of reports;
   - the collection of documents from various districts;
   - limited interviewing; and
   - preparation of an annotated bibliography.

3. Documentary Research Assistants, two research assistants will be employed by the SLEC study (11 days each) to assist in the literature study, their responsibilities include:

   - reviewing appropriate literature and documents from various sources, and
   - assisting the Research Associate as requested.

4. Interviewer(s) will be employed by the SLEC study for the equivalent of one month full-time (for a total of 22 days) their responsibilities will include:

   - conducting in-depth interviews of respondents at the central, regional and local levels;
   - assisting in the construction and pilot testing of interview protocols;
   - participating in training sessions as requested;
   - analyzing interview data; and
   - presenting a report of the analysis and participating in discussions and workshops as necessary.

5. Research Assistants (subject experts) four persons will be employed by the SLEC study for a total of eight days, their responsibilities include:

   - reviewing the draft interview protocols and data collection forms;
   - advice on status report synthesis, the development of research questions and policy recommendations;

6. A Project Secretary will be employed by the SLEC study for six months on a part-time basis. The secretary duties will include responsibility for the preparation of letters, reports, questionnaires, photocopying and filing.

An advisory committee of eight persons, chaired by the Head of Office of Educational and Cultural Research and Development, MOE, will be responsible for the following:

- Reviewing the progress of the project and offering suggestions and guidelines that will assist in producing a quality final product;
- Advising the CTL on the role of their respective agencies or offices in respect to the formation, dissemination and implementation of policy recommendations resulting form the project's activities.

The advisory committee will meet twice during the first phase of the SLEC study in Indonesia.

3.2.6.3 Teacher Incentive Systems (TIS)

The administration and staffing of TIS research in the three countries currently participating (Haiti will be added in Project Year Four) is presented below.

Liberia. The IEES Project Team provides technical and professional advice to the Liberian Project staff and will visit the project periodically, review the progress, and provide suitable inputs on professional and technical aspects. They will frequently correspond with the Country Team Leader and provide suitable reference materials and suggestions related to the research design, instrument, construction, and data analysis.

Due to the potential national impact and the complexity of the TIS study in Liberia, an Advisory Committee will be formed to represent

different stakeholders and decisionmakers. During the life of the project, members of the committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be the responsibility of the Country Team Leader. The TIS Research Advisory Committee in Liberia will play an important role in the dissemination and implementation of the recommendations of the study.

The TIS Research Advisory Committee will be composed of a representative from each of the following Liberian agencies or institutions: Proposed meetings dates are as follows: March 1987, June 1987, September 1987, January 1988, April 1988, and July 1988.

| Agencies | Number of Persons |
|---|---|
| 1. Ministry of Education | 2 |
| 2. Ministry of Finance | 1 |
| 3. Ministry of Planning & Economic Affairs | 1 |
| 4. Budget Bureau | 1 |
| 5. National Union of Liberian Teachers | 1 |
| 6. Cuttington University College | 1 |
| 7. Zorzor Rural Teacher Training Institute | 1 |

There will be a total of eight members on the TIS Research Advisory Committee in Liberia. The Country Team Leader will select three members from this committee to form an Executive Committee.

During the two years of the project, the Advisory Committee will meet six times. Members of the Committee will be responsible for the following functions

- Revising the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory;

- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project; and

- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

Albert Coleman is the Country Team Leader for TIS research in Liberia. He is currently the Director Specialist for Teacher Education in the Ministry of Education in Liberia. As Country Team Leader, Coleman is responsible for all the processes and products for the project in Liberia. He will work in this capacity for the entire two years on a half-time basis.

The Country Team Leader will be responsible for the following functions:

- Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

- Position descriptions. Identify different positions and describe the functions and responsibilities of each.

- Budget preparations. Prepare a budget for personnel, materials and supplies, in-country travel, report and instrument preparation related to the research activities.

- Advisory Committee. Identify and select decisionmakers in the Ministries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Liberia.

- Personnel Management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

- Financial Management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

- Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

- Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers and secondary teachers to be interviewed.

- Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

- In-Country dissemination. Publicize the reports and recommendations of the project in appropriate stakeholders and policymakers in Liberia.

- International dissemination. Collaborate with IEES personnel in publicizing the results and recommendations of the project in international forums, and represent Liberia Teacher Incentive Project at all IEES Conferences.

Edwin F. Nguma, Cultural Researcher, Ministry of Education, is the Research Associate for the Status Review in Liberia. He will work in this capacity for the first four months of the project on a half-time basis. The Research Associate for the Status Review will carry out the following functions:

- Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their first assignment, remain, and exit the primary school teaching service in Liberia;

- Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers;

- Describe the current balance of incentives and disincentives for teaching in Liberia;

- Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunities for professional growth and development, and instructional support; and

- Prepare draft and final reports on the current status of primary teacher incentives in Liberia.

Beresford B. Jones, Assistant Professor, University of Liberia, is the Research Associate for Field Work. He will work in this capacity for the first eight months of the project on a half-time basis. The Research Associate for Field Work in Liberia will be responsible for the following functions:

- Develop the criteria for the selection of interviewers;
- Select interviewers;
- Prepare appropriate training materials and train interviewers;
- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests;
- Develop guidelines for conducting the interviews;
- Arrange logistical support for the interviewers;
- Develop a time table for administering the interviews;
- Monitor and supervise data collection in the field;
- Collect all completed interviews; and
- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

Frederick S. Gbegbe, Assistant Professor, University of Liberia, is the Research Associate for Data Analysis. He will work in this capacity for a period of six months on a half-time basis. The Research Associate for Data Analysis will be responsible for the following functions:

- Train data coders;
- Monitor and supervise the coding of all completed interview forms;
- Analyze the data from the interview forms;
- Prepare draft and final reports of the analysis; and
- Integrate the status report, interview report, and the analysis report into a final project report.

Other TIS research staff in Liberia will include a full-time secretary and approximately 15 personnel who will be used for interviewing and data coding.

Somalia. The IEES Project Team provides technical and professional advice to the Somali staff for TIS research. The IEES coordinators visit

the study periodically, review the progress, and provide suitable inputs on the technical aspects. They also frequently correspond with the TIS Country Team Leader in Somalia and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

Because of the potential national impact and the complexity of the project, an Advisory Committee will be formed to represent different stakeholders and policymakers. During the life of the project, members of this committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project, which will be the responsibility of the Country Team Leader. The Advisory Committee in Somalia will play an important role in the dissemination and implementation of the recommendations of the TIS research.

The advisory Committee will be composed of a representative from each of the following agencies or institutions:

Ministry of Education, Vice Minister
Ministry of Education, Director General for Schools
Ministry of Education, Director of Teacher Training
Ministry of Education, Director of Planning
Ministry of National Planning, Director of Human Resources
Ministry of Finance
La Foole College of Education
Primary School Teacher

Thus, there will be a total of eight members on the TIS Advisory Committee in Somalia. During the two years of the project, the Advisory Committee will meet six times, at four month intervals. Members of the committee will be responsible for the following functions:

- Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory;

- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project; and

- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

Country Team Leader. Hussein Mohamed Said is the Country Team Leader for the TIS study in Somalia. He is currently Director-General for Educational Development in the Ministry of Education in Somalia. As Country Team Leader, Hussein will be responsible for all the processes and products for the TIS study in Somalia. He will work in this capacity for the entire two years on a half-time basis.

The Country Team Leader will be responsible for the following functions:

- Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the research design and in the construction of the interview protocols. Adapt the research design to suit the needs, resources and constraints of Somalia while while preserving comparability among participating nations.

- Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

- Position descriptions. Identify different positions and describe the functions and responsibilities of each.

- Budget preparation. Prepare a budget for personnel, material and supplies, in-country travel, and report and instrument preparation related to the research activities.

- Advisory Committee. Identify and select decision makers in the Ministries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the teacher incentive system in Somalia.

- Personnel management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

- Financial management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

- Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

- Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.

- Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

- In-country dissemination. Publicize the reports and recommendations of the project to appropriate stakeholders and policymakers in Somalia.

- International dissemination. Collaborate with IEES personnel in publicizing the results and recommendations of the project in international forums.

