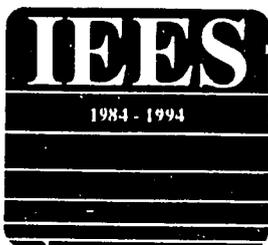


“IEES assists developing nations to improve the efficiency of their educational systems. The concept of educational efficiency subsumes notions of both "school quality" and "school effectiveness," since efficiency combines cost considerations with effectiveness issues. Since the goals of education in most countries include equity objectives, systems and schools in those countries cannot be considered effective unless they also are equitable. In practical terms, improvements in efficiency require changes in resource allocation practices at the system or the school level or both. Changes in allocatory practices may in turn require basic policy change or implementation of policies long since developed. The distinction between policy change and change in practice is an important one since efficiency is determined by the latter but only facilitated by the former.”



PLANS FOR PROJECT YEAR EIGHT
IMPROVING THE EFFICIENCY
OF EDUCATIONAL SYSTEMS

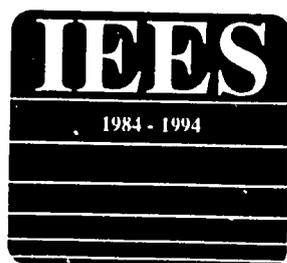
A USAID Project

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PLANS FOR PROJECT YEAR EIGHT

The Improving the Efficiency of Educational Systems Project is directed by the Learning Systems Institute at The Florida State University under Contract No. DPE-5823-Z-00-9010-00 with the Office of Education, Bureau for Research and Development, United States Agency for International Development

1.0 INTRODUCTION

1.0 INTRODUCTION

The Improving the Efficiency of Educational Systems (IEES) has now completed seven years of assistance to developing nations which are struggling to improve the performance of their schools within the constraints of the increasingly severe public finance climate of the late twentieth century. The efforts of committed national educators in these nations, working in continued collaboration with IEES project personnel, have shown that policy and practice changes can be identified, broadly debated, and carefully implemented to result in more effective schools at existing, or reduced, funding levels. The work in the remaining years of IEES will focus on the achievement of these long-term efficiency goals in collaborating countries and on the capturing of what has been learned during ten years of successful experiences in assisting developing nations to provide better schools.

This document contains plans for Project Year Eight of IEES. IEES is a ten-year project of the United States Agency for International Development (AID), Bureau for Science and Technology, Office of Education (S&T/Ed). It was designed as a long-term project because twenty-five years of experience in assisting educational systems has taught that short-term assistance was unable to produce system change. It was designed as a closely-integrated, centrally-managed project which would provide host country counterparts a continuous relationship over time with a small cadre of experienced advisors. This was done because experience had taught that the effectiveness of advisors increased exponentially over time.

The IEES project aims to improve the efficiency of educational systems in developing nations and to strengthen governments' long-term capacity to identify policy, practices and budget options which can increase efficiency. Improving educational efficiency is defined as (a) identifying policies, practices and budget strategies that allocate scarce resources to inputs which more efficiently boost pupil achievement, (b) improving the management of material and human resources within central governments and within schools, and (c) mobilizing non-government resources to help support schooling.

The four major IEES areas of assistance, each collaboratively planned with national educators to promote national goals of improved educational efficiency, are:

Policy and planning. IEES works with national educators to assess, identify, and debate alternative policy and practice choices based on timely and accurate data.

Knowledge development. IEES research and conceptual work is derived from the need to shape policy and practice reforms.

Educational management. IEES assists in competency development for managing education systems and for developing information systems to link all levels of those systems.

Dissemination and networking. IEES assists with national dissemination of information linked to efficiency improvements and works closely with other AID S&T/Ed projects for the best use of resources in disseminating lessons learned.

**2.0 OVERVIEW OF ACCOMPLISHMENTS
IN PROJECT YEAR SEVEN AND
PLANS FOR PROJECT YEAR EIGHT**

2.1 ACTIVITY ONE: POLICY AND PLANNING

IEES emphasizes the application of a systems approach to comprehensive EHR planning. Project advisors work with national educators to promote a practical understanding of the current status of the education sector as a whole and of the interaction of its subsectors. This work is undertaken, as is all IEES assistance, with a strong focus on identifying those policy and practice changes most likely to result in better student achievement in the classroom.

In countries where adequate baseline data on system performance have not been systematically assembled or analyzed, sector assessments (or reviews) are conducted with IEES assistance in order to obtain an overview of priority needs and constraints in each subsector of the formal and nonformal national education system. These studies analyze the internal and external efficiency of the subsectors to provide a better understanding of their interaction and to better inform national debate leading to efficiency improvements. Issues of access, equity, administration and supervision, and costs and financing are reviewed within the context of national goals, fiscal capacity, and manpower needs. IEES undertakes these activities in collaboration with national educators and provides training and support manuals so that the reviews may be updated in the future without reliance on external assistance.

This process was initiated in Indonesia during this report period, with IEES advisors acting as support for the Indonesia sector study team that was composed of individual provincial representatives (the IEES-assisted Sector Review was conducted in 1985). In Namibia, IEES assisted with a Sector Review (December 1990) which now serves as the basic planning document for the new national education system. An update to the 1984 IEES Sector Assessment in Haiti will be conducted in Project Year Eight. Details of these recent sector study activities are provided in the country report section (Section 3.0) of this document.

2.1.1 Summary of Activities During Project Year Seven

The following summarizes IEES assistance activities in the area of Policy and Planning. More detailed descriptions of activities in each collaborating country is provided in Section 3.0.

Botswana. IEES has worked closely with the Planning Unit of the Ministry of Education and Culture (MOEC) in Botswana in preparing the Education and Manpower Development section of the Botswana National Development Plan 7 (1991–97). IEES has assisted Planning Unit staff in the tasks of analysis of educational data, projections of enrollment and staffing needs, and document production. The Plan will be submitted to the Botswana Parliament in July 1991. IEES has also assisted the Planning Unit with compiling databases, carrying out school mapping studies, preparing a proposal for creating a Research and Planning Department, and compiling teacher projections for 1992–97.

Haiti. IEES assists FONHEP, the Foundation of Private Education in Haiti, with policy and planning and lately has engaged in discussions with the newly-elected government's public education system. The

Research and Development component of the Improving Incentives for Basic Education (IIBE) project, which produced its first findings during this report period, is expected to provide critical input for planning both private and public education in Haiti.

Indonesia. The primary objective of IEES assistance in Indonesia has been to develop an ongoing policy research, analysis and planning capacity within the MOEC. For this reason, most activities in Indonesia are contained within this category and are fully described in Section 3.4 of this document. During this report period, IEES emphasis was on four main areas, curriculum development, improving the quality of teacher education, internal and external efficiency consequences of national educational reforms, and long-range planning for the education sector.

An IEES-assisted paper outlining curriculum reform strategy was presented at the July 1990 Ministry of Education Annual National Planning Conference (RAKERNAS) and identified options for strengthening the performance of primary and lower secondary students.

In August 1990, IEES assisted with the development of a monitoring and evaluation framework for the D2 inservice training program for primary teachers as input for long-range educational planning efforts.

In November 1990, IEES assisted with conceptualizing and organizing the 25-year planning activity for the education sector in Indonesia. A study of the interaction of education, cultural, social, and political systems in Indonesia was produced to support the long-range planning effort.

Ongoing IEES support for three important policy studies, the Quality of Basic Education, the Quality and Efficiency of Vocational/Technical Education, and Strengthening Local Education Capacity continued during this period.

Namibia. IEES conducted a Sector Review in December 1990 and a National Consultative Conference in April 1991 to assist the Government of Namibia in planning its national educational system.

Nepal. An IEES Resident Technical Advisor was placed in Nepal during this period to assist the Ministry of Education and Culture with planning an education system to serve this newly-democratic society.

2.1.2 Plans for Project Year Eight

Botswana. Policy and Planning activities for Project Year Eight include:

- Continued assistance to the Planning Unit of the MOEC. This assistance includes technical assistance with data analyses and also planning for the creation of a Research and Planning Department.
- Development of an EMIS database based on an efficiency indicators model to produce efficiency analyses of education subsectors for policy debate. This work is described in Section 3.1.1.2.

Indonesia. IEES will continue to assist with planning a national curriculum reform. IEES studies are aimed at determining the extent to which the revised 1994 curriculum is related to the national aims of economic growth and equity. IEES consultancies in this area are planned to examine fundamental issues

related to the nine-year basic education plan and to formulate strategies of curriculum reform, especially in areas of Science and Math.

A major study, *Strengthening Local Education Capacity in Educational Planning*, conducted with the Bureau of Planning and Balitbang Dikbud, will be supported by IEES. This study will provide useful information for intermediate and long-range planning in Indonesia.

5

2.2 ACTIVITY TWO: KNOWLEDGE BUILDING

2.2.1 Progress During Project Year Seven

Twenty percent of IEES central funds (approximately \$1.4 million) are allocated to knowledge development, defined as applied research in selected areas, focused policy studies, and annual project evaluations. For the most part, focused policy studies are those requested by a Ministry in a participating country and funded by the USAID Mission in that country.

Research Priorities

1. A primary emphasis of the research is capacity building.

Research activities seek to involve local researchers drawn from the Ministries with which IEES is working, local universities, and other appropriate sources. Ideally, the local researcher would be able to contribute methodological and substantive expertise in the research issue, translate findings into the local political context, and lobby effectively for policy adjustment based on the research findings. Since this combination is difficult to find in any country at any stage of development, trade-offs necessarily will be made. The particular strengths to be emphasized in selection of local researchers will be made by the research team leader based on the topic, skill mix of the larger research team, and advice from the local Ministry and Mission.

Capacity building within IEES research activities includes such strategies as:

- the direct participation of local researchers in the conduct of the research;
 - the participation of local non-researchers (educators or education officials) on the research team as a means of introducing them to the techniques and processes used to arrive at certain findings and policy recommendations;
 - the conduct of workshops and seminars for educators and government officials to discuss findings from the research and their implications for policy and practice;
 - the use of focus groups to engage educators and/or education officials in interpreting the research finding in light of local conditions and contexts; and
 - training workshops aimed at upgrading specific inquiry or analytic skills of local researchers.
2. The research is concentrated (although not exclusively) at the school level and community level.

Research will concentrate on the productive relationships among inputs, educational processes, and outputs at the school level and on issues related to community support of education. For example, school effects research might examine what school, headmaster, teacher, and student characteristics are associated with quality of teacher worklife, efficacy of teacher training, and/or students' achievement. Research on community support of education might examine incentives that communities might sponsor to encourage educational quality.

3. The research has potential relevance for policy and practice in the participating country.

This is accomplished by addressing issues of concern to the participating country for which meaningful policy interventions are possible. The research is targeted toward areas in which officials have a commitment to policy adjustment and interest in informing their

policy adjustment from research findings. Each research team is responsible for helping local educators and education officials understand the policy implications of the research findings.

4. Research findings are shared with an international audience.

A primary audience of the research conducted under this initiative is the collaborating countries. An additional purpose of AID in funding a research component, however, is the identification of the linkages among inputs, processes, and output that contribute to more generalizable knowledge about improving educational efficiency. To achieve this purpose, results of research from participating countries appear in appropriate professional and scholarly publications. Publication in local and regional, as well as international, journals and co-authorship of project and local researchers are encouraged. The research teams work with local country personnel to hold conferences, seminars, and other forum for discussing research findings and their implications for policy. Further, key personnel in collaborating countries review manuscripts developed under this initiative.

Strategies for IEES Research

1. IEES research is concentrated on a relatively few topics and countries and involves on-site collaboration and supervision with local research teams.
2. The research is concentrated on (1) in-school factors related to teachers and student achievement, and (2) the impact of varying types of community support for education.
3. The research addresses issues assigned high priority by the collaborating countries. One goal of IEES research is that it have policy relevance (and potential for impact) within the participating countries. This occurs when country officials see the application of the research to their own work. To accomplish this "fit" between the country and the research topic, either the research topic varies to meet the needs of the country or the topic is held constant and the countries choosing to participate in any given topic can vary. Considerable care is given in country negotiations to align research topics and countries.

The following is an overview of research accomplishments in Project Year Seven (PY7). During PY7, dramatic progress was made in the IEES research initiative. Indicators of this progress are:

- (1) completion of a three-year, longitudinal collection of teacher data in Botswana and substantial progress in the analysis of those data;
- (2) completion of data collection, analysis, and a draft manuscript for a study of headmasters' practices and beliefs about instructional supervision in Botswana;
- (3) final preparation of a manuscript on the impact of teacher incentives on teaching practices, based on the Botswana data;
- (4) preparation of an initial draft of a manuscript on Teacher Efficacy in the Third World (based on Botswana data);
- (5) completion of a study on the extent preservice teacher training, nationality, and prior beliefs about what constitutes effective teaching are related to teachers' classroom practices in Yemen;
- (6) completion of a policy study on the quality of basic education in Indonesia;
- (7) preparation of a manuscript on the Operationalization of Indicators of Educational Efficiency;

- (8) completion of final author arrangements for Country Studies and Issue Papers to be included in the IEES/IIEP monograph on Strategies for Improving Educational Quality Through Better Use of Information; and
- (9) submission of two studies for publication as IEES research reports and acceptance of those studies as chapters in upcoming books, as follows:

Chapman, D.W., and Snyder, C.W., Jr. (1991 forthcoming). Is Teacher Training Associated With Teachers' Classroom Behavior in the Third World?, In Chapman, D.W. and Walberg, H.J. (Eds.), *Strategies for Enhancing Educational Productivity: An International Perspective*, Number 2 in the Advances in Educational Productivity Series, Greenwich, Conn., JAI Press.

Snyder, C.W., Jr., Chapman, D.W., and Fuller, B. (1991, forthcoming). Classroom Affect and Complexity: Ecological Perspectives of Botswana Junior Secondary Schools. In Chapman, D.W. and Walberg, H.J. (Eds.), *Strategies for Enhancing Educational Productivity: An International Perspective*, Number 2 in the Advances in Educational Productivity Series, Greenwich, Conn., JAI Press.

2.2.1.1 Research Activities in Collaborating Countries

A summary of recent IEES knowledge development work is provided below. This work also is discussed within the context of IEES efficiency improvement in the specific country report sections of this document.

Botswana

Studies of the Classroom Teacher

Primary IEES researchers: D. Chapman (lead), C. W. Snyder, S. Burchfield, and B. Fuller.

A three-year longitudinal collection of data on junior secondary school teachers in Botswana has been completed. It included (1) classroom observation [3 years]; (2) teacher questionnaire [2 years]; (3) quality of teacher worklife [3 years]; and (4) student achievement data in selected subjects [1 1/2 years]. These data represent one of the richest classroom-level data sets currently available in Sub-Saharan Africa.

While the 1990 teacher data and the 1989/90 student achievement data are still being coded, the 1988 and 1989 teacher data are already being analyzed and have been the basis of seven research papers and two workshops/conferences. The main focus of the research so far has been on the relationship of teacher training, teacher incentives, and teachers' personal characteristics (gender) to teachers' classroom behavior and the quality of their worklife. Analyses, interpretation, and reporting of these data will continue as a high priority for the next three years of the project.

It has been proposed to the Ministry and USAID Mission that these data sets be used as the basis for a policy analysis training workshop at the time that the new Research Department of the Ministry of Education is established. This workshop would provide a forum

for the MOE research staff to become familiar with the codebooks and share in the analysis, interpretation, and reporting of this information.

Headmaster Study

Primary IEES researchers: S. Burchfield (lead), D. Chapman

Data collection has been completed and analysis is now underway. Initial analysis has focused on headmasters' beliefs about their role in improving student performance. Later analysis will compare headmaster and teachers' conceptions of effective teaching.

Teacher Incentives Study

Primary IEES researchers: S. Burchfield (lead), F. Kemmerer

The primary researchers have been working with a Reference Group set up by the Ministry of Education for the purpose of advising in the design of this study. The study will concentrate on identifying incentives for primary and/or junior secondary school teachers and will involve both a teacher questionnaire and teacher interviews. A research plan is now being prepared for review by the Reference Group.

Indonesia

Quality of Basic Education Study

Primary IEES researchers: F. Kemmerer (lead), M. Green

During 1990, the focus of the research was the continued analysis of the Quality of Basic Education data set, previously collected under the auspices of the Educational Policy and Planning Project (EPP). The IEES research team worked with the Indonesian team in producing a descriptive analysis of those data (which has been submitted as research report). Further analysis of these data is now under discussion with the MOE.

Nepal

Primary IEES researchers: D. Chapman (lead), C. O'Brien, H. Williams

Discussions with Ministry of Education representatives have identified three areas of research essential to their efforts to achieve universal basic education by the year 2000. These include (1) pedagogical practices related to student achievement and quality of teachers' worklife; (2) factors associated with teacher retention; and (3) headmaster practices that enhance or constrain educational quality and efficiency at the school level. Further discussions about the particular focus, design, and implementation of the research are now underway with the arrival in May 1991 of an IEES RTA who will be a member of the research team.

Yemen

Relationship Between Teacher Training and Classroom Practices

Primary IEES researchers: H. Abdulmalik (lead), D. Chapman

This study investigated (1) the extent that teacher training is related to teachers' pedagogical practices in Yemen, and (2) the extent that Yemeni and expatriate teachers with the same amount of teacher preparation differ in their pedagogical practices. Instrumentation was based on that used in the longitudinal teacher study in Botswana. Hence, this investigation offers both a stand-alone study of teaching practices in Yemen and a comparative study of teaching practices with Botswana. Data collection (N = 150 teachers) has been completed and analysis is now underway. Preliminary results indicate statistically significant and meaningful differences in the pedagogical practices of teachers with different amounts of preservice teacher preparation.

This study is the doctoral dissertation of Mr. Abdulmalik, who is a ranking staff member of the Educational Research and Development Center in Yemen. IEES partially supported the data collection in return for which Mr. Abdulmalik, working with D. Chapman, will prepare a research report for IEES. His role in the Yemen ERDC will help ensure wide dissemination of results in Yemen.

IIEP/IEES

Strategies for Improving Educational Quality Through Better Use of Information

Primary IEES researchers: D. Chapman (lead)
(with Lars Mahlck, IIEP/Paris)

Despite the priority being given to improving management information in many educational development projects, little attention has been given to how this improved information can actually be used to improve practice at the school level. IEES is collaborating with the International Institute for Educational Planning (IIEP) in preparing a book that addresses that issue. The volume will consist of five Country Case Studies, five Issue Papers, and a Summary and Generalizations Paper. Authors have been identified and most have now been contracted. Though the world situation has caused some delays, a draft of all but the summary chapter will be completed by the end of August and a full edited draft by January 1992.

The current plan is that IIEP will use this volume as the basis for the design of training on how information can be used by educational planners at the central and regional levels to improve the quality and efficiency of education at the school level. The training will be undertaken by IIEP and targeted at upper and middle level managers of the education sector in developing countries.

Operationalizing Educational Indicators

Primary IEES researchers: H. Williams (lead), P. Easton, T. Cresswell

This framework for complementing a system of indicators of educational effectiveness is now being implemented in Botswana and Nepal.

A complete report on this activity is included as Appendix C to this document.

Research Presentations

Basile, M., Messec, J., and Chapman, D.: Presentation on IEES Project, Basic Education in Africa Conference, Togo, September, 1990.

Burchfield, S. and Kemmerer, F., Presentation to Research Reference Committee of Botswana Ministry of Education on "Incentives for Teacher Performance: Design Issues," December, 1990.

Fuller, B. and Burchfield, S.: Presentation to Botswana Ministry of Education officials on differences in classroom practice between male and female teachers and across subject areas, Gaborone, January, 1991.

Kemmerer, F., Green, M. and Suryadi: Seminar for Indonesian Government Officials on Results of the Quality of Basic Education Analysis, December, 1990.

IEES personnel presented four panel sessions at the Comparative and International Education Society meeting in Pittsburgh in March 1991:

- A Re-examination of Sector-wide Planning Strategies In Educational Development in the Third World;
- Research on Teachers in the Third World: Focus on Botswana;
- An Analysis of Aid Multi-year, Multi-country, Centrally-funded Education Projects;
- The Utility of Educational Policy Research In Developing Nations: Reflections on Project Experience.

Other presentations at professional meetings include:

Chapman, D., Burchfield, S., and Snyder, C.W., Jr., "Teacher Incentives in the Third World." Paper presented at the annual meeting of the American Educational Research Association, Chicago, April, 1991.

Chapman, D., "Microcomputers and Educational Development in the Third World." Paper presented at the annual meeting of the American Evaluation Association, Washington, D.C., October 18-10, 1990.

Chapman, D., "Developing Local Evaluation and Research Capacity in the Third World." Paper presented at the annual meeting of the American Evaluation Association, Washington, D.C., October 18-10, 1990.

Chapman, D. and Snyder, C.W., Jr., "Is Teacher Training Associated With Teachers' Classroom Behavior in the Third World?" Paper presented at the annual meeting of the American Evaluation Association, Washington, D.C., October 18-10, 1990.

Submitted for Publication as Research Reports:

Chapman, D. and Snyder, C.W., Jr. (1990). Is Teacher Training Associated With Teachers' Classroom Behavior in the Third World?

Snyder, C.W., Jr., Chapman, D., and Fuller, B. (1990). Classroom Affect and Complexity: Ecological perspectives of Botswana Junior Secondary Schools.

Kemmerer, F. and Green, M. (1990). The Basic Education Quality Study: Profiles of Communities, Schools, Teachers, Families, and Students in Selected Provinces.

It is not uncommon for two years to elapse between submitting a research study for publication and its appearance in print. Consequently, results of the research conducted under the Phase I IEES Research Initiative are only now appearing in the professional literature. The following book chapters and journal articles all have appeared since January 1990 and all report on some aspect of IEES Phase I work:

Books

Snyder, C.W., Jr. and Ramatsui, P. (1990). *Curriculum in the Classroom*. Gaborone: MacMillan/Botswana.

Windham, D.M. and Chapman, D. (1990). *The Evaluation of Educational Efficiency: Constraints, Issues, and Policies*, Greenwich, Conn.: JAI Press

Chapman, D. and Carrier, C.A. (1990). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Book Chapters

Kemmerer, F. (1990). An Integrated Approach to Primary Teacher Incentives, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Kemmerer, F. (1990). Going to Scale: Why Successful Instructional Development Projects Fail To Be Adopted, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Messec, J. (1990). Language Issues and National Educational Systems: Experiences in African Developing Nations, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Morgan, R. (1990). Design and Educational Improvement, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Snyder, C.W., Jr. (1990). Affective Context of Schools as a Potential Indicator of Teacher Receptivity to Instructional Change and Teacher Worklife Quality, in Chapman, D. and

Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Thiagarajan, S. (1990). An Integrated Approach to Primary Teacher Support and Training, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Chapman, D. (1990). The Role of Management Information Systems in Improving Educational Quality, in Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Journal Articles

Chapman, D., Gall, A., Burchfield, S., and Messec, J. (1990). Education Data Flow in Somalia. *International Journal of Educational Development*.

Chapman, D. (forthcoming). The Rise and Fall of an Education Management Information System in Liberia, *Journal of Educational Policy*.

Chapman, D. and Dhungana, M. (forthcoming). Education Data Quality in Nepal, *Program Evaluation and Planning*.

Chapman, D. (forthcoming). Education Data Quality in the Third World: A Five Country Study, *International Review of Education*.

Manuscripts in Preparation:

Abdulmalik, H. and Chapman, D., *Is teacher training related to classroom practice in Yemen?*

Chapman, D., Burchfield, S., and Snyder, C.W., Jr., *Teacher Incentives in the Third World*.

Chapman, D. and Burchfield, S., *Headmaster Beliefs About Their Role in Improving Student Performance*.

Chapman, D., Snyder, C.W., Jr., and Burchfield, S., *Teacher Efficacy in the Third World*.

Chapman, D., "Using information to Improve Classroom Practice, an Overview." For IEES/IIEP monograph on *Using Information to Improve Classroom Practice*.

Kemmerer, F. "Incentives for Improving Information Use." For IEES/IIEP monograph on *Using Information to Improve Classroom Practice*.

Rowell, P., *Classroom Practices in Botswana Schools*.

Tietjen, Cresswell, Levy, and Brattouet, "Country Case Study of Information Use." For IEES/IIEP monograph on *Using Information to Improve Classroom Practice*.

Williams, H., Easton, P., and Cresswell, T., *Indicators Of Educational Efficiency*.

Windham, D.M., "Strategies for Decentralizing Data Use." For IEES/IIEP monograph on *Using Information to Improve Classroom Practice*

2.2.2 Plans for Year Eight.

Research activities for Project Year Eight are a direct continuation and extension of activities underway in Year Seven. The specific activities planned for Year Eight are summarized below. Then, to provide further context for understanding that work, the activities and accomplishments of Project Year Seven are also summarized. The proposed activities for Project Year Eight are as follows:

Nepal

Conduct of the study: *"What Can Be Done to Reduce Grade Repetition and Dropout in First Grade: The View From the Community."*

High rates of student dropout and grade repetition have been identified as two of the greatest threats to the internal efficiency of primary education in Nepal. The greatest problem is at the end of Grade One where 60% of pupils who enter first grade do not continue to Grade Two the next year. This study, designed during September 1991, investigates (1) family, school, and community factors contributing to grade repetition and student attrition at the end of first grade and (2) what actions parents, school personnel, and community leaders believe can be taken at the community level and by the Ministry to improve student flow in Grade One. Within IEES, Howard Williams, RTA/Nepal, will direct the study.