Research Associate for the Status Review. Mohamed Dahir, Head of Planning Service, will be Research Associate for the TIS Status Review in Somalia. He will work in this capacity for the first four months of the project on a half-time basis.

The Research Associate for the Status Review will carry out the following function:

- Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their assignment, remain, and exit the primary school teaching service in Somalia.

- Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers.

- Describe the current balance of incentives and disincentives for teaching in Somalia.

- Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunity for professional growth and development, and instructional support.

- Prepare draft and final report on the current status of primary teacher incentives in Somalia.

Research Associate for Field Work. Yussuf Shiekh Mohamud, Head of Research and Documentation Service, is the TIS Research Associate for Field Work in Somalia. He will in this capacity for the first year of the project on a half-time basis.

The Research Associate for Field Work will be responsible for the following functions:

- Develop the criteria for the selection of the interviewers;
- Select interviewers;
- Prepare appropriate training materials and train interviewers;
- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilots test;
- Develop guidelines for conducting interviews;
- Arrange logistical support for the interviewers;
- Develop a timetable for administering interviews;
- Monitor and supervise data collection in the field;
- Collect all completed interviews; and
- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

Mohamed Dahir, Head of Planning service, and Jeilani Abu Sheikh, Head of Statistical Service, will be the TIS Research Associates for Data Analysis in Somalia. They will be assisted by Mohamed Abdullahai Hersi, Assistant Statistician and Computer Analyst. Each of these three individuals will work for a period of four months on a half-time basis.

The Research Associates for Data Analysis in Somalia will be jointly responsible for the following functions:

- Train data coders;
- Monitors and supervise the coding of all completed interview forms;

- Analyze the data from the interview forms;
- Prepare draft and final reports of the analysis; and
- Integrate the status report, interview report, and the analysis into a final project report.

Yemen Arab Republic (YAR). IEES provides technical and professional advice to the Yemeni staff for TIS research. IEES coordinators visit the project periodically, review the progress, and provide suitable inputs on the technical aspects. They frequently correspond with the TIS Country Team Leader in the YAR and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

A TIS Advisory Committee in the YAR will be formed to represent different stakeholders and policymakers. During the life of the project, members of the committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The TIS Advisory Committee in the YAR will be composed of representative from appropriate ministries. There will be six members on the committee, three representing the Ministry of Education, and one each from the Ministries of Labor, Finance, and Planning. During the two years of the project, the Advisory Committee will meet six times. Members of the committee will be responsible for the following functions:

- Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory;

- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project; and

- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

Noman Saed Alaswadi is the Country Team Leader for the TIS study in Yemen. He is the Head of the Planning and Evaluation Section of the Department of Nonformal Education in the Ministry of Education in Yemen. As Country Team Leader, Alaswadi is responsible for all the processes and products for the project in Yemen. He works in this capacity for the entire two years on a half-time basis.

The Country Team Leader is responsible for the following functions:

- Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the research design and in the construction of the interview protocols. Adapt the research design to suit the needs, resources, and constraints of Yemen while preserving comparability among participating nations.

- Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

- Position descriptions. Identify different positions and describe the functions and responsibilities of each.

- Budget preparation. Prepare a budget for personnel, materials and supplies, in-country travel, and report and instrument preparation costs related to the research activities.

- Advisory Committee. Identify and select decision makers in the Ministries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Yemen.

- Personnel management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

- Financial management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

- Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

- Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.

- Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

- In-country dissemination. Publicize the reports and recommendations of the project to appropriate stakeholders and policymakers in Yemen.

- International dissemination. Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums.

Abdulwahab Almsbahi, Assistant to the Director General of Education, is the TIS Research Associate for the Status Review in the YAR. He will work in this capacity for the first five months of the project on a half-time basis.

The TIS Research Associate for the Status Review in the YAR will carry out the following functions:

- Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their first assignment, remain, and exit the primary school teaching service in Yemen.

- Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers.

- Describe the current balance of incentives and disincentives for teaching in Yemen.

- Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunities for professional growth and development, and instructional support.

- Prepare draft and final report on the current status of primary teacher incentives in Yemen.

Abdulaziz Al-Maktari, Head of the Evaluation and Research Section, is the Research Associate for Teacher Survey in the YAR. He will work in this capacity for twelve months on a half-time basis.

The Research Associate for Teacher Survey will be responsible for the following functions related to collecting interview data:

- Develop the criteria for the selection of the interviewers.
- Select interviewers.
- Prepare appropriate training materials and train interviewers.
- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.
- Develop guidelines for conducting the interviews.
- Arrange logistical support for the interviewers.
- Develop a time table for administering the interviews.
- Monitor and supervise data collection in the field.
- Collect all completed interviews.
- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

The Research Associate for Teacher Survey will also be responsible for the following functions related to the analysis of the data from the survey. He will be assisted in the analysis by Mohamed Almedwahi, the Head of the Literacy Section in the Department of Nonformal Education:

- Monitor and supervise the coding of all completed interview forms.
- Analyze the data from the interview forms.
- Prepare draft and final reports of the analysis.
- Integrate the status report, interview report, and the analysis report into a final project report.

Other Staff. Other TIS staff in the YAR will include a full-time Secretary and 10 Supervisors who will be used for interviewing and data coding.

## 3.3 TRAINING MANUALS

IEES has undertaken to produce two training manuals in order to support institutional capacity building in areas critical to IEES strategy. The two manuals now nearing completion have undergone initial field use and revision and will be disseminated during Project Year Four. One manual, Training Manual for Data-based Decisionmaking, will be published in Project Year Four. The other manual, Training Manual for Sector Assessment Methodology, is currently undergoing revision following presentation and discussion of the manual at the Second IEES International Conference and its use in Nepal with counterparts participating in the sector assessment activity to be conducted there June-August 1987.

These manuals are discussed further below.

### 3.3.1 Training Manual for Data-based Decisionmaking

This manual has as its goal to train government officials in developing countries in more systematic, data-based policy analysis in situations where time is severely limited. The manual was originally produced for a training seminar proposed by Centre Interafricain de Recherches et d'Etudes Superieure en Science de l'Education (CIRSSED), Lome, Togo, to EDI/World Bank and collaboratively developed with IEES. IEES staff presented the initial training workshop in Togo in June 1986.

The workshop was based on a learning-by-doing approach and was designed to "train the trainers," enabling workshop participants to train subordinates using the final materials. Three sets of materials were produced for the Togo workshop: a facilitator's manual, a student's manual, and a database for case studies based largely on data collected from Botswana. These materials were subsequently revised at FSU. based upon what was learned during their use in Togo. A second field trial was

scheduled for June 1987 in Port-au-Prince, Haiti, but was canceled because of political disturbances at that time.

Sande Milton and Aline Bory-Adams of FSU prepared the training materials, working collaboratively with CIRSSED and World Bank personnel, and have overseen the production of a draft version of the training manual at IEES/FSU and a final version will be completed early in Project Year Four.

### 3.3.2 Training Manual for Sector Assessment Methodology

This manual is being produced to foster the understanding, adoption, and application of the sector approach to education and human resources planning and management. This manual is being produced by Victor Cieutat and Mary Pigozzi of IIR, who presented a draft version of the manual at the Second IEES International Conference in February 1987. Based upon feedback from that presentation, the manual is now undergoing further revisions and a final version will be completed in Project Year Four.

The training manual consists of an experienced-based handbook and an accompanying set of support materials. The handbook is divided into eight parts:

1. Overview
2. Introduction to the Sector Assessment Approach
3. Preparation
4. Perspective
5. Conceptual Framework
6. Writing
7. Presentation
8. Applications

The manual will be employed for preparing counterparts during the conduct of the Nepal Sector Assessment activity early in Project Year Four and experiences gained from this use will guide further revision.