Indonesia

Design and initiation of study: *Community Support of Schooling*

Preliminary discussions with the Indonesian Ministry of Education have identified community support of education as a major areas of policy interest. A study is being designed that will include a substantial review of the research to identify the experience of other country's efforts to localize more education decision making and elicit community support of schooling. This literature review will provide a basis for the design of an empirical study aimed at supporting new government initiatives in these areas of interest. Within IEES, Jack Bock, Country Coordinator for Indonesia, will direct the study.

Botswana

Analysis of data: *Teacher Incentive Study*

The study is aimed at identifying incentives for primary school teachers and involves both a teacher questionnaire and teacher interviews. Data is now being collected and will be analyzed in Spring 1992. Shirley Burchfield, RTA/Botswana, is directing the study.

Analysis of data: *Studies of the Classroom Teacher*

IEES has now completed a three-year longitudinal collection of data in Junior Secondary School teachers in Botswana which had included (1) classroom observation [3 years]; (2)

teacher questionnaire [2 years]; (3) quality of teacher worklife [3 years]; and (4) student achievement data in selected subjects [1 1/2 years]. These data represent one of the richest classroom level data sets currently available in Sub-Saharan Africa. The main focus of the research so far has been on the relationship of teacher training, teacher incentives, and teachers' personal characteristics (gender) to teachers' classroom behavior and the quality of their worklife. Continued analyses, interpretation, and reporting of these data will continue as a high priority for the next three years of the project. David Chapman, IEES Research Coordinator, is coordinating the activities of the five researchers who are working with these data.

Analysis of data: *Headmaster Study*

Data collection has been completed and analysis is now underway. The present analysis has focused on headmasters' beliefs about their role in improving student performance.

Yemen

Reporting and manuscript preparation: *Relationship Between Teacher Training and Classroom Practices*

This study investigated (1) the extent that teacher training is related to teachers' pedagogical practices in Yemen and (2) the extent that Yemeni and expatriate teachers with the same amount of teacher preparation differ in their pedagogical practices. Instrumentation was based on that used in the longitudinal teacher study in Botswana. Hence, this investigation offers both a stand-alone study of teaching practices in Yemen and a comparative study of teaching practices with Botswana. The study has been completed and manuscripts are now being prepared for submission as project research reports and as journal submissions. Preliminary results indicate statistically significant and meaningful differences (1) in the pedagogical practices of teachers with different amount of pre-service teacher preparation and (2) in the classroom practices of Yemeni and expatriate teachers. The study was directed by H. Abdulmalik.

IEES/IIEP Collaboration

Monograph preparation: *Strategies for Improving Educational Quality Through Better Use of Information*

Despite the priority being given to improving management information in many educational development projects, little attention has been given to how this improved information can actually be used to improve practice at the school level. IEES is collaborating with the International Institute for Educational Planning (IIEP) in preparing a book that addresses that issue. The volume will consist of five Country Case Studies, five Issue Papers, and a Summary and Generalizations Paper. Authors have been identified and most have now been contracted. The current plan is that IIEP will use this volume as the basis for the design of training on how information can be used by educational planners at the central and regional levels to improve the quality and efficiency of education at the school level. Within IEES, this activity is being directed by David Chapman, who is serving as Co-editor of the volume with Lars Mahlck of IIEP.

Collaborative Design of Indicators of Educational Efficiency

This monograph discusses the collaborative design of a set of indicator systems for monitoring trends in educational system performance in particular developing countries, self-selected from among those that are currently cooperating with IEES.

The design of educational indicator systems holds out the hope of rationalizing the macromanagement of educational systems and directing attention to the real impediments to improved performance and greater equity.

IEES Project activities in this domain were born of some related concerns, though ones that changed form significantly in the course of implementation. Evaluation of the first five years of IEES Project activity suggested a number of positive effects, but also a need to better document project impacts and the evolution of the baseline situation and socio-economic environment of the educational systems in question. Project staff therefore decided to begin work on a prototype indicator system for tracking the overall state of the education systems in participating countries, in part as an ongoing and greatly simplified form of sector assessment.

The paper presents a conceptual analysis of educational indicator systems, the prototype model of primary education developed, and the process envisaged (and now underway) for host country elaboration and modification of the model. It discusses the potential for utilizing the indicator system both for in-country educational planning and staff training purposes. The paper is directed at IEES by Dwight Holmes and Peter Easton.

Research Dissemination Activities

Manuscript Preparation

Considerable attention is now being given to disseminating the results of the research that has been sponsored by IEES. One of the most effective ways has been to submit manuscripts to appropriate professional and scholarly journals. This has the dual advantage of providing a quality control, since most of these journals are refereed, and placing the results of IEES work in a form which can be easily retrieved by education decisionmakers and other researchers. A list of the manuscripts recently completed or now under development appears at the end of this section.

International Journal of Educational Research (IJER), Special Issue on Botswana

Planning and initial collection of papers has been completed for a proposed special issues of IJER devoted to reporting results of IEES research in Botswana. This activity is one part of the larger manuscript preparation activity of the project.

Research Dissemination Conference

Plans are underway for a large-scale conference of researchers and policy makers to report on the overall results of the IEES research agenda and the implication of Project findings for educational policy and practice.

Overview of Research Accomplishments in Project Year Seven

During PY7, much progress has been made in IEES research activities, marked by:

- (1) design of a proposed framework for a first grade drop-out and grade repetition study in Nepal;
- (2) planning and preparation of papers for a proposed issue of the International Journal of Educational Research;
- (3) initial arrangements for a dissemination conference to report out findings of IEES sponsored research and their implications for educational policy;
- (4) completion of initial discussions for a study of community support of education in Indonesia;
- (5) completion of a three year, longitudinal collection of teacher data in Botswana and substantial progress in the analysis of those data;
- (6) the completion of data collection, analysis, and a draft manuscript in a study of headmasters practices and beliefs about instructional supervision in Botswana;
- (7) final preparation of a manuscript on the impact of teacher incentives on teaching practices, based on the Botswana data;
- (8) preparation of an initial draft of a manuscript in Teacher Efficacy and Instructional Practices in Botswana;
- (9) completion of a study on the extent preservice teacher training, nationality, and prior beliefs about what constitutes effective teaching are related to teachers' classroom practice in Yemen (results will be presented at the annual meeting of the American Educational Research Association);
- (10) completion of a policy study on the quality of basic education in Indonesia;
- (11) preparation of a manuscript on the Operationalization of Indicators of Educational Efficiency;
- (12) collection and editing of commissioned Country Studies and Issue Papers to be included in the IEES/IIEP monograph in Strategies for Improving Educational Quality Through Better Use of Information; and,
- (13) submission of two studies for publication as IEES research reports and acceptance of those studies as chapters in an upcoming book, as follows:

Chapman, D. W. and Snyder, C. W. Jr. (1991, forthcoming). Is Teacher Training Associated With Teachers' Classroom Behavior in the Third World?, In Chapman, D. W. and Walberg, H. J. (Eds.). *Strategies for Enhancing Educational Productivity: An International Perspective*, Number 2 in the Advances in Educational Productivity Series, Greenwich, Conn: JAI Press.

Snyder, C. W. Jr., Chapman, D. W., and Fuller, B. (1991, forthcoming). Classroom Affect and Complexity: Ecological Perspectives of Botswana Junior Secondary Schools. *Strategies for*

A summary of IEES work during PY7 is provided below:

Botswana

Studies of the Classroom Teacher

Primary IEES researchers: D. Chapman (lead), C. W. Snyder, Jr., S. Burchfield, and B. Fuller

IEES has now completed a three year longitudinal collection of data on junior secondary school teachers in Botswana which had included (1) classroom observation [3 years]; (2) teacher questionnaire [2 years]; (3) quality of teacher worklife [3 years]; and (4) student achievement data in selected subjects [1-1/2 years]. A schedule summarizing the collection and characteristics of these data is attached.

While the 1990 teacher data and the 1989/1990 student achievement data are still being coded, the 1988 and 1989 teacher data are already being analyzed and have been the basis of seven research papers and two workshops/conferences. The main focus of the research so far has been on the relationship of teacher training, teacher incentives, and teachers' personal characteristics (gender) to teachers' classroom behavior and the quality of their worklife. Continued analyses, interpretation, and reporting of these data will continue as a high priority for the final years of the project.

Headmaster Study

Primary IEES researchers: S. Burchfield (lead), D. Chapman

Data collection has been completed and analysis is now underway. Initial analysis has focused on headmasters' beliefs about their role in improving student performance. Latter analysis will compare headmaster and teachers' conceptions of effective teaching.

Teacher Incentives Study

Primary IEES researcher: S. Burchfield

The primary researchers have been working with a Reference Group setup by the Ministry of Education for the purpose of advising in the design of this study. The study will concentrate on identifying incentives for primary and/or junior secondary school teachers and will involve both a teacher questionnaire and teacher interviews. A research plan is now being prepared for review by the Reference Group.

Indonesia

Quality of Basic Education Study

Primary IEES researchers: F. Kemmerer (lead), M. Green

During 1990, the focus of our research was the continued analysis of the Quality of Basic Education data set, previously collected under the auspices of EPP. The IEES research team worked with the Indonesian team in producing a descriptive analysis of those data (which has been submitted as a research report). Continued work in Indonesia will shift to community support of education.

Community Support of Education

Primary IEES researcher: Jack Bock

Preliminary discussions with the Indonesian Ministry of Education have identified community support of education as a major area of policy interest. A study is being designed that will include a substantial review of the research to identify the experience of other country's efforts to localize more education decision making and elicit community support of schooling. This literature review will provide a basis for the design of an empirical study aimed at supporting a new government initiatives in these areas of interest.

Nepal

Primary IEES researcher: Howard Williams

Discussions with Ministry of Education representatives have identified three areas of research they judged to be essential to their effort to achieve universal basic education by the year 2000. These include (1) pedagogical practices related to student achievement and quality of teachers' worklife; (2) factors associated with teacher retention; and, (3) headmaster practices that enhance or constrain educational quality and efficiency at the school level. Further discussions about the particular focus, design and implementation of the research have been on hold, pending the arrival of an IEES RTA who will be a member of the research team. The research will begin in Spring 1992.

Yemen

Relationship Between Teacher Training and Classroom Practices

Primary IEES researchers: H. Abdulmalik (lead), D. Chapman

This study investigated (1) the extent to which teacher training is related to teachers' pedagogical practices in Yemen and (2) the extent that Yemeni and expatriate teachers with the same amount of teacher preparation differ in their pedagogical practices. Instrumentation was based on that used in the longitudinal teacher study in Botswana. Hence, this investigation offers both a stand-alone study of teaching practices in Yemen and a comparative study of teaching practices with Botswana. Results indicate statistically significant and meaningful differences in the pedagogical practices of teachers with different amounts of pre-service teacher preparation and between Yemeni and expatriate teachers. The study is now complete and editing of manuscripts for submission as project research reports and journal articles is underway. This study is the doctoral dissertation of Mr. Abdulmalik, who is ranking staff member of the

Educational Research and Development Center (ERDC) in Yemen. His role in the Yemen ERDC ensures wide dissemination of results in Yemen.

IIEP/IEES

Strategies for Improving Educational Quality Through Better Use of Information

Primary IEES researchers: D. Chapman (lead), (Lars Mahlck, IIEP/Paris)

IEES is collaborating with the International Institute for Educational Planning (Paris) in preparing a book that addresses that issue. The volume will consist of five Country Case Studies, five Issue Papers, and a Summary and Generalizations Paper. Manuscripts are now being received and editing is underway. An initial draft of the monograph will be completed in February 1992 and a full edit draft by September 1992. IIEP will use this volume as the basis for the design of training on how information can be used by educational planners at the central and regional levels to improve the quality and efficiency of education at the school level. The training will be undertaken by IIEP and targeted at upper and middle level managers of the education sector in developing countries.