## 3.4 IEES EDUCATIONAL EFFICIENCY CLEARINGHOUSE

The IEES Educational Efficiency Clearinghouse was established at FSU to collect project documents and other related materials, and to provide these materials both to consortium personnel and personnel in IEES collaborating countries. Materials in the clearinghouse are organized both by country and by topic areas related to improving the efficiency of educational systems. Country notebooks are maintained for each participating country. These notebooks are an important part of the project information system and supply quick reference on the status of all activities for monitoring and reporting purposes. Clearinghouse materials are entered into a data base which permits immediate location of documents as required by staff or consultants. During Project Year Four, the Clearinghouse will transfer all holdings to the MicroDIS system provided by AID/Washington. IEES Clearinghouse holdings will then become accessible by AID and other AID-funded projects. IEES will also gain direct electronic access to the AID database.

In-Country Resource Centers. In-Country Resource Centers are now established in three countries, Botswana, Somalia, and Yemen Arab Republic. These centers have been established as part of existing educational libraries or document centers and ensure that IEES Project documents will be available for planners and decisionmakers in collaborating countries beyond the life of the project. They are regularly supplied with project documents by the central clearinghouse at FSU. Additional centers in the four other countries will be established during Project Year Four.

## 3.5 INTRACONSORTIUM COMMUNICATION

The effective management of a complex, multi-national consortium must be founded upon the flow of timely and accurate information to all levels of activity. Both formal and informal channels now operate to ensure this flow among consortium members, as well as among RTAs, field projects, and collaborating country personnel. Communication channels now in place include the following:

IEES Executive Management Committee (EMC) Meetings. EMC meetings bring together principal consortium actors from the four consortium institutions, as well as AID/W S&T personnel and consortium staff and consultants as appropriate. The first EMC meeting for Project Year Four is scheduled for September 1987.

International Steering Committee (ISC) Meetings. These meetings ensure that representatives of all collaborating countries participate in central consortium planning and decisionmaking processes. ISC meetings for Project Year Four have not yet been scheduled.

Intraconsortium Telephone Conferencing. Telephone conferencing equipment has now been installed at FSU central offices to permit the regular scheduling of telephone conferences between central project staff at FSU (including field project back-up staff) and other consortium, RTAs, field project, and collaborating personnel. Telephone conferences will increase the flow of information among consortium members, broaden the range of discussion on critical project issues, and reduce the present burden on individuals to report and relay information from the many calls they may receive at their desk.

IEES Communique. The intraconsortium newsletter, IEES Communique, serves the important function of disseminating recent information of consortium activities to consortium members, consultants, RTAs, and counterparts in collaborating countries. The Communique also provides travel plans for IEES and other centrally-funded AID projects. The Communique has been expanded in format during Project Year Three and now contains background information on IEES activities in order to provide readers with a better understanding of the wide array of consortium assistance to collaborating countries.

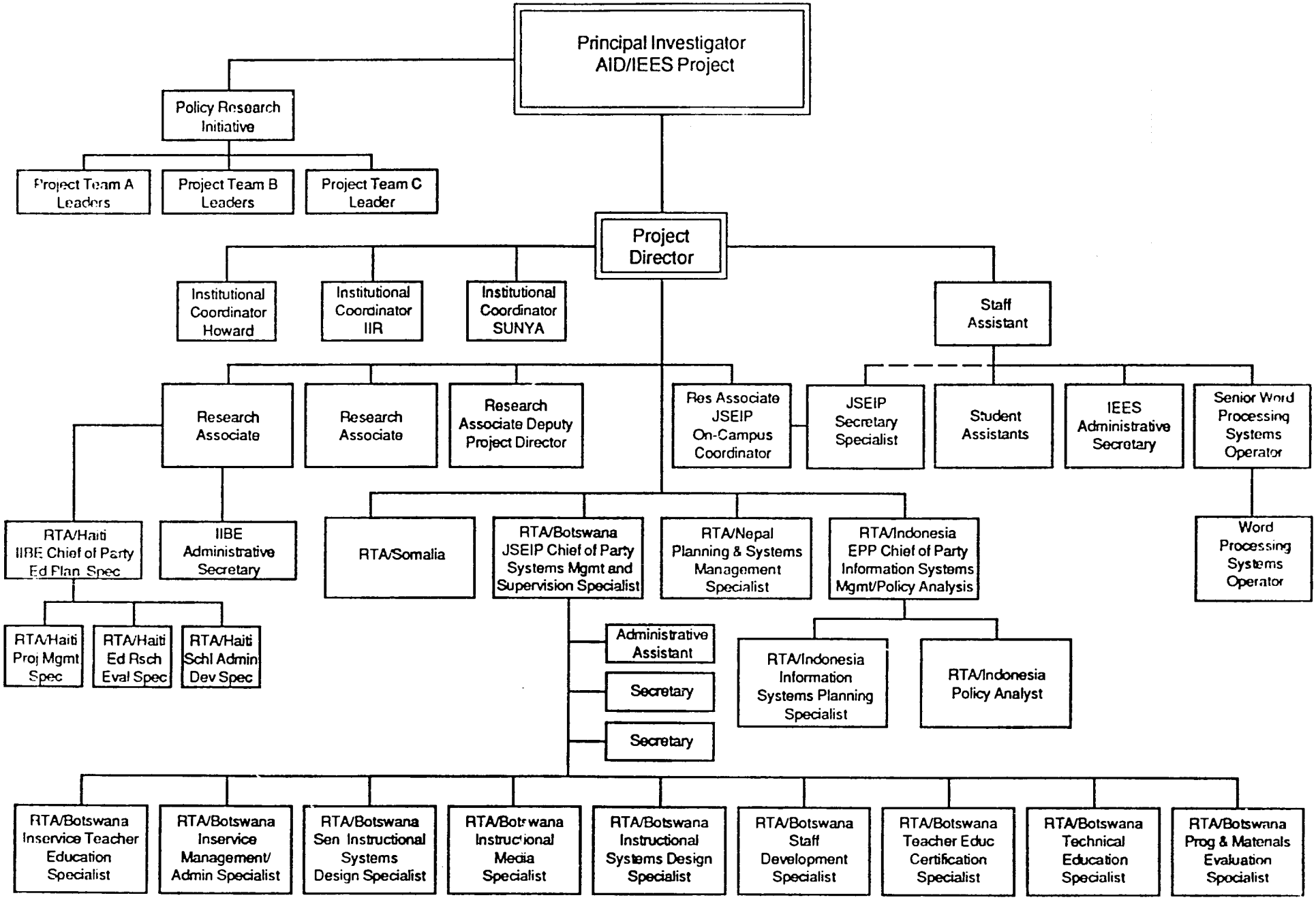
Project Summary. This document, based on a briefing paper prepared by Douglas Windham of SUNYA during Project Year Three, was updated in February 1987 for dissemination at the Second IEES International Conference in Indonesia. The original document discussed project background and strategy and traced the impact of IEES activities in Botswana and Somalia, the two countries in which the project had the longest history of assistance at the time the document was prepared. The February 1987 update included information on the impact of project activities in the five other collaborating countries, as well as a description of the Policy Research Initiative. During the first part of Project Year Four, this document will again be updated in order to present the further impact of IEES activities in all countries.

IEES Travel Updates. These graphic presentations of current and projected travel are prepared monthly by IEES central office staff and distributed throughout the consortium. The updates serve both as a valuable planning document and as a record of project travel (arranged by country) which is utilized in project reporting.

IEES Status Report. These reports summarize in graphic form the current status of project contract deliverables and in-country activities. They provide project planners with an overall summary of accomplishments and activities and identify personnel responsible for those activities, along with relevant dates and other comments.

# 4.0 SUMMARY IMPLEMENTATION CHARTS

## 4.1 Project Administration Chart


Principal Investigator AID/IEES Project
Policy Research Initiative
Project Team A Leaders
Project Team B Leaders
Project Team C Leader
Project Director
Institutional Coordinator Howard
Institutional Coordinator IIR
Institutional Coordinator SUNYA
Staff Assistant
Research Associate
Research Associate
Research Associate Deputy Project Director
Res Associate JSEIP On-Campus Coordinator
JSEIP Secretary Specialist
Student Assistants
IEES Administrative Secretary
Senior Word Processing Systems Operator
RTA/Haiti IIBE Chief of Party Ed Plan Spec
IIBE Administrative Secretary
RTA/Somalia
RTA/Botswana JSEIP Chief of Party Systems Mgmt and Supervision Specialist
RTA/Nepal Planning & Systems Management Specialist
RTA/Indonesia EPP Chief of Party Information Systems Mgmt/Policy Analysis
Word Processing Systems Operator
RTA/Haiti Proj Mgmt Spec
RTA/Haiti Ed Rsch Eval Spec
RTA/Haiti Schl Admin Dev Spec
Administrative Assistant
Secretary
Secretary
RTA/Indonesia Information Systems Planning Specialist
RTA/Indonesia Policy Analyst
RTA/Botswana Inservice Teacher Education Specialist
RTA/Botswana Inservice Management/ Admin Specialist
RTA/Botswana Sen Instructional Systems Design Specialist
RTA/Botswana Instructional Media Specialist
RTA/Botswana Instructional Systems Design Specialist
RTA/Botswana Staff Development Specialist
RTA/Botswana Teacher Educ Certification Specialist
RTA/Botswana Technical Education Specialist
RTA/Botswana Prog & Materials Evaluation Specialist

## 4.2 Country Implementation Charts

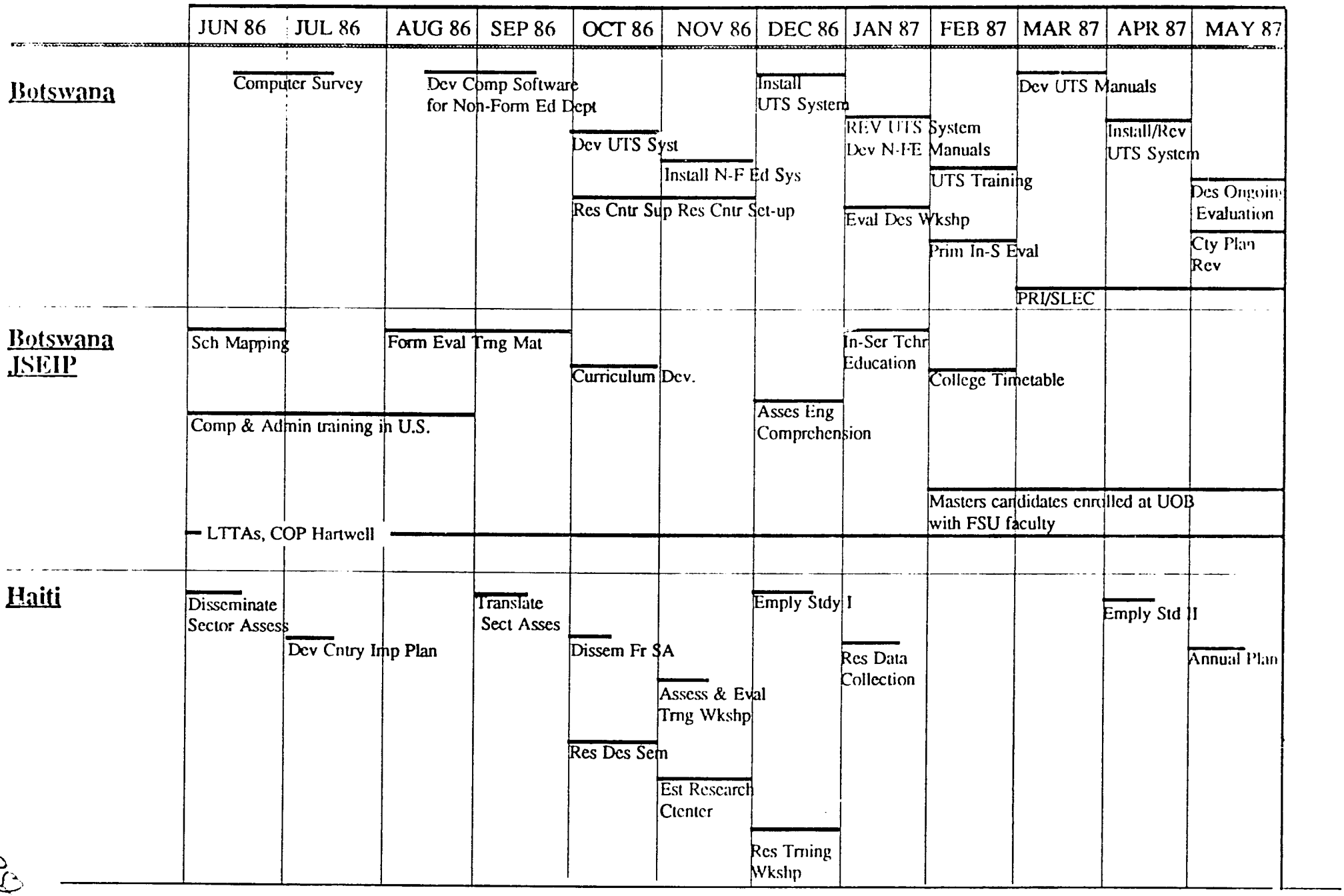
# IEES Project Year Three (June 1986 -- May 1987)

*Accomplished Field Activities*

| | JUN 86 | JUL 86 | AUG 86 | SEP 86 | OCT 86 | NOV 86 | DEC 86 | JAN 87 | FEB 87 | MAR 87 | APR 87 | MAY 87 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Liberia** | | | | | | Integration study for IEL & World Bank Textbook Proj. | | | | IEL II Project Ass't | | |
| **Nepal** | Country Implementation Plan | | | | | Select out-of-country trainees | | | | PRI/EMIS Implementation (planning/contracting) | | |
| | 2nd Microcomp Wkshp | | | | | PRI/EMIS Planning | | RETT Res Wkshp | | | | |
| | RTA, Butterworth | | | | | | | | | | | |
| **Somalia** | Policy Anlys Training Wkshp | | Donor Coordin Study | | | | Teacher Training Wkshp | | | PRI/EMIS Implementation | | |
| | | | Matrl Dist Study | | | | | | | | | |
| | | | Tchr Incentives Study | | | Comp Appl Wkshp | | Integ Strat Implm | | | | |
| | | | MOE Wkshp | | | | | | | | Annual Plan Dev | |
| | RTA Berger | | | | | | | | | | | |
| **Yemen** | | FYP Asst/Data Anlys | | | | Yemenization of Tching Force Study | | | Data Coll Asst | | | |
| | | Labor Force Anlys | | | | | | | | | Cntry Plan Dev | |
| | | Comp. Tech Training | | | | | | | | | | |
| | | | MIS Dev | | | | | | | PRI/EMIS/TIS | | |
| | | | EMIS Dev | | | | | | | | | |
| | | | PP Dev | | | | | | | | | |