Disseminating Research Results Includes:

Basile, M., Messec, J. and Chapman, D.: Presentation on IEES Project, Basic Education in Africa Conference, Togo, September, 1990

Burchfield, S. and Kemmerer, F.: Presentation to Research Reference Committee of Botswana Ministry of Education on "Incentives for Teacher Performance: Design Issues," Gaborone, December, 1990

Fuller, B. and Burchfield, S.: Presentation to Botswana Ministry of Education officials on "Differences in Classroom Practice Between Male and Female Teachers and Across Subject Areas," Gaborone, January, 1991

Kemmerer, F., Green, M. and Suryadi: Seminar for Indonesian Government Officials on "Results of the Quality of Basic Education Analysis," Jakarta, December 1990

IEES personnel presented six panel sessions at the Comparative and International Education Society meeting in Pittsburgh in March 1991:

A Re-examination of Sector-wide Planning Strategies in Educational Development in the Third World (T. Cresswell and H. Williams);

Research on Teachers in the Third World: Focus on Botswana (D. Chapman);

Integration of Management, Information Systems into Policy and Decisionmaking Structures (K. Tietjen);

An Analysis of AID Multi-year, Multi-country, Centrally-funded Education Projects (J. Messec);

The Utility of Educational Policy Research in Developing Nations: Reflections on Project Experience. (T. Cresswell and H. Williams); and,

Collaborative Strategies for Developing Systems of Educational Effectiveness Indicators (P. Easton and D. Holmes)

Other presentations at professional meetings included:

Chapman, D., Burchfield, S. and Snyder, C. W., Jr., "Teacher Incentives in the Third World." Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1991.

Chapman, D., "Microcomputers and Educational Development in the Third World." Paper presented at the annual meeting of the American Evaluation Association, Washington, D. C., October 18-20, 1990.

Chapman, D., "Developing Local Evaluation and Research Capacity in the Third World." Paper presented at the annual meeting of the American Evaluation Association, Washington, D. C., October 18-20, 1990.

Chapman, D. and Snyder, C. W., Jr., "Is Teacher Training Associated With Teachers' Classroom Behavior in the Third World?" Paper presented at the annual meeting of the American Evaluation Association, Washington, D. C., October 18-20, 1990.

Phase II Research

Submitted for Publication as Research Reports

Chapman, D. W. and Snyder, C. W., Jr., Is Teacher Training Associated with Teachers' Classroom Behavior in the Third World?

Snyder, C. W., Jr., Chapman, D., and Fuller, B., Classroom Affect and Complexity; Ecological perspectives of Botswana Junior Secondary Schools.

Kemmerer, F. and Green, M. (1990), The Basic Education Quality Study: Profiles of communities, schools, teacher, families, & students in selected provinces.

It is not uncommon for two years to elapse between submitting a research study for publication and it appearing in print. Consequently, results of the research conducted under the Phase I IEES Research Initiative are only now appearing in the professional literature. The following book chapters and journal articles all have appeared since January 1990 and all report on some aspect of IEES Phase I work:

Books

Snyder, C. W., Jr. and Ramatsui, P. (1990). *Curriculum in the Classroom*. Gaborone: MacMillan/Botswana.

Windham, D. M. and Chapman, D. (1990). *The Evaluation of Educational Efficiency: Constraints, Issues, and Policies*, Greenwich, Conn.: JAI Press.

Chapman, D. and Carrier, C. A. (1990). *Improving Educational Quality; A Global Perspective*, Westport, Conn.: Greenwood Press.

Book Chapters:

- Kemmerer, F. (1990). An Integrated Approach to Primary Teacher Incentives, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Kemmerer, F. (1990). Going to Scale: Why Successful Instructional Development Projects Fail To Be Adopted, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Messec, J. (1990). Language Issues and National Educational System; Experiences in African Developing Nations, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Morgan, R. (1990). Systems Design and Educational Improvement, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Snyder, C. W. Jr. (1990). Affective Context of Schools as a Potential Indicator of Teacher Receptivity to Instructional Change and Teacher Worklife Quality, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Thiagarajan, S. (1990). An Integrated Approach to Primary Teacher Support and Training, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.
- Chapman, D. (1990). The Role of Management Information Systems in Improving Educational Quality, In Chapman, D. and Carrier, C. (Eds.). *Improving Educational Quality: A Global Perspective*, Westport, Conn.: Greenwood Press.

Journal Articles:

- Chapman, D. W., Gall, A., Burchfield, S. and Messec, J. (1990). Education Data flow in Somalia. *International Journal of Educational Development*.
- Chapman, D. W. (1991). The Rise and Fall of an Education Management Information System in Liberia, *Journal of Educational Policy*, 6, 2, 133-143.
- Chapman, D. W. and Dhungana, M. (forthcoming). Education Data Quality in Nepal, *Program Evaluation and Planning*.
- Chapman, D. W. (1991). Education Data Quality in the Third World: A Five Country Study, *International Review of Education*, 37, 3, 365-379.

Manuscripts in Preparation:

- Abdulmalik, H. and Chapman, D. W., Is Teacher Training Related to Classroom Practice in Yemen?
- Abdulmalik, H. and Chapman, D. W., Teacher Nationality and Classroom Practice in Yemen.
- Chapman, D. W., Burchfield, S. and Snyder, C. W., Jr., Teacher Incentives in the Third World.
- Chapman, D. W., Burchfield, S., Headmaster Beliefs About Their Role in Improving Student Performance.
- Chapman, D. W. and Snyder, C. W., Jr., Teacher Efficacy and Instructional Practices in Botswana.

2.3 ACTIVITY THREE: EDUCATION MANAGEMENT.

IEES emphasizes that decisionmaking based on accurate and timely data is critical to selection of optimal policy and practice choices most likely to result in improved system performance and student achievement. It should be stressed that an improved Education Management Information System (EMIS) will not necessarily result in increased educational efficiency. An EMIS can, however, provide efficiency indicators of the performance of system subsectors so that decisionmakers can better select policy and practice options. Qualitative data must complement quantitative data in the consideration of policy choices. IEES strategy, therefore, requires training appropriate staff in policy analysis and field research, as well as training personnel to operate a computerized information system.

An effective EMIS is a tool that allows governments or private sector organizations to conduct efficiency analyses of activities in the EHR sector. It enables users to evaluate alternative patterns of resource allocations by examining the relationships between inputs, processes, outputs and outcomes. The IEES strategy for EMIS development in collaborating countries includes the following elements:

- Development of a mutual understanding of an effective EMIS and a strong conceptual foundation for determining what is possible;
- Obtaining mutual agreement with government to undertake the task of developing an efficiency-based EMIS;
- Maintaining a long-term perspective for developing a useful and sustainable system;
- Building from simpler to more complex concepts and activities;
- Building credibility and broadening the base of institutional support;
- Building capacity for maintaining the system and utilizing its products;
- Demonstrating the advantages of the ability to generate and choose from among policy options; and
- The recognition of constraints of an EMIS as a tool for decisionmakers.

Setting up educational information systems is complex; computerizing and monitoring educational data for analysis is even more difficult. Success is dependent upon the acceptance at all system levels of the conditions under which an EMIS must be built and maintained. This requires a genuine commitment from government to pursue the long-term, labor intensive—and potentially disruptive—process. Although EMIS development may be a beneficial activity in any country, IEES supports such work only in collaborating countries with the necessary strong commitment.

2.3.1 Summary of Activities in Project Year Seven

Botswana. IEES has worked closely with relevant MOE departments to coordinate the development of an EMIS for policy and planning decisionmaking in Botswana. IEES has provided leadership and techni-

cal assistance across six departments: Planning Unit, Unified Teaching Service, Department of Primary Education, Department of Secondary Education, and Department of Busaries. Ongoing EMIS activities include: coordinating database development with relevant MOE departments, collecting and updating information across departments for MOE planning use, and disseminating information across MOE departments. During this report period, A Database Managers Group was organized and chaired by the IEES RTA to address issues related to the development of databases and the establishment of common procedures regarding coding, selection of software, and dissemination of information.

Indicators of educational efficiency are now being reviewed for the IEES-assisted EMIS model. IEES plans are to turn over management and coordination of this effort to counterparts in the coming year.

During this report period, IEES assistance focused on building the capability to manage the new information system. The following training activities were carried out:

- 17 MOE staff in the departments of Planning, Busaries, Primary, Secondary, Nonformal Administration, and Unified Teaching Service were trained in basic computer operations;
- 18 MOE staff in the above departments completed a 4-week course in DBASE III Plus; and
- 18 MOE staff in the above departments completed a 6-week course in DBASE III Plus.

Haiti. During this period, an operational information base on private sector schools, their teachers and students, was established in Haiti and will be maintained through the IEES-assisted IIBE project. This information base will permit further analyses of the widely-diverse private sector in Haiti.

Indonesia. The central thrust of the IEES-assisted Educational Planning and Policy (EPP) project in Indonesia is to actualize planning capability through EMIS and thus produce tangible educational outcomes at the provincial, district and school levels. During this report period, ongoing development of EMIS capacity within the MOEC continued. IEES assisted with the development of a "Draft Manual for Production of Analytic and Retrospective Indicators of Education in Indonesia." This manual will assist decisionmakers to derive efficiency and quality indicators from available data in order to track the present status of Indonesia's educational system, to look back at the historical development of the system, and to compare the system to those of other Asian nations. During Project Year Seven, IEES has continued to monitor the development of indicators of educational quality, equity, and efficiency and to identify economic and demographic factors related to educational efficiency in Indonesia.

IEES has identified a strong need within the MOEC for middle level personnel in the following areas: financial cost analysis; policy research design, sampling, and analysis of large data sets; and sector analysis methodology. For this reason, a series of workshops were conducted during Project Year Seven to provide experience and hands-on exercises utilizing data from the ongoing IEES/EPP studies (Cost and Quality of Vocational/Technical Education Study and Quality of Basic Education) as vehicles for data analysis, reporting and sector assessments.

Nepal. An IEES RTA was placed in Nepal during this period. His primary task will be to further strengthen the EMIS which IEES established within the MOEC and to work with counterparts to direct the flow of information into decisionmaking forums.

2.3.2 Plans for Project Year Eight

Botswana. IEES will continue to assist the Planning Unit and other MOE departments with database development. Particular emphasis will be placed on refining and testing the Indicators of Efficiency Model, based on the input from the IEES-assisted Database Managers Group. A menu-driven system which will contain key items of information to be maintained centrally will be developed with the assistance of a systems analyst/programmer consultant. This information will be cross-referenced with other databases in the MOE. The IEES RTA will coordinate this effort.

Assistance will be provided to the Department of Nonformal Education to correct programming errors in the Nonformal Education database system and to train the staff of that department in the use and maintenance of the system. This system will then be coordinated with the other databases now operating within MOE.

Haiti. Through IIBE, IEES will assist private sector schools in designing and implementing an institutionalized monitoring and evaluation system for preprimary and primary schools. Given the possibilities now being explored for cooperation with public sector schooling in Haiti, this system will be designed with potential for also serving public schools.

Indonesia. IEES will support the improved MOEC capacity for educational management through a series of workshops designed to train provincial-level officials in data analysis. Participants will analyze provincial-level survey and interview data in order to describe the status in three areas: educational management, educational finance, and education and manpower.

Nepal. Plans are now being prepared in collaboration with MOEC officials in Kathmandu to outline goals for developing the EMIS in Nepal. Redundant collection systems across MOEC departments have been eliminated as an outcome of IEES research on existing information systems and the perceived need for information within the Ministry.

2.4 ACTIVITY FOUR: DISSEMINATION AND NETWORKING

2.4.1 Summary of Activities During Project Year Seven

2.4.1.1 Cooperative Dissemination Activities

IEES works closely with other S&T/Ed projects to effectively disseminate important lessons learned from all project experiences. During this report period, IEES participated in the following activities.

- Advancing Basic Education and Learning (ABEL) project Basic Education conference held in Lome, Togo, in September 1990.

IEES presented an overview of lessons learned from work with collaborating countries to improve educational efficiency, provided an exhibit of project documents and participated in conference workgroups.

- ABEL-sponsored S&T/Ed Project Coordination Meetings. IEES participated in all coordination meetings, reporting on project activities and coordinating planning.

2.4.1.2 In-country Dissemination and Networking

As part of its efforts to achieve efficiency improvement goals in collaborating countries, IEES assists in dissemination and networking activities within countries. These activities are developed within the context of the Country Implementation Plan and serve both to disseminate ideas and products and to focus debate on critical efficiency issues.

Botswana. IEES participated in the National Conference on Teacher Education April 28–May 1, 1991, presenting a report on teacher projections for 1992–97. IEES also sponsors regular meetings of Database Managers across six departments of the MOE in order to facilitate information flow and sharing of lessons learned.

Indonesia. IEES participated in the July 1990 Annual Planning Conference in Indonesia and presented the strategy paper, "An Analysis of the Status of Curriculum Reform and Textbook Production in Indonesia." A Sector Assessment Update Workshop held in January 1991 was based upon IEES sector assessment methodology and utilized the IEES manual on conducting sector assessments.

Namibia. IEES assisted the Government of Namibia with a National Consultative Conference at Etosha Pan in April 1991. This conference, which brought together a broad range of Namibian government representatives, representatives from other nations, and from many development assistance agencies, developed an action plan for building a national consensus for a learner-centered education system.

2.4.2.3 IEES Bulletin

The Winter 1990–91 issue of the *IEES Bulletin* focused on the strengthening of private sector education in Haiti. The Summer 1991 issue featured articles on IEES assistance to Namibia.

2.4.2 Plans for Project Year Eight

2.4.2.1 Cooperative Dissemination Activities

IEES participates in all ABEL-sponsored S&T/Ed Project Coordination Meetings as they are scheduled.

2.4.2.2 IEES Bulletin

Future issues of the Bulletin, Winter 1991 and Summer 1992, will examine the findings across the research agendas of IEES collaborating countries and IEES experiences in assisting countries in identifying efficiency indicators and their use in policy debate.

2.4.2.3 International Conference

The IEES International Conference planned for Botswana has been relocated to Alexandria, Virginia, November 2-4, to follow on the National Conference of the United States Coalition for Education For All (USCEFA). IEES counterparts will participate in the USCEFA conference as well as the follow-on IEES conference.

The proposed IEES Conference is outlined below.

PROGRAM OF CONFERENCE ACTIVITIES

Saturday, November 2

- | | |
|---------------|---|
| 8:00 – 8:15 | Conference Formal Opening and Welcome |
| 8:15 – 9:00 | Opening Addresses |
| 9:00 – 10:00 | Indonesia: What Has Been Achieved? |
| 10:30 – 11:30 | Haiti: What Has Been Achieved? |
| 1:00 – 2:00 | Botswana: What Has Been Achieved? |
| 2:00 – 3:00 | Nepal: What Has Been Achieved? |
| 3:30 – 4:30 | Summation Discussion: What Can Be Generalized From IEES Experiences With Collaborating Countries? |
| 4:30 – 5:30 | Policy to Practice: Operationalizing System Change |
| 5:30 – 6:00 | Project BRIDGES: How BRIDGES Works to Improve Educational Efficiency |

Sunday, November 3

- | | |
|--------------|--|
| 8:00 – 9:00 | Longterm Planning for System Improvements |
| 9:00 – 10:00 | Education for Democracy: Planning Educational Systems for Democratic Participation |

- 10:00 – 10:30 Planning Educational Assistance in the Sahel
- 11:00 – 12:00 What Do We Need To Know? Assisting Educational Systems with Research: Observing Teachers and Students
- 1:00 – 2:00 How Can IEES Best Capture, Generalize, and Diffuse Its Experiences of Ten Years?
- 7:00 Conference Banquet

Monday, November 4

- 8:00 – 8:30 Project ABEL: How ABEL Assists Countries to Improve Educational Efficiency
- 8:30 – 9:00 A Framework for Analyzing System Efficiency: Developing Effectiveness Indicators
- 9:00 – 10:00 Planning and Implementing Education Management Information Systems: What Have We Learned?
- 10:00 – 10:45 Reaction Panel: Developing Effectiveness Indicators
- 11:15 – 12:00 What About External Efficiency? The Quality and Efficiency of Vocational/Technical Education in Indonesia
- 12:00 – 12:30 Project LEARNTECH: How LEARNTECH Contributes to Improved Educational Efficiency
- 2:00 – 3:00 How Can IEES Best Capture, Generalize, and Diffuse Its Experiences of Ten Years? Report of Groups 1-4 and General Discussion
- 3:00 – 3:30 Summation Address: What Has Been Achieved? What Remains to be Done?

**3.0 ACCOMPLISHMENTS IN COLLABORATING
COUNTRIES IN PROJECT YEAR SEVEN
AND PLANS FOR PROJECT YEAR EIGHT**

3.1 BOTSWANA

3.1.1 Summary of Activities During Project Year Seven

3.1.1.1 Central IEES Activities

Activity	Date	Personnel	Impact
1. Policy Adjustment: National Development Plan a. Assistance to Planning Unit: school data analysis and draft revisions	10/90-07/91	S. Burchfield	MOE policy and program articulation & input into National Plan
b. Report on teacher projections; presentation at National Teaching Conference	06/91	S. Burchfield	
2. EMIS Development	ongoing	S. Burchfield	Development of efficiency indicator tracking system for policymaking capacity to operate/sustain EMIS components
a. Chair regular meetings of dept. database managers		S. Burchfield	
b. Refinement of indicators of efficiency model; establishment of information system		S. Burchfield D. Holmes P. Easton	
3. Training of 18 MOE staff volunteers in introduction to computers and DBASE III	04/91-08/91	Afro-British Computers	Development of institutional capacity
4. Research			
a. Completion of data entry & beginning of analysis of teacher questionnaire/quality of worklife questionnaire & classroom observation instrument	10/90- 04/91	SIAPAC D. Chapman W. Snyder	Database development for curriculum & policy review & adjustment
b. Completion of data entry & beginning of data analysis of headmaster questionnaires	10/90	SIAPAC S. Burchfield	

During the last six months, IEES assistance has focused on four areas: 1) technical assistance to the Planning Unit; 2) database development and information coordination; 3) training; and 4) research.

Technical assistance to the Planning Unit. The IEES RTA has assisted the Planning Unit in compiling and editing the Education and Manpower Development section of the National Development Plan 7 (1991-

97). This has involved providing input into the plan, helping to carry out analyses and projections of enrollment and staffing requirements, and assisting with editing of the document. The document will be submitted to Parliament in July 1991.

Other activities in the Planning Unit have included:

- compiling and maintaining the Planning Unit's databases on schools, teachers, enrollments, etc.;
- carrying out school mapping and identifying primary feeder schools for the Community Junior Secondary Schools (CJSS);
- assisting in development of a proposal for the establishment of a Research and Planning Department;
- compiling a report on teacher projections for 1992-1997 which was presented at the National Conference on Teacher Education at Tonota College of Education (April 28 - May 1, 1991).

Database Development and Information Coordination. One of the primary areas in which IEES has been involved is the development of an Educational Management Information System (EMIS) for policy and planning decisions. Currently educational information is compiled and maintained in six departments:

- Planning Unit;
- Unified Teaching Service;
- Department of Primary;
- Department of Secondary;
- Department of Nonformal Education; and
- Department of Bursaries.

Considerable progress has been made toward the development of a coordinated EMIS system. The IEES RTA works closely with MOE departments in developing, coordinating and exchanging information. A document is being prepared which describes database activities, information available and procedures for obtaining data in the various MOE departments. The RTA's database development activities include:

- coordinating database development with other departments.
- collecting and regularly updating information from other departments within the MOE for use in planning;
- disseminating information to other departments in the Ministry.

To facilitate information and exchange, a Database Managers Group is chaired by the IEES RTA. This group consists of departmental representatives, as well as staff from Central Statistics Office and the University of Botswana who are responsible for developing and maintaining databases. The group meets regularly to exchange information, discuss issues related to the development of individual databases and to establish common procedures that will be used by all the departments/units regarding coding, selection of software and dissemination of information.

With input from the Database Managers Group (DMG) and assistance from Florida State University staff, an EMIS model for indicators of efficiency is being developed. This activity consists of identifying information required to determine the extent to which the educational system is functioning efficiently. A preliminary set of data items perceived to be important to the efficient operation of an educational system

has been compiled and reviewed by the DMG. With assistance from the IEES RTA and Tim Goddard (a former Peace Corps volunteer who helped to set up the Primary Department database) the group will determine which items are currently available, as well as those which are needed, but which are not being provided by any of the departments.

The goal of IEES involvement in EMIS development is to turn over database management and coordination responsibility to a Batswana counterpart. However, there are currently no available Batswana personnel qualified to fulfill this role. Although two members of the Planning staff were trained in computer use during 1989/90 by the IEES RTA, both have since left the Planning Unit. One was transferred to another department in the Ministry of Finance and the other is completing her Master's degree in the United States. She is expected to return to the Planning Unit within the next few weeks.

A new member of the Planning staff is presently receiving computer training. However, he has many other responsibilities within the Planning Unit and is unable to devote his full attention to these functions.

Training. A primary objective of the IEES project is to strengthen MOE institutional capacity in educational planning, management and research. During the past six months, focus has been on providing training in computer usage and analysis. The following training activities were carried out under IEES during 1990/91:

- 17 MOE staff in the departments of Planning, Bursaries, Primary, Secondary, Nonformal Administration and UTS recently participated in an introduction to computers course given by Afro-British Computers;
- 18 MOE staff in the departments of Planning, Bursaries, Primary, Secondary, Nonformal Administration and UTS recently completed a 4 week course in Introduction to DBASE III Plus conducted by Afro-British Computers; and
- 18 MOE staff in the departments of Planning, Bursaries, Primary, Secondary, Nonformal Administration and UTS are taking a 6-week course in Introduction to DBASE III Plus conducted by Afro-British Computers.

Research. IEES and JSEIP staff have continued to collaborate closely on a number of research initiatives. During the past six months, three research initiatives have been ongoing. Two projects are in the analysis stage and one will soon be entering the data collection stage. These include: a) data analysis of a school effects study initiated in 1989-90; b) data analysis of a headmaster study begun in 1990; and c) initiation of a teacher incentives study. The background and current status of these studies is described below.

Research on school effects was initiated by JSEIP in 1988 with a classroom observation study and the administration of a Quality of Worklife (QWL) questionnaire. The classroom observation study focused on identifying types of behaviors teachers exhibit in the classroom and examined the relationship between teacher behavior and student achievement. The quality of worklife research aimed at determining teachers' attitudes toward their work environment and factors which provide incentives for greater teacher performance.

The school effects study was extended to 1989 to include a teacher questionnaire, along with another administration of the QWL questionnaire and a second classroom observation study. During 1989, the research was also extended to collect measures of student attainment and achievement. Hence, achievement testing, using the International Educational Attainment (IEA) tests, was carried out. In both the 1988 and 1989 studies, attention was focused on availability and teacher use of instructional materials, pedagogical techniques of teachers, classroom characteristics, and how these factors differed across levels of the educational system.

Beginning of the year (pre-test) student achievement data were collected in March 1990, using curriculum-based achievement tests developed under IEES funding. In June and July 1990, data for a classroom observation study, a quality of teacher worklife study and a teacher questionnaire were collected.

In February 1990, a study was initiated by the IEES RTA which investigates the role of junior secondary headmasters in improving school quality and efficiency. Particular attention is focused on the headmasters' role in instructional supervision, in managing school-community relationships and in maintaining school-Ministry communications.

A questionnaire was administered to all junior secondary headmasters which elicited information on the extent to which local communities are involved in school activities, the extent to which they provide monetary and non-monetary support to local schools, the extent to which parents are involved with school personnel concerning issues of their children's school performance, and headmasters' judgments about how these community-school and parent-school relationships can be strengthened. These data have been collected and are currently being analyzed. The study is expected to yield practical suggestions for greater community involvement in education, for headmaster training, and for MOE school communications. While the headmasters' research is conducted as a separate research initiative, some of the headmaster data will be merged with and analyzed in conjunction with the teacher data from the school effects study.

In light of the recommendations emerging from an IEES-sponsored policy seminar for key MOE officials held in May 1990, a study of teacher incentives was initiated in November 1990. Frances Kemmerer, through a consultancy with the Ministry of Education, assisted with preliminary data collection, developing a draft questionnaire and a study design. The study is intended to identify incentives which will lead to greater teacher satisfaction and retention. It will build upon previous JSEIP/IEES research. Interviews will be conducted with 600 primary teachers, 100 junior secondary teachers, 50 senior secondary teachers, and 10 instructors from colleges of education and teacher training colleges. Focus will be on Botswana teachers, and the sample will include both male and female teachers, as well as teachers in both rural and urban areas.

The study will focus on identifying incentives (both monetary and non-monetary) for better teacher performance. A reference group has been established and their input was used in developing a research design. This will be jointly funded by IEES and Government of Botswana/USAID cost-sharing funds.

Data collection will begin in mid-June (pending approval of the cost-sharing funds). Data collection will begin in mid-June 1991.

A document on research for educational policy and planning, with a focus on the linkages between policy and research, is being developed with the Government of Botswana. This document will be compiled and edited by the IEES RTA. It is a collaborative effort, sections of which are being written by Ministry of Education officials (including the Permanent Secretary), the University of Botswana, the Botswana Educational Research Association, the National Institute for Research and other individuals who have been involved in carrying out research in Botswana.