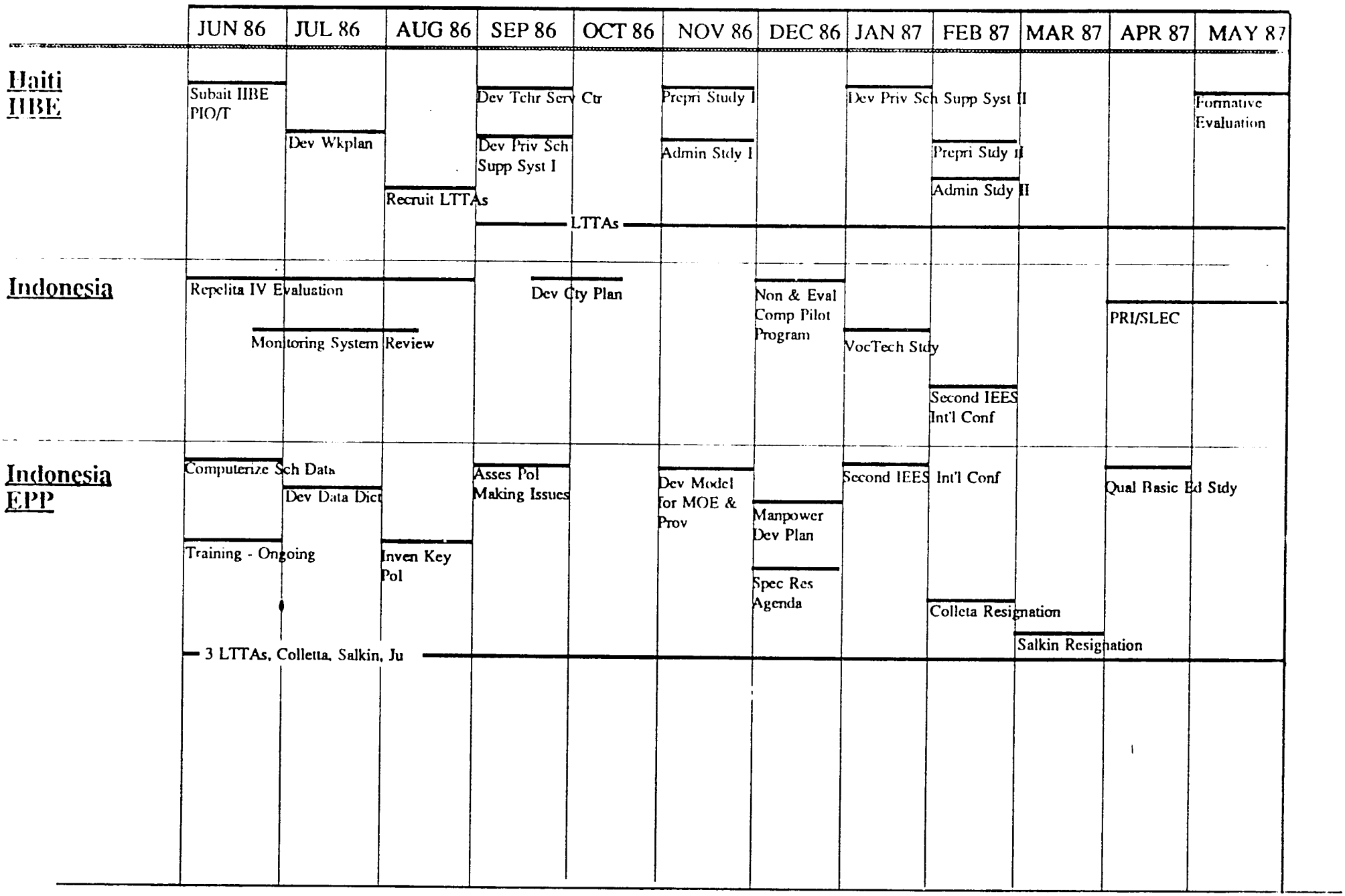
# IEES Project Year Three (June 1986 -- May 1987)

*Accomplished Field Activities*



# IEES Project Year Three (June 1986 -- May 1987)

*Accomplished Field Activities*



# IEES Project Year 4: Proposed Country Implementation Schedule

| | JUN 87 | JUL 87 | AUG 87 | SEP 87 | OCT 87 | NOV 87 | DEC 87 | JAN 88 | FEB 88 | MAR 88 | APR 88 | MAY 88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Botswana** | Final Testing & Application of EMIS System | | | | | | | | | | | |
| | | Procurement Hardware | | | | | | | | | | |
| | | Data Entry and Testing of System | | | | | | | | | | |
| | PRI-TIS: Continued Participation | | | | | | | | | | | |
| **Botswana JSEIP** | Evaluation Task Force and Needs Assessment | | | | | | | Intake Students Joint Masters Prog. | | | Nat'l Curr Consultative Conferences | |
| | Community Junior Secondary School Data Base | | | | | | | | | | | |
| | School Mapping & Physical Planning | | | | | | | | | | | |
| | Res. & Testing | | | | | | | | | | | |
| | Curriculum Development | | | | | | | | | | | |
| **Indonesia** | Efficiency in Education Activity I: 5 yr Plan and Policy Planning Assistance | | | | | | | | | | | |
| | | | | | | Activity III: Quality of Ed: Teacher Incentives | | | | | | |
| | Activity VI: Analysis ABTANAS Data | | | | | | | | | | | |
| | Policy Study on Cost and Quality of Voc/Tech Edu. | | | | | | | | | | | |
| | Activity V: Institutionalization Computer Software Dev. & Training | | | | | | | | | | | |
| | Activity IV: Financing Education: Resource Recoveryu in Higher Ed | | | | | | | | | | | |
| | Activity II: Policy Study VOC/TECH Edu | | | | | | | | | | | |
| | Community Sources of Teacher Incentive Supplements | | | | | | | | | | | |
| | Immediate Five-Year Plan Assistance | | | | | | | | | | | |
| **Indonesia EPP** | Activity VII: Computerized Library Retreival System | | | | | | | | | | | |

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# IEES Project Year 4: Proposed Country Implementation Schedule

| | JUN 87 | JUL 87 | AUG 87 | SEP 87 | OCT 87 | NOV 87 | DEC 87 | JAN 88 | FEB 88 | MAR 88 | APR 88 | MAY 88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Liberia** | Conduct PRI-TIS | | | | | | | | | | | |
| | | | | ED Supervision | | | | | | | | |
| | | | | | | IEL II assistance | | | | | | |
| | | | | | SA Update | | | | | | | |
| **Nepal** | | | | | | | | Short-term Overseas Training in Data Processing and Analysis | | | | |
| | Conduct PRI-EMIS | | | | | | | | | | | |
| | EHR S.A. | | | Second Multilevel Workshop on Microcomputers & data analysis | | | | | | | | |
| **Somalia** | | | | | | Instructional Wkshp Design | | | | | | |
| | Conduct PRI-EMIS/TIS | | | | | | | | | | Annual Plan Dev | |
| | | | Prep. Inservice Teacher Training Modules | | Mat'ls Eval Unit | | | Assist Planning Proj Mgt System | | | | |
| | | | | | | Textbook Prod | | | | | | |
| | | | New RTA | | | | | | | | | |
| | | Prin & Sec Headmasters Wkshps | | | | | | | | | | |
| | | Prep Inservice Teacher Training Subj Matter Modules | | | | | | | | | | |
| **Yemen** | | Comp Wkshp I | | | SA Update | | | Comp Wkshp 2 | | Country Plan Dev | | |
| | | IEES PRI for EMIS: Continued Participation | | | | | | | | | | |
| | | Organ Analysis MOE | | | | Analysis MPP | | | | | | |
| | | | | | | | | MOE Org & Training Needs Assessment | | | | |
| | Design MPP | | | | | | | | | | | |

# IEES Project Year 4: Proposed Country Implementation Schedule

| | JUN 87 | JUL 87 | AUG 87 | SEP 87 | OCT 87 | NOV 87 | DEC 87 | JAN 88 | FEB 88 | MAR 88 | APR 88 | MAY 88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Haiti** | Ed. Pol. Analysis Training Wkshp | Sector Assessment Planning Seminar | Prep Study on Legal Framework for the Civil Service Status of Teachers; Computer Applications Seminar for Policy Makers; Survey Design Wkshp | EHR Sector Data Needs Assessment | | Training Seminar on PRNTIS Methodology | | | Questionaires | Pretesting for PRI; Local Educl Financing Study | | Eval of 87/88 Activity; Prep New CIP; Collection of Data in the Field/PRI; Training PRI Field Surveyors |
| | Operation of the IEES National Steering Committee | | | | | | | | | | | |
| **Haiti IIBE** | Recruitment Media Edu & Instruc Design Specialist | Teacher Training Private School Support | Teacher Training Res. & Dev: low-cost Model of Preprimary Ed. | | | | | | Initial contacts to be made with another 150-175 schls in all 9 geographical depts. | | | |
| | Private Primary School Support | | | | | | | | | | | |
| | Research and Development | | | | | | | | | | | |
| | Institutional Development | | | | | | | | | | | |
| | Public Sector | | | | | | | | | | | |
| | Project Management | | | | | | | | | | | |