The document will provide an overview of the history of educational research in Botswana, as well as a review of educational research literature in the country. It will also describe the capacity of the Ministry of Education and the University of Botswana to carry out research and make recommendations for improving research capacity. And finally, it will present the findings of recent educational research and make recommendations for future research directions.

The information in this document will be presented at a policy seminar to Ministry and University of Botswana officials, Education Officers and school administrators. Two thousand copies will be published as a book and disseminated to all schools, Teacher Training Colleges and Colleges of Education as well as to MOE and University of Botswana departments.

3.1.1.2 Plans for Project Year Eight

The contract of the Botswana RTA (Burchfield) expires in October 1991, and negotiations are underway to renew the contract until October 1992. Planned activities through October 1992 are listed below:

1. Technical assistance to the Planning Unit will continue. Additional input will be provided to the Permanent Secretary for the design of a Research and Planning Department (ongoing).
2. EMIS database development and coordination will continue. Particular emphasis will be placed on refining and testing the Indicators of Efficiency Model, based on the Database Manager's Group input. A menu-driven system which will contain key items of information to be maintained centrally will be developed with the assistance of a systems analyst/programmer consultant (Tim Goddard). This information will be cross-referenced with other databases in the MOE (June - November 1991).
3. The IEES RTA will assist the USAID Mission and Botswana Educational Research Association (BERA) with the planning and implementation of a regional conference of the Educational Research Network for Eastern and Southern Africa (ERNESA) (June 1991).
4. A conference will be held to present and discuss research results (on student achievement, headmasters, teachers and classroom process, etc.) with key MOE decision makers (October 1991).
5. The services of a consultant will be contracted to analyze 1990 student achievement test results, and a seminar will be held to provide feedback to teachers (August - October 1991).
6. Data for the teacher incentives study will be collected (June - July 1991) and analysis will be carried out (August 1991 - July 1992).

7. A consultant will be contracted to work with the Department of Nonformal Education to correct programming errors in the Nonformal Education database system and to train staff in the use and maintenance of the system (July 1991).
8. Assistance will be provided to the Permanent Secretary in developing and implementing a Ministry-wide bi-annual reporting system (July 1991 – January 1992).
9. A document describing current research capability in the education sector in Botswana and presenting recent research findings will be published (using cost-sharing and IEES funds). The focus of the book will be on research for policy and planning (June 1991 – February 1992).
10. An international IEES conference will be held the week of November 4-8 in Washington D.C., in which IEES participants in Botswana and other countries will share project experiences and information (November 1991).
11. Additional MOE staff will be trained in LOTUS 1-2-3, DBASE III Plus and WordPerfect (January – September 1992).
12. A document describing the existing databases within the various Ministries will be completed and disseminated (March 1992).
13. A seminar will be held to present the EMIS system to key decision-makers in the MOE and receive feedback (May 1992).
14. MOE Planning staff will be trained in using the EMIS system (January – September 1992).
15. MOE Planning staff will be trained in carrying out enrollment and staffing projections (January –September 1992).
16. The book on research for planning and policy will be presented at a policy seminar for key MOE officials (June 1992).
17. Results of the teacher incentives study will be presented to the Ministry of Education (September 1992).

IEES/BEC Collaboration

IEES/JSEIP collaboration has been very successful over the past year and a half. It is hoped that this type of cooperation will continue with the follow-on project. The research initiatives have proven to be particularly fertile ground for such collaboration. As the Planning and Research Department is initiated and Basic Education Consolidation (BEC) involvement in research is formalized, it is important that the two projects continue to work closely together in order to avoid duplication of effort.

3.1.2 Junior Secondary Education Improvement Project (JSEIP) Activities

I. Development and systemization of the instructional system

Activity	Date	Personnel	Impact
1. English			
a. Implementation of new national curriculum (student's book, workbook, and teacher's handbook) for Form 2 Books published by Longman's	12/91		Improved quality of curriculum, instructional materials and assessment; CD/E

Activity	Date	Personnel	Impact
b. Country-wide field testing of Form 2 materials completed in 12 schools and materials sent to publishers	2-5/91		
c. Implementation of new JC Exam based on new syllabus	10/91		

Note: The above activities are being maintained by present CDU English officers. The following activities reflect those which are conducted with JSEIP personnel serving as advisors/consultants.

d. Development of test blueprints, plans, and specifications	12/91	J. Bowers A. Nitko	
e. Consultation on revising current continuous assessment method	12/91	A. Oosterhof K. Noel	
f. Evaluation of new English program	12/91	W. Dick K. Noel	

2. Social Studies

a. Social Studies Teaching Methods Book (Trial Edition) published	5/91	K. Noel	
b. Social Studies Teaching Methods Book (Trial Edition) distributed to all primary teachers and Teacher Training Colleges and Colleges of Education	5/91	K. Noel B. Vogeli	
c. Formative Evaluation Plan for Social Studies Teaching Methods Book (Trial Edition)	6/91	W. Dick K. Noel	
d. First draft of Form 1 Social Studies Book developed and to the editor and writing of Form 2 book has started	3/91	K. Noel J. Lunstrum	
e. Draft of Student Activity Book, Chapters 1 – 3	2/91	J. Lunstrum J. duPlessis	
f. Plan for revising Form 1 Social Studies Book developed	4/91	K. Noel	
g. Return of Social Studies CDO with Masters Degree from FSU	6/91	D. Holmes	
h. Return of Social Studies teacher to CDU from post-Masters Degree work at FSU	9/91	D. Holmes	

Activity	Date	Personnel	Impact
3. Design and Technology			
a. Development of Form 1&2 materials continued	12/91	J. Robb	
b. Draft modules under review	thru 12/91	J. Robb	
c. First draft of Teacher's Handbook completed and distributed to FEOs and teachers for review and feedback	11/90	J. Robb	
d. First draft of Student Workbook for Year 1 completed and distributed to FEOs and teachers for review and feedback	11/90	J. Robb	
e. Presentation of "Practical Curriculum for Emerging Technology in Botswana" by the CDO/D&T and Robb to the African Regional Workshop on Technology Education, Nairobi, Kenya	2/90	J. Robb	
f. Small-group trial testing of Learning Activity Packages in two schools, with 3 teachers and 12 Form 1 classes completed	2-5/90	J. Robb	
g. Individual orientation meetings with 6 FEO/D&T on new curriculum materials completed	3/90	J. Robb	
h. 2 FEO & MCE workshops completed	6/90	J. Robb	
i. Proposal for trying out program completed	6/90	J. Robb	
j. Organization of student text writing begun	9/90	J. Robb	
k. On-going training of CDO ongoing	12/91	J. Robb	
l. Member of Women in Science & Technology Committee	1990	J. Robb	
m. Trial edition of Form 1 Teacher's Handbook and Student Workbook completed	9/90	J. Robb	
n. Formation and meeting of National Curriculum Panel	7/90	J. Robb	

Activity	Date	Personnel	Impact
o. Continuous assessment package developed and reviewed by RTC	7/90	J. Robb J. Bowers	
p. FEO/MCE inservice planning workshop	9/90	J. Robb	
q. Trial teacher, headmasters, and FEO workshop completed	11/90	J. Robb	
r. Development of Form 2 program materials	8/91	J. Robb	
s. Try-out and revision of Form 1 materials	10/91	J. Robb	
t. Final edition of Form 1 materials to publishers	10/91	J. Robb	
u. Presentation of Botswana's Design & Technology at U.S. Conference and USAID/Washington	3/91	J. Robb	

4. Art

a. Preliminary meeting with Macmillan for publishing revised Teacher Guides, syllabus and Student Workbook	1/90	L. Ives T. Gonzales	
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Note: T. Gonzales has taken full-time position with Secondary Department as SEO. In that position, she maintains strong links between Secondary and CDU and acts as an Inservice officer as well.

b. Teacher Guide Materials tried out in 30 schools with 3000 students, MCE lecturers, and student teachers	1-12/89	L. Ives	
c. Completed Employment Opportunity Survey for Commercial art, "Art Education and Employment in Botswana: A Report of Survey Findings"	2/90	L. Ives	
d. Turn over of the MCE Art Apprenticeships Programme to MOE and MCE to give art student teachers the opportunity to engage in practical work with art-related employers; 50 students are working for various companies, e.g., Marothodi Fabrics, Tony Signs and Screen Print.	1-6/91	L. Ives	
e. Completed Form 1 & 2 Units 1-5 in drawing, painting, crafts, commercial art, and sculpture for the syllabus and teacher's guide	1989	L. Ives	

Activity	Date	Personnel	Impact
f. Completed field testing, formative evaluation, and revision of art syllabuses, Form 1 & 2, terms 1-6	1-5/90	L. Ives	
g. Drafted sample format for the Student Workbook	2/90	L. Ives	
h. Two continuous assessment workshops in painting, sculpture, and crafts for 70 teachers	6/91	L. Ives J. Bowers	
i. Revised Form 1 Material, Units 1-3	6/90-4/91	L. Ives	
j. Revision of Form 2 materials, Units 4-6	5/91-12/91	L. Ives	
k. Appointed Coordinator for Art, Design, & Technology working group for the primary program	5/90	L. Ives	

5. Science

a. Development of student materials for Form 1 sent to publisher	12/90	K. Noel E. Burkman D. Redfield	
b. Draft modules for Book 2 of "Science by Investigation in Botswana" completed. Try-out of Book 2 initiated	1-6/91	K. Noel E. Burkman	
c. Implementation of "Science by Investigation" Form 1 & 2 material	1/92	K. Noel	

6. Setswana

a. Try-out of trial edition of Book 1	1-6/91	K. Noel	
b. First draft of Book 2 completed. Chapters for Term 1, Book 2 are being pilot tested	4/91	K. Noel	
c. Test blueprint for CRT examination is completed	3/91	J. Bowers	

7. Environmental Education

Note: Sandy Shaw is an OPEX consultant through USAID working on an environmental education curriculum and she has worked as a member of the JSEIP team.

a. Development of a Resource Book for Environmental Education -- seven units	1-8/90	S. Shaw	
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Activity	Date	Personnel	Impact
8. Testing/Examinations			
a. Completion of International Educational Achievement Testing (IEA) Program (Reading Comprehension); pilot testing at 49 schools (20 primary and 29 CJSS) of 3,202 students; working with CDU in development of Setswana version of test for 9-yr. olds, administered at 20 schools; supervising data entry	6/90	J. Bowers	
b. Analysis of IEA data and development of reports	9/9	J. Bowers	
c. Test blueprint, plans, and specifications for:			
Art	completed 12/90	J. Bowers, A. Nitko, L. Ives	
D&T	begun 11/90	J. Bowers, A. Nitko, Robb	
English	begun 11/90	J. Bowers, A. Nitko	
Setswana	begun 1/91	J. Bowers, A. Nitko	
Mathematics	begun 11/90	J. Bowers, A. Nitko	
d. Identification of characteristics of new exams computer equipment and preliminary investigation for CRT	1/91	J. Bowers	
e. Formation of Assessment Advisory Committee	5/91	J. Bowers J. Robb K. Noel	
f. 4 participants completed training at University of Pittsburgh	1/91-4/91	A. Nitko J. Bowers K. Noel	
g. 1 Pittsburgh participant to FSU for 10 days on formative evaluation	5/91	W. Dick K. Noel J. duPlessis	
h. Exams Registrar to U.S. for 2 weeks consultation in U.S. with University of Pittsburgh trainees	4/91	A. Nitko J. Bowers K. Noel	
i. Test item writing workshop with Art teachers using new test specifications for '91 exam	1/9	L. Ives J. Bowers	
j. Purchase and distribution of text and workbook on development of criterion-referenced texts	12/90	K. Noel A. Nitko	
k. Work with A. Nitko and RTC to introduce CRT into national testing	5/91-7/91	J. Bowers A. Nitko	

Activity	Date	Personnel	Impact
l. Select hardware and software to internalize test processing analysis and reporting in CD/E	9/91	J. Bowers	
m. Prepare JCE multiple-choice CRT for Art and Design and Technology	6/91	J. Bowers L. Ives J. Robb	
n. Consultation to identify future CD&E data processing, analysis, and reporting systems needs	6-7/91	A. Schleicher J. Bowers	
9. Guidance and Counseling			
a. Consultancy on developing country-wide G&C program	8/90	S. Rollins	
b. Publication of G&C pamphlet on gender issues for Std. 1-9 students	12/90	JSEIP sponsored	
10. Curriculum Resource Centre			
a. Continuation of the development of the CD&E Resource Centre – collecting books, videos, cassettes, etc., cataloging and shelving materials	on-going	C. Miles	
b. Assisting materials development teams of various subject areas in their search for relevant materials on which to build curriculum	on-going	C. Miles	
c. Information about the CD&E RC was distributed throughout the Ministry; brochure developed	on-going	C. Miles	
d. Final edition of Policy and Procedures Manual for the Resource Centre	11/90	C. Miles	
e. Hiring of short-term staff to classify and categorize Resource Centre documents	1-7/91	C. Miles	
f. Introduce cataloging and classification (Dewey Decimal) in Resource Centre	1-9/91	C. Miles	
g. Obtain Resource Centre copy machine	3/91	C. Miles B. Vogeli	
h. Continue orientation sessions and tours	on-going	C. Miles	

Activity	Date	Personnel	Impact
11. Curriculum Planning and Evaluation			
a. Training of counterpart in Curriculum Planning (P. Moanakwena)	1/90 on going	K. Noel	
b. Training of counterpart in Curriculum Evaluation (N. Koolese)	4/90 on-going	K. Noel	
c. Participate in and report CDU Tenth Anniversary Seminar	4/90	K. Noel	
d. Formulate draft manual suggesting procedures in syllabus development, curriculum development & evaluation	5-6/90	E. Burkman K. Noel	
e. Organize and conduct CD&E seminar on draft procedures manual (Burkman) to establish agreement	8/90	K. Noel	
f. Work with RTC on CRT policy	9/90 on-going	J. Bowers J. Robb L. Ives K. Noel	
g. Develop curriculum data base for computer access and organization of syllabus objectives across curriculum	1-11/91	J. duPlessis K. Noel B. Vogeli	
h. Work with Department of Teacher Education on the status of continuous assessment in teacher education	4-5/91	A. Oosterhof M. Driscoll K. Noel	
i. Work with Department of Teacher Education FEOs on action research in the classroom	4-5/91	M. Driscoll D. Mullaney K. Noel	
j. Return of Curriculum Evaluator from University of Pittsburgh four-month training in CRT	5/91	A. Nitko J. Bowers K. Noel	
k. Ten-day short-term training in formative evaluation for Curriculum Evaluator	5/91	W. Dick K. Noel	
l. Develop final manual on procedures in syllabus development, curriculum development & evaluation	5-11/91	E. Burkman K. Noel W. Dick	
m. Consultation on planning formative evaluation activities	5/91	W. Dick K. Noel	

Activity	Date	Personnel	Impact
with CDOs & Curriculum Evaluator, especially in English, D&T, Agriculture			
n. Consultation on continuous assessment with CDOs in Agriculture and English	5/91	A. Oosterhoff	
o. Completion of research study and report entitled English in the Junior Secondary School: Case Study of a Curriculum Implementation	5/91	R. Prophet W. Snyder	
p. Establish Examination Assessment Committee	6/91	J. Bowers J. Robb L. Ives K. Noel	

II. Preservice and Inservice Education and Training (Teachers, Headmasters, and Officers)

Activity	Date	Personnel	Impact
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1. Molepolole College of Education

A. Art Teacher Education

Note: L. Ives moved to CDU as full-time CDO through USAID OPEX position. She still maintains close contact with MCE program.

1. Maintain strong links between MCE, CDU, and Secondary Art programs	on-going	L. Ives	
2. Institutionalize Apprenticeship Programme at MCE	3/91	L. Ives	
3. Conducted review of tertiary programs and needs for Art teachers	8/90	J. Draper L. Ives	
4. Work on providing tertiary training for Art teachers based on consultancy	7/91	L. Ives	

B. Design and Technology

1. Serving as head of department – the department has 2 lecturers	on-going	F. Walton	
2. Students: 36 first year (M = 36; F = 0), 21 second year (M = 20; F = 1), and 16 third year (M = 16; F = 0)			
3. Contact hours: MCE lecturing for 706 contact hours, and MCE Teaching Practice for 300 contact hours			

Activity	Date	Personnel	Impact
C. Education Department			
1. Acting Head of Department on curriculum and course materials development and evaluation	on-going	J. Odharo	
2. Presentation of courses: Learning Theory, Curriculum Design, and Test Construction			
3. Students: 210 second year (M = 90; F = 120) with 15 periods of 55 minutes each			
4. Contact hours: MCE lecturing for 1348 contract hours			
5. Coordination of 96 students in MCE teaching practice at 26 schools			
6. Advise on curriculum development for TTCs and Colleges of Education			
7. Consultation on continuous assessment policy at MCE	5-6/91	A. Oosterhoff J. Odharo	
8. Consultation on action research for MCE lecturers	5-6/91	M. Driscoll J. Odharo	
9. Consultation of formative evaluation for MCE lecturers and students	5/91	W. Dick K. Noel J. Odharo	
10. "Official hand-over" of social studies resource texts and materials	5/91	K. Noel R. Allen	
2. Inservice Teacher Education			
a. Conduct Levels 1, 2, and 3 staff development workshops for FEOs	on-going	D. Mullaney	
b. Obtain transport and equipment for FEOs	on going		
c. Help plan for Teacher Education Conference	9/90-4/91		
d. Provide keynote speaker on <i>International trends and issues in Teacher Education</i> at Teacher Education Conference in cooperation with Primary	4/91	D. Kraft K. Noel D. Mullaney	

Activity	Date	Personnel	Impact
Education Improvement Project (PEIP)			
e. Make "official hand-over" from JSEIP to the MOE of <i>Curriculum in the Classroom</i> book during Teacher Education Conference	4/91	K. Noel	
f. Help plan for Education for All Conference	1-6/91		
g. Organize and participate on panel at Teacher Education Conference	4/91		
h. Plan Secondary Education Revitalization Seminar	1-1/91		
i. Plan workshop for all FEOs	2-6/91		
j. Plan Level Four Workshop for FEOs	1-10/91		
k. Develop <ul style="list-style-type: none"> * five modules for FEO staff development * 1991 FEO development/action plan * Evaluation of FEO programme * develop inservice newsletter 	1-10/91		

3. Headmasters Training

Note: J. MacDonald's (JSEIP Headmaster Advisor) contract was completed with JSEIP in 8/90.

a. Analyze data from headmasters questionnaire developed by IEES distributed to all headmasters in the junior secondary schools	6/90	S. Burchfield (IEES)	
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4. Participant Training

a. Nine Masters degrees attained at FSU and three from Wisconsin University and one from Ohio University	6/90	D. Holmes	
b. CDO/D&T sent to the African Regional Workshop on Technology Education (co-sponsored by MOE)	2/90	J. Robb	
c. Social Studies MDT member sent to FSU from Indiana State (trust fund participant) to work on social studies curriculum development	4/90	D. Holmes J. Lunstrum R. Allen	

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Activity	Date	Personnel	Impact
d. One person completed masters degree at FSU	4/91	D. Holmes J. Lunstrum R. Allen	
e. One person completing post-masters work in social studies at FSU	1-9/91	D. Holmes R. Allen J. Lunstrum	
f. 4 participants completed training at University of Pittsburgh in criterion-referenced testing	1-4/91	T. Nitko J. Bowers K. Noel	
g. 1 person completing masters in media production/technology at University of Southern Illinois	9/91	B. Vogeli	
h. CDU Curriculum Evaluator to FSU for 10 days to work with formative evaluation consultant	5/91	W. Dick K. Noel	
i. Masters student (Southern Illinois) to work at FSU on curriculum data base with consultant for one week	6/91	B. Vogeli K. Noel J. duPlessis	

5. Papers and Presentation

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|--|------|-------------------------|--|
| a. Completion of research study and report entitled <i>English in the Junior Secondary School: Case Study of a Curriculum Implementation</i> | 5/91 | R. Prophet
W. Snyder | |
|--|------|-------------------------|--|

III. Commodities and Construction

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|--|----------|-----------|--|
| 1. Update Commodities Report outlining total project equipment, instructional materials, and vehicles purchases for CDU, DSE, Planning Unit, and MCE | on-going | B. Vogeli | |
| 2. Purchase of computer equipment through MOE/USAID cost-sharing | 2/91 | B. Vogeli | |

The Junior Secondary Education Improvement Project (JSEIP) is a large-scale educational project which has been operating in Botswana from 1985 to the present. In 1984 the Government of Botswana and the United States Agency for International Development conducted an Education and Human Resource Sector Assessment. That assessment led to the design of JSEIP and focus of the project. The first of ten residential JSEIP technical advisors arrived in mid-1985 with most others arriving six to nine months later.

The purpose of the project has been to aid the Government of Botswana and its Ministry of Education in the expansion of a universal seven year basic primary education to nine years of basic education. The project's focus has been on the revision of the junior secondary program and the goals of the project include:

- the design, development, production, and implementation of curriculum materials for the junior secondary program,
- the creation of stronger linkages between curriculum reform and the preparation of new teachers and headmasters, and
- the enhancement of the junior secondary educational system in terms of quality of instruction and its planning, management, and supervisory capacity.

With curriculum as its focus, JSEIP has established the necessary requirements to sustain curriculum revisions and innovation, foster the institutionalization of appropriate curriculum development protocols, and put in place the support mechanisms (e.g., trained teachers and headmasters and a monitoring system) to maintain the dynamic curriculum improvement beyond the life of the project.

By the start of JSEIP during the latter half of 1985, a rapid increase in the number of new junior secondary schools throughout the country was already underway. Concomitantly, the Ministry of Education had begun the massive undertaking of revising the curriculum at the junior secondary level to reflect the new goal of the Nine Year Basic Education Programme.

As stated in the IEES "Plans for Project Year Seven" report, JSEIP has two general purposes and a number of specific purposes. The two general purposes are:

1. To increase the quality and efficiency of the instructional component of the expanded basic (junior secondary) educational system; and
2. To institutionalize the capacity to develop, manage, and support the new junior secondary instructional component of the educational system.

The specific purposes are:

1. To make the instructional component of the junior secondary schooling more responsive to the training and employment context facing Botswana in the 1990's;
2. To improve the instructional system, including:
 - improved instructional design and system assessment,
 - curriculum development and testing,
 - coordination and focus of inservice training,
 - improved design of selected aspects of preservice educational program for junior secondary teacher candidates,
 - linkage of curriculum development with teacher training,
 - enhanced capacity for the quality of educational materials production,
 - improved resource base for curriculum development,
 - system development of research, testing, and evaluation approaches;
3. Training curriculum officers, school headmasters, inservice teaching staff, teacher trainers, guidance officers, and evaluation and testing officers for the system, and

4. Providing an improved organizational communication and information architecture for the continued development of Botswana's Nine Year Basic Education Programme.

Project Activities: Status and Plans

Status. Since the last IEES report, JSEIP has been extended from the previous contract end date of September 12, 1990, to December 13, 1991, in order to ensure the completion of curriculum materials for the students and teachers and the institutionalization of a number of policies and processes that have been initiated during the life of the project. Also, a number of changes in JSEIP personnel have occurred as part of the phase-out schedule for JSEIP RTAs. W. LeBlanc (English) and J. MacDonald (headmasters) completed their contracts in September, 1990. C.W. Snyder (Chief of Party) completed his contract in December, 1990, with Kent Noel (Curriculum Planning and Evaluation) then assuming the Chief of Party responsibilities. The contract of the remaining six RTAs (K. Noel, J. Bowers, R. Mullaney, B. Vogeli, F. Walton, J. Odharo) have been re-scheduled to be completed at the end of the project in December, 1991. Additionally, the contracts of the three long-term consultants (J. Robb, L. Ives, C. Miles) will be completed by December, 1991.

During 1990, the project was reviewed and evaluated for USAID/Botswana (August, 1990), as well as audited (November, 1990). Both evaluations resulted in favorable reports. The Project evaluation highlighted ways that initiatives started by JSEIP could be continued by the Ministry of Education, as well as by any subsequent education projects of USAID/Botswana. During the same time period, a Project Identification Document was developed for a follow-on project (currently called the Basic Education Consolidation [BEC] Project). The BEC project proposal is currently being developed and will include the consolidation of initiatives begun under JSEIP and the Primary Education Improvement Project (PEIP).

Plans. As JSEIP approaches December 1991, the pace of consolidation of the gains made during the project, as well as that for phasing out the project, will increase. Activities for this period are described below.

Instructional Design and Curriculum Development

A primary focus of JSEIP continues to be the development of curriculum materials for students and support materials for teachers. Currently, the project provides direct consultant support in Design & Technology (J. Robb) and Art (L. Ives). Other subjects are provided on-going support as needed by the RTAs who work in the Department of Curriculum Development and Evaluation (J. Bowers, B. Vogeli, and K. Noel). Highlights of general curriculum development plans (e.g., criterion-referenced testing, curriculum development and formative evaluation), as well as subject-specific plans during the next year are provided below.