# 5.0 BUDGET

FLORIDA STATE UNIVERSITY
USAID/IEES PROJECT

CENTRAL FUNDING

PROJECT YEAR FOUR
BUDGET ESTIMATE

| CATEGORY | YEAR 1 EXPENDED 6/84-6/85 | YEAR 2 EXPENDED 7/85-6/86 | YEAR 3 EXPENDED 7/86-6/87 | YEAR 4 ESTIMATED 7/87-6/88 | TOTAL 6/84-6/88 |
|---|---|---|---|---|---|
| SALARIES | 277,806 | 481,763 | 368,388 | 452,142 | 1,580,099 |
| FRINGE | 55,938 | 85,986 | 69,523 | 75,025 | 286,472 |
| CONSULTANTS | 25,626 | 64,179 | 59,201 | 68,806 | 217,812 |
| ALLOWANCES | 0 | 37,291 | 39,691 | 12,410 | 89,392 |
| TRAVEL | 107,029 | 198,399 | 81,544 | 82,522 | 469,494 |
| MATERIALS | 7,932 | 14,900 | 12,656 | 15,696 | 51,184 |
| EQUIPMENT | 0 | 3,970 | 19,128 | 12,765 | 35,863 |
| TRAINING | 0 | 2,422 | 6,876 | 8,782 | 18,080 |
| SUBCONTRACTS | 892,683 | 1,073,048 | 1,098,343 | 1,210,088 | 4,274,162 |
| OTHER DIRECT | 23,854 | 108,795 | 109,866 | 122,798 | 365,313 |
| OVERHEAD | 122,089 | 211,666 | 161,826 | 178,908 | 674,489 |
| TOTAL | 1,512,957 | 2,282,419 | 2,027,042 | 2,239,942 | 8,062,360 |

FLORIDA STATE UNIVERSITY
USAID/IEES PROJECT

CENTRAL FUNDING

PROJECT YEAR FOUR
SUMMARY BUDGET ESTIMATE

| | | |
|---|---|---|
| I. | GENERAL PURPOSE ACTIVITIES | |
| | A. Policy Research Initiative | 134,004 |
| | B. IEES Central Clearinghouse | 116,272 |
| | C. IEES Steering Committee | 65,000 |
| | | 315,276 |
| II. | IN-COUNTRY ACTIVITIES | |
| | A. Somalia | 210,383 |
| | B. Haiti | 85,475 |
| | C. Indonesia | 150,000 |
| | D. Liberia | 142,250 |
| | E. Nepal | 288,926 |
| | F. Botswana | 164,425 |
| | G. Yemen | 150,650 |
| | | 1,192,109 |
| III. | PROJECT COORDINATION AND MANAGEMENT SUPPORT | |
| | A. FSU, Howard University, IIR, and SUNYA | 732,557 |
| | TOTAL: | $2,239,942 |

CENTRAL FUNDING
PROJECT YEAR FOUR

## GENERAL PURPOSE ACTIVITIES

### POLICY RESEARCH INITIATIVE

| | | |
|---|---|---|
| SALARIES | | |
| Principal Research Coordinator (20%) | | 9,000 |
| Project Team Leaders | | |
| EMIS - David Chapman (25%) | | 14,625 |
| SLEC - Jeremy Strudwick (25%) | | 9,654 |
| TIS - S. Thiagarajan (25%0 | | 16,883 |
| | | 50,162 |
| FRINGE BENEFITS | | 12,541 |
| TRAVEL | 10 trips @ $3,500 | 35,000 |
| MATERIALS | | 1,000 |
| OTHER DIRECT | | 8,500 |
| OVERHEAD | | 26,801 |
| TOTAL | | 134,004 |

IEES CENTRAL CLEARINGHOUSE

| | |
|---|---|
| SALARIES | |
| Faculty (10% FTE) | 4,500 |
| Publications Coordinator | 30,000 |
| Graduate Assistants (100% FTE) | 15,000 |
| Student Assistant | 4,000 |
| | 53,500 |
| FRINGE BENEFITS | 8,625 |
| MATERIALS | |
| Office and Library Supplies | 1,200 |
| Subscriptions and Acquisitions | |
| Book Orders for Central File | 1,200 |
| Book Orders for Country Libraries | 6,000 |
| Journal Subscriptions | 1,130 |
| | 9,530 |
| OTHER DIRECT | |
| Postage and Shipping | 5,000 |
| Printing and Reproduction | 15,000 |
| Computer Services | 1,200 |
| Library Information Services | 3,000 |
| | 24,200 |
| OVERHEAD | 20,417 |
| TOTAL | 116,272 |

CENTRAL FUNDING
PROJECT YEAR FOUR

## IN-COUNTRY ACTIVITIES

### SOMALIA

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Orientation of RTA | 7,096 | 7,096 |
| 2. | Instructional Design Workshop | 7,421 | 14,517 |
| 3. | Computer Workshop | 10,666 | 25,183 |
| 4. | MOE Project Planning Support | 37,713 | 62,896 |
| 5. | Extending MOE Computer Capacity | 4,621 | 67,517 |
| 6. | Country Implementation Plan | 8,586 | 76,103 |
| 7. | Policy Research Initiative | 54,558 | 130,661 |
| 8. | Resident Technical Advisor | 66,488 | 197,149 |
| 9. | Assistance to CDC | 13,234 | 210,383 |

### HAITI

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Sector Assessment Planning Seminar | 13,000 | 13,000 |
| 2. | Survey Design Workshop | 10,100 | 23,100 |
| 3. | Computer Applications Workshop | 2,500 | 25,600 |
| 4. | EHR Sector Data Needs Survey | 12,500 | 38,100 |
| 5. | Survey of Local Educational Costs and Financing | 10,250 | 48,350 |
| 6. | Teacher Incentives Workshop | 6,800 | 55,150 |
| 7. | Policy Research Initiative | 30,325 | 85,475 |

INDONESIA

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Technical Support for Increasing Efficiency in Education | 50,000 | 50,000 |
| 2. | Quality Education - Teacher Incentives | 20,000 | 70,000 |
| 3. | Policy Research Initiative | 25,000 | 95,000 |
| 4. | Computer Software Development and Training | 30,000 | 125,000 |
| 5. | Data Analysis of EBTANAS Data and Policy Applications | 18,000 | 143,000 |
| 6. | Sector Assessment Publication and Distribution | 7,000 | 150,000 |

LIBERIA

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Technical Assistance to MOE | 40,000 | ** |
| 2. | Policy Research Initiative | 31,250 | 31,250 |
| 3. | Sector Assessment | 90,000 | 121,250 |
| 4. | Sector Assessment | 66,000 | ** |
| 5. | Five Year National Educational Plan | 10,000 | ** |
| 6. | Country Implementation Plan | 15,000 | 136,250 |
| 7. | Sector Assessment Publication and Distribution | 6,000 | 142,250 |

** Funds added by USAID/Liberia

NEPAL

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Resident Technical Advisor | 50,000 | 50,000 |
| 2. | Resident Technical Advisor | 45,000 | ** |
| 3. | Multi-level Workshops on Micro-computers and Data Analysis | 11,400 | 11,400 |
| 4. | District Level Training in Data Collection and Analysis | 10,500 | 71,900 |
| 5. | EHR Sector Assessment | 167,701 | 239,601 |
| 6. | Technical Assistance to School Mapping Project | 12,000 | ** |
| 7. | Policy Research Initiative | 30,325 | 269,926 |
| 8. | Revision of Country Implementation Plan (according to Sector Assessment recommendations) | 12,000 | 281,926 |
| 9. | Sector Assessment Publication and Distribution | 7,000 | 288,926 |

** Funds added by USAID/Nepal

BOTSWANA

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Resident Technical Advisor | 35,000 | 35,000 |
| 2. | Administrative Assistant | 15,700 | 50,700 |
| 3. | Management Information Systems - DNFE, UTS, and Bursaries Division | 50,000 | 100,700 |
| 4. | Policy Research Initiative | 30,325 | 131,025 |
| 5. | EMIS - Preliminary System Review | 6,400 | 137,425 |
| 6. | EMIS - Social Marketing Survey | 15,000 | 152,425 |
| 7. | Country Plan Update | 12,000 | 164,425 |

YEMEN

| | ACTIVITY | COST | CUMULATIVE |
|---|---|---|---|
| 1. | Resident Technical Advisor | 60,000 | 60,000 |
| 2. | Resident Technical Advisor | 20,000 | ** |
| 3. | Computer Utilization Workshop | 16,000 | 76,000 |
| 4. | MOE Assessment | 16,000 | 92,000 |
| 5. | Country Implementation Plan | 8,000 | 100,000 |
| 6. | Design Labor Force Analysis and Manpower Needs Assessment (MOCSAR I) | 32,000 | ** |
| 7. | MOCSAR II | 48,000 | ** |
| 8. | Policy Research Initiative - Teacher Incentives | 30,325 | 130,325 |
| 9. | Policy Research Initiative - EMIS | 20,325 | 150,650 |

** Funded by USAID/Sana'a

CENTRAL FUNDING
PROJECT YEAR FOUR

## COORDINATION AND MANAGEMENT SUPPORT

| | |
|---|---|
| **SALARIES** | |
| Principal Investigator (50%) | 44,100 |
| Project Director (50%) | 32,500 |
| Deputy Project Director (75%) | 36,000 |
| Research Associates | 40,000 |
| Staff Assistant | 19,283 |
| Fiscal Assistant | 16,910 |
| Administrative Secretary | 13,870 |
| Word Processing Operator | 15,237 |
| Graduate Assistants | 15,000 |
| Student Assistants | 8,000 |
| | 240,900 |
| **FRINGE BENEFITS** | 52,201 |
| **TRAVEL** | |
| United States | 3,600 |
| **MATERIALS** | 2,400 |
| **SUBCONTRACTS** | |
| Howard University | 102,589 |
| Institute for International Research | 141,203 |
| State University of New York at Albany | 105,577 |
| | 349,370 |
| **OTHER DIRECT** | |
| Postage, Shipping, and Courier | 1,200 |
| Communications | 6,000 |
| Printing and Reproduction | 3,600 |
| Word Processing | 3,600 |
| Other | 2,400 |
| | 16,800 |
| **OVERHEAD** | 67,287 |
| **GRAND TOTAL** | 732,558 |

NOTE: Another 10% of Principal Investigator and 25% of Project Director and Deputy Project Director will be supported by other IEES in-country activities.

## HOWARD UNIVERSITY
## SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Coordinator (30%) | 21,060 |
| Administrative Assistant | 21,713 |
| Secretary | 15,198 |
| | 57,971 |
| FRINGE BENEFITS | 15,072 |
| TRAVEL | |
| United States | 1,200 |
| MATERIALS | 600 |
| OTHER DIRECT | |
| Postage, Shipping, and Courier | 300 |
| Communications | 1,200 |
| Printing and Reproduction | 600 |
| Other | 600 |
| | 2,700 |
| OVERHEAD | 25,046 |
| TOTAL | 102,589 |

## INSTITUTE FOR INTERNATIONAL RESEARCH
## SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Coordinator (30%) | 24,775 |
| Administrative Assistant | 22,424 |
| Secretary | 19,060 |
| | 66,259 |
| FRINGE BENEFITS | 19,487 |
| TRAVEL | |
| United States | 1,200 |
| MATERIALS | 1,200 |

| | |
|---|---|
| OTHER DIRECT | |
| Postage, Shipping, and Courier | 1,200 |
| Communications | 2,400 |
| Printing and Reproduction | 1,200 |
| Other | 1,200 |
| | 6,000 |
| OVERHEAD | 23,726 |
| GENERAL & ADMINISTRATIVE | 12,872 |
| FEE | 10,459 |
| TOTAL | 141,203 |

STATE UNIVERSITY OF NEW YORK AT ALBANY
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Coordinator (30%) | 25,235 |
| Administrative Assistant | 21,708 |
| Secretary | 14,018 |
| | 60,961 |
| FRINGE BENEFITS | 14,630 |
| TRAVEL | |
| United States | 2,400 |
| MATERIALS | 1,200 |
| OTHER DIRECT | |
| Postage, Shipping, and Courier | 600 |
| Communications | 2,400 |
| Printing and Reproduction | 1,200 |
| Other | 1,200 |
| | 5,400 |
| INDIRECT | 20,986 |
| TOTAL | 105,577 |

FLORIDA STATE UNIVERSITY
USAID/IEES PROJECT

BOTSWANA JSEIP PROJECT
JULY 1987 - JUNE 1988

| CATEGORY | AMOUNT |
|---|---|
| SALARIES | |
| Campus Coordination Staff | |
| Coordinator | 33,041 |
| Accountant (50%) | 9,735 |
| Secretary | 12,204 |
| Graduate Assistants | 15,720 |
| | 70,701 |
| Resident Technical Advisors | |
| Dwight Allen | 73,642 |
| Alfred Hartwell | 71,546 |
| Richard Mullaney | 43,872 |
| Kent Noel | 45,228 |
| Johnson Odharo | 40,389 |
| | 274,677 |
| Short-term Advisors | 30,000 |
| Cooperating Country Staff | 18,000 |
| Subtotal Salaries: | 393,378 |
| FRINGE BENEFITS | 78,676 |
| CONSULTANTS | 120,000 |
| ALLOWANCES | |
| Post Differential | 27,468 |
| TRAVEL AND TRANSPORTATION | |
| U.S./International | 120,000 |
| In Botswana | 4,000 |
| Household Goods | 18,000 |
| | 142,000 |
| MATERIALS AND SUPPLIES | 30,000 |
| PARTICIPANT TRAINING | 200,000 |
| SUBCONTRACTS | |
| Howard University | 194,061 |
| Institute for International Research | 287,391 |
| University of Botswana | 53,560 |
| | 535,012 |

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| | |
|---|---|
| OTHER DIRECT COSTS | 72,000 |
| OVERHEAD | 231,855 |
| GRAND TOTAL | 1,830,387 |

HOWARD UNIVERSITY
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Resident Technical Advisors | |
| Joseph McDonald | 46,706 |
| Wes Snyder | 51,222 |
| | 97,928 |
| FRINGE BENEFITS | 25,461 |
| ALLOWANCES | |
| Post Differential | 9,793 |
| TRAVEL | |
| International - Botswana | 500 |
| In Botswana | 5,000 |
| Household Goods | 3,000 |
| | 8,500 |
| OTHER DIRECT | 5,000 |
| OVERHEAD | 47,378 |
| TOTAL | 194,061 |

INSTITUTE FOR INTERNATIONAL RESEARCH
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Resident Technical Advisors | |
| John Bowers | 47,557 |
| Barry Vogeli | 59,109 |
| Frank Walton | 35,078 |
| | 141,745 |

| | |
|---|---|
| FRINGE BENEFITS | 41,687 |
| ALLOWANCES | |
| Post Differential | 14,174 |
| TRAVEL | |
| International - Botswana | 600 |
| In Botswana | 1,500 |
| Household Goods | 4,500 |
| | 6,600 |
| MATERIALS | 100 |
| OTHER DIRECT | 9,000 |
| OVERHEAD | 27,423 |
| G&A | 25,373 |
| FEE | 21,288 |
| TOTAL | 287,391 |

UNIVERSITY OF BOTSWANA
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Project Director | 16,200 |
| Project Coordinator | 5,000 |
| Research Associates | 5,000 |
| Administrative Secretary | 5,000 |
| | 31,200 |
| TRAVEL | 11,374 |
| MATERIALS | 2,000 |
| OTHER DIRECT | 2,000 |
| OVERHEAD | 6,986 |
| TOTAL | 53,560 |

FLORIDA STATE UNIVERSITY
USAID/IEES PROJECT

INDONESIA EPP PROJECT
JULY 1987 - JUNE 1988

| | |
|---|---|
| SALARIES | |
| Campus Coordination Staff | |
| Coordinator | 4,000 |
| Accountant | 600 |
| Secretary | 2,000 |
| | 6,600 |
| Resident Technical Advisors | |
| Information Systems Manager (Chief of Party) | 30,200 |
| Policy Analyst | 15,000 |
| | 45,200 |
| Short-term Advisors | 4,500 |
| Subtotal Salaries: | 56,300 |
| FRINGE BENEFITS | 15,770 |
| CONSULTANTS | 6,000 |
| ALLOWANCES | |
| Post Differential | 6,780 |
| Education | 11,000 |
| | 17,780 |
| TRAVEL AND TRANSPORTATION | |
| U.S./International | 24,000 |
| In Indonesia | 1,000 |
| Household Goods | 20,000 |
| | 45,000 |
| MATERIALS AND SUPPLIES | 600 |
| SUBCONTRACTS | |
| Institute for International Research | 131,585 |
| OTHER DIRECT | 6,000 |
| OVERHEAD | 31,407 |
| GRAND TOTAL | 310,442 |

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INSTITUTE FOR INTERNATIONAL RESEARCH
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Information Systems Planning Specialist (Simon Ju) | 50,582 |
| FRINGE BENEFITS | 14,876 |
| ALLOWANCES | |
| Post Differential | 7,587 |
| Education | 11,000 |
| | 18,587 |
| TRAVEL AND TRANSPORTATION | |
| U.S./International | 8,000 |
| In Indonesia | 2,000 |
| Household Goods | 3,000 |
| | 13,000 |
| MATERIALS AND SUPPLIES | 300 |
| OTHER DIRECT | 3,000 |
| OVERHEAD | 9,498 |
| G&A | 11,995 |
| FEE | 9,747 |
| TOTAL | 131,585 |

ZB'

FLORIDA STATE UNIVERSITY
USAID/IEES PROJECT

HAITI IIBE PROJECT
JULY 1987 - JUNE 1988

| | |
|---|---|
| **SALARIES** | |
| Campus Coordination Staff | |
| Coordinator | 36,000 |
| Fiscal Assistant | 8,700 |
| Secretary | 13,300 |
| Graduate Assistants | 12,200 |
| Clerical Support | 3,600 |
| | 73,800 |
| Long-Term Technical Advisors | |
| Technical Services Center Director | 40,600 |
| Educational Administration and Institutional Development Specialist | 31,500 |
| Educational Evaluation and Research Specialist | 31,500 |
| Project Management Specialist | 15,000 |
| | 118,600 |
| Short-Term Technical Advisors | 40,000 |
| Technical Services Center Support Staff | |
| Administrative Assistant | 12,300 |
| Chief Accountant | 12,300 |
| Vehicle Dispatcher/Warehouse Supervisor | 9,000 |
| Executive Secretary | 10,500 |
| Secretary/Word Processing Operator | 6,800 |
| Regional Assistants (2) | 6,000 |
| Junior Secretaries (2) | 3,000 |
| Vehicle Operators (2) | 6,400 |
| Custodians/Watchmen/Laborers | 9,600 |
| | 75,900 |
| Lay Sector Services Center Staff | |
| Director | 7,200 |
| Educational Administration and Organizational Development Specialist | 10,800 |
| Testing and Evaluation Specialist | 5,400 |
| Accountant | 3,600 |
| Secretary | 5,400 |
| Vehicle Operator | 1,500 |
| | 33,900 |
| Subtotal Salaries: | 342,200 |

| | |
|---|---|
| FRINGE BENEFITS | |
| FSU Staff | 43,320 |
| Haitian Staff | 16,470 |
| | 59,790 |
| CONSULTANTS | |
| International | 20,000 |
| Local | 30,000 |
| | 50,000 |
| ALLOWANCES | |
| Quarters | 13,200 |
| Temporary Lodging | 6,500 |
| Education | 8,000 |
| | 27,700 |
| TRAVEL AND TRANSPORTATION | |
| U.S./International | 48,000 |
| In Haiti | 40,000 |
| Households Goods/Personal Vehicles | 14,200 |
| | 102,200 |
| MATERIAL AND SUPPLIES | |
| Office/Technical | 1,200 |
| Office/Technical - Haiti | 12,000 |
| School Supplies | 150,000 |
| Textbooks | 150,000 |
| | 313,200 |
| EQUIPMENT | |
| Vehicles | 100,000 |
| Office Furniture/Equipment | 30,000 |
| School Furniture/Equipment | 200,000 |
| | 330,000 |
| TRAINING | 250,000 |
| SCHOOL RENOVATION AND CONSTRUCTION | 50,000 |
| SCHOOL FUND GENERATION DEVELOPMENT GRANTS | 25,000 |
| SUBCONTRACTS | |
| Protestant Federation | 248,208 |
| Catholic Commission | 265,308 |
| CARE-HAITI | 422,329 |
| Institute for International Research | 93,804 |
| | 1,029,649 |

| | |
|---|---|
| OTHER DIRECT | 80,000 |
| OVERHEAD (21.3%) | 287,569 |
| GRAND TOTAL | 2,947,308 |

PROTESTANT FEDERATION
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Director | 19,080 |
| Curriculum and Teacher Training Specialist | 11,160 |
| Educational Administration and Community Development Specialist | 11,160 |
| Testing and Evaluation Specialist | 8,280 |
| Accountant | 7,200 |
| Administrative Secretary | 5,580 |
| Vehicle Operator | 3,120 |
| Regional Monitors | 32,340 |
| | 97,920 |
| FRINGE BENEFITS | 14,688 |
| LOCAL CONSULTANTS | 4,500 |
| TRAVEL AND TRANSPORTATION | |
| Project Vehicles | 8,100 |
| Per Diem | 15,000 |
| Sectoral Education Council Meetings | 1,000 |
| | 24,100 |
| MATERIAL AND SUPPLIES | 8,000 |
| TRAINING | 95,400 |
| OTHER DIRECT | 3,600 |
| TOTAL | 248,208 |

## CATHOLIC COMMISSION
## SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Director | 19,080 |
| Curriculum and Teacher Training Specialist | 11,160 |
| Educational Administration and Community Development Specialist | 11,160 |
| Testing and Evaluation Specialist | 8,280 |
| Accountant | 7,200 |
| Administrative Secretary | 5,580 |
| Vehicle Operator | 3,120 |
| Regional Monitors | 32,340 |
| | 97,920 |
| FRINGE BENEFITS | 14,688 |
| LOCAL CONSULTANTS | 4,500 |
| TRAVEL AND TRANSPORTATION | |
| Project Vehicles | 8,100 |
| Per Diem | 15,000 |
| Sectoral Education Council Meetings | 1,000 |
| | 24,100 |
| MATERIAL AND SUPPLIES | 8,000 |
| TRAINING | 112,500 |
| OTHER DIRECT | 3,600 |
| TOTAL | 265,308 |

## CARE-HAITI
## SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Sector Coordinator | 5,550 |
| PEP Coordinator | 14,400 |
| Assistant PEP Coordinator | 12,900 |
| Education Specialist | 7,800 |
| Research Assistant | 3,900 |
| Field Assistants | 4,800 |
| Regional Monitors | 19,200 |
| Executive Secretary | 4,200 |
| Vehicle Operators | 3,900 |
| Laborers | 1,920 |
| | 78,570 |

| | |
|---|---|
| FRINGE BENEFITS (20%) | 15,714 |
| LOCAL CONSULTANTS | 13,500 |
| TRAVEL AND TRANSPORTATION | |
| Project Vehicles | 12,000 |
| Per Diem | 12,000 |
| | 24,000 |
| MATERIALS AND SUPPLIES | 50,000 |
| SCHOOL FURNITURE/EQUIPMENT | 30,000 |
| SCHOOL RENOVATION/CONSTRUCTION | 90,000 |
| TRAINING | |
| Workshops/Seminars | 75,000 |
| OTHER DIRECT | 10,000 |
| OVERHEAD (9.19%) | 35,545 |
| TOTAL | 422,329 |

INSTITUTE FOR INTERNATIONAL RESEARCH
SUBCONTRACT

| | |
|---|---|
| SALARIES | |
| Short-Term Advisors | 25,000 |
| FRINGE | 7,353 |
| CONSULTANTS | |
| International | 20,000 |
| TRAVEL AND TRANSPORTATION | 15,000 |
| MATERIALS | 200 |
| OTHER DIRECT | 2,000 |
| OVERHEAD | 8,952 |
| GENERAL & ADMINISTRATIVE | 8,551 |
| FEE | 6,948 |
| TOTAL | 93,804 |