1. **Curriculum Procedures Manual (E. Burkman)**

A curriculum development procedures manual for the Curriculum Development Unit will be completed. While the manual provides direction on how to systematically develop cur-

riculum, it has been based upon consultations with curriculum development officers to ensure that its recommended procedures can be used within the context of Botswana. The manual will be the first of its kind evaluating new curriculum materials. It is intended as a resource which can be used both for training new curriculum development officers and as a job aid for more experienced officers.

2. Computerized Curriculum Data Base (J. duPlessis)

JSEIP is in the process of developing a prototype programme for a computerized curriculum data base (using HyperCard). The purpose of the data base is to provide a means for more effectively revising the nine-year curriculum and integrating new objectives into that curriculum. It will include a cross-referenced list of topics and objectives currently represented in syllabuses across subject areas and across standards. By using the data base, officers will be able to quickly access information about what skills and topics are already being taught within the nine-year program and at what level they are being taught. During a week-long break from his masters degree work at Southern Illinois University, the Media Production Officer will work with J. duPlessis at Florida State University to learn about the data base and help refine it. Upon returning to his job in Botswana in September, 1991, he will assume the responsibility for operating and updating the data base.

3. Formative Evaluation (K. Noel)

The return of the Curriculum Evaluation Officer from short-term training at the University of Pittsburgh (A. Nitko) and Florida State University (W. Dick) and the help of a short-term consultant (W. Dick) will enable the CDU to develop a plan of action to formatively evaluate curriculum materials in the future.

4. Testing/Examinations (J. Bowers)

The return of Research and Testing Officers from four-months training at the University of Pittsburgh in criterion-referenced testing has resulted in increased activity in the development of test plans, blueprints, specifications and items. Current plans are to try out criterion-referenced testing processes at the primary level in the subjects of Setswana, Social Studies, and English. Based on that experience, the processes will be refined and introduced in other areas at a later date. Current initiatives in criterion-referenced testing in junior secondary subjects (Art and Design & Technology) will continue.

5. Media Production (B. Vogeli)

The return of the Media Production Officer to work with his JSEIP counterpart in September, 1991, will provide the time needed to hand-over the many production activities for which the officer will be responsible. Also, the RTA will continue efforts to identify and/or install appropriate media production equipment, especially as it pertains to desktop publishing. Plans are underway to send two technical assistants for six weeks of training in the maintenance of equipment used in the Production Section.

6. Curriculum Resource Centre (C. Miles)

The classification and cataloging of the Resource Centre's growing number of materials (using the Dewey system) and on-going efforts to improve the services that the Resource Centre can provide will continue. The CD&E has obtained the temporary services of a librarian and a data entry person to help with this effort.

7. English (W. LeBlanc)

The development of the junior secondary English materials was completed in 1990 and is in the process of being fully implemented although the continuous assessment aspects of that curriculum are currently under review. Although the English RTA (W. LeBlanc) completed her contract (September, 1990), JSEIP continues to provide support, especially in developing criterion-referenced tests.

8. Social Studies

Two Social Studies officers from Florida State University, one working on a Masters Degree and the other completing post-Masters Degree study, are due to return to the Curriculum Development Unit in June and September, 1991, respectively. Their return will greatly strengthen the social studies curriculum development activities, especially in the area of criterion-referenced testing. While a draft of a social studies student text book is currently under development, the development of a student workbook will await the return of the two officers. Also, during the coming year, the *Botswana Social Studies Teaching Methods* book will undergo formative evaluation in teacher training institutions.

9. Design & Technology (J. Robb)

During the remaining time in the project, the Design & Technology team will complete formative evaluation, revision, and publication of Form 1 Teacher's Handbook and Student workbook; complete draft of Form 2 materials as well as plans for evaluating that material in 1992; provide inservice training for trial school teachers on Form 2 materials and country-wide inservice training for teachers and headmasters to prepare them for the full-scale implementation of Form 1 materials in 1992.

10. Art (L. Ives)

During the remaining time in the project, the Art team will complete revisions and publish Form 1 and 2 curriculum materials and continue providing inservice training for teachers on the new programme and will prepare continuous assessment and examination test items based on test blueprints and plans for the Art syllabus.

11. Setswana

The Setswana team will complete the revision of Form 1 materials and send them to the publisher and complete pilot testing of Book 2.

12. Environmental Education (S. Shaw, USAID consultant working with JSEIP)

The Environmental Education consultant will develop a Resource Book for Environmental Education, eventually to be used throughout the nine-year program.

Preservice and Inservice Training

Two JSEIP RTAs will continue to provide assistance to the Molepolole College of Education (MCE) until December, 1991. Both RTAs serve as heads of department, one in the Department of Design & Technology (F. Walton) and the other in the Department of Education (J. Odharo). In addition to their capacities as lecturers, curriculum developers for their departments, and department administrators, they

will continue to be involved in college-wide activities such as a review of the college's current methods used to continuously assess students and the identification of ways in which those methods can be improved.

During the next year, the Inservice RTA (D. Mullaney) will continue to advise and organize training for the Field Education Officers (FEOs) who are charged with providing inservice training for teachers in their various regions throughout the country. In addition to planning workshops for FEOs, he will develop or work with others to develop:

- five modules for FEO staff development,
- a 1991 FEO development/action plan,
- an evaluation of the FEO programme, and
- an inservice newsletter.

The Ministry of Education has indicated that the Inservice Field Education Officers will be moved from the Department of Secondary Education to the Department of Teacher Education. At the same time, the Inservice RTA will be provided with a counterpart. When this occurs, the RTA will be deeply involved in helping the Department of Teacher Education adjust to the influx of FEOs and in providing on-the-job training for his counterpart.

Ministry Staff Development

Because the project will be completed in December, 1991, no plans are being made to send any more Ministry Staff to the U.S. for long term training. Plans for sending staff for short term training outside of Botswana are limited to four weeks of training for two technical assistants in the Department of CD&E's Production Division.

JSEIP's role in staff development will take the form of on-the-job-training for JSEIP RTA counterparts to ensure that local staff are able to assume JSEIP RTA responsibilities by the end of the project. RTAs who have or will have counterparts to train include B. Vogeli (counterpart: D. Ratsatsi), J. Robb (counterpart: T. Peloewetse), K. Noel (counterparts: P. Moanakwena & N. Koolese), J. Bowers (counterpart: S. Moahi & K. Letshabo), L. Ives (counterpart: post being advertised), and D. Mullaney (counterpart: post being advertised).

Another component of staff development is the documentation of processes, procedures, and planning devices that can be used to continue a systematic curriculum development and teacher training effort. The CDU's curriculum development procedures manual and the curriculum data base are two examples of products that can be used for staff development. Modules for FEO staff development and FEO actions plans provide two more examples from teacher training.

On a wider scale, the distribution of the trial edition to teacher training colleges of the JSEIP-developed book, *Botswana Social Studies Teaching Methods*, and the country-wide distribution of research conducted under the auspices of JSEIP including the book, *Curriculum in the Classroom*, provide additional resources for staff development.

JSEIP will continue with IEES to provide support for conducting, reporting, and disseminating research findings on Botswana's educational system.

Policy and Organizational Context

As JSEIP completes its final year, it will gradually reduce its maintenance of the extant system and concentrate on ensuring that the institutional capacities that have been initiated under the project will be maintained in the future. In that capacity, it provided support for the Ministry of Education's Education for All Conference held in June, 1991, which will revisit the concept of basic education and the forms it might take in post-junior secondary training. JSEIP and the Primary Education Improvement Project will also work with the Ministry in identifying ways that the next USAID/Botswana project can build and expand upon the accomplishments achieved over the past years. The project will continue to actively encourage the Ministry to resolve policy issues that have impeded progress in curriculum development and teacher training. For example, clear distinctions between the curriculum development roles and responsibilities of the Department of Secondary Education and the Department of Curriculum Development and Evaluation will be delineated prior to the end of the project and the secondary teacher inservice program and personnel will be moved from the Department of Secondary Education to the new Department of Teacher Education. This is in keeping with the role that the Department of Teacher Education is to play in the area of inservice teacher training.

These adjustments are an outcome of the massive expansion of the junior secondary school system and the concomitant changes that have been required within the central Ministry. As the school system has expanded, so have the demands placed upon the Ministry. With the increasing demands made upon the Ministry has come the need to increase the Ministry's institutional capacity in the form of new units and departments, new professional posts, and new officers to fill those posts. A goal of JSEIP is to leave behind a legacy that will enable Botswana's educational system to mature and adapt to future educational needs of Botswana in a systematic and efficient way.

3.2 GUINEA

3.2.1 Summary of Activities During Project Year Seven

The Government of Guinea officially requested USAID assistance in May 1990 to support the implementation of a national program of structural adjustment in education (PASE). The focus of the national education reform is to increase access and to improve the quality of schools, particularly at the primary level, country-wide, especially in poorly-served rural areas. PASE is comprehensive, incorporating curriculum, pedagogical, local management and centralized administration and fiscal reforms.

USAID/Guinea has requested that IEES participate in this effort to help strengthen management, administration, and fiscal accounting within the national education system, both at the central and regional levels. Responsibility for project implementation and evaluation is shared by three other institutions: the Secretariat of State for Pre-University Education (SEEPU); the Technical Secretariat (ST) of the PASE ; and USAID/Guinea. The role of IEES is essentially to provide extensive technical assistance and support.

IEES assistance will complement direct and collaborative financial and technical support in the areas of curriculum and pedagogy provided by the French government (FAC). The World Bank has approved a loan to be disbursed in three tranches, the release of which will depend upon the implementation by the Government of Guinea of a set of policy-related and performance conditionalities. The three donors—USAID, FAC, and the World Bank—sit with the chief Guinean PASE administrator weekly to coordinate their efforts.

IEES engaged in four basic activities related to the Guinea PASE in Project Year Seven:

- (1) preparation of a Program Assistance Approval Document (PAAD);
- (2) fielding of a short-term consultant as a temporary Resident Technical Advisor (RTA) to plan the proposed IEES intervention;
- (3) submission and negotiation of a Project Implementation Order/Technical (PIO/T) with the Guinea USAID Mission and the Washington Bureau; and
- (4) recruiting of a part-time Country Coordinator for Guinea, to be located at FSU.

These activities are discussed below:

PAAD Assistance. The PAAD team was made up of Ronald Levin, Team Leader; Karen Tietjen, Training, Monitoring and Evaluation Specialist; and David Plank, Education Economist/Administration Specialist. After assessing both the macro-economic and sectoral frameworks, with the support of the USAID Mission, the Government of Guinea and other donors, the team specified six crucial issues requiring special attention:

1. The *sustainability of educational reforms after donor support* of PASE ends is highly uncertain as no plan has been agreed upon by which the Government of Guinea will be able to replace the donor funds (amounting to about 50 percent of the total Ministry of Education [MEN] recur-



rent budget) from its own resources. Conditionalities that would gradually raise the Government's ability and commitment to meet these fiscal demands were recommended to justify the release of each subsequent tranche of USAID budget support.

2. *Counterpart fund management* by the Government of Guinea was found to be inadequate. This experience discouraged the PAAD team from recommending that this mechanism be used within the USAID PASE initiative.
3. The proposed tactics of proliferating *multi-grade schools, double shift attendance, and the downgrading of secondary teachers* to help meet the PASE goals of rapidly increasing the supply of primary schooling were questioned by the PAAD team. No proof was found to demonstrate that these policies would result in significantly more school places.
4. Anticipated *impacts* of PASE must remain realistic. The PAAD team warned that the areas towards which the USAID support are directed most vigorously—increased female school enrollment and retention and improved student achievement—are very unlikely to demonstrate appreciable gains during the three-year life-of-project. Rather, the team, as do the other donors, anticipates that measurable effects will appear, at the earliest, in 1996, after the PASE measures are fully in place. A longer time commitment was recommended to permit USAID to see a sustainable impact from its on-going support to the sector.

To the contrary, it is expected that observable progress will occur in the ability of the Government of Guinea to administer, manage, and account for the national education system.

5. The *need for long-term technical assistance* was identified for the area of capacity-building. The team's assessment was that "the skills and initiative necessary to carry out [the PASE reforms] do not penetrate very deeply into the administration of MEN/SEEPU," a conclusion agreed upon by the Government of Guinea. A Technical Secretariat was created to address these administrative short-comings, overseeing and promoting the PASE reforms. A senior U.S. technical advisor was proposed by USAID/Guinea and the other donors to support the Technical Secretariat in administrative and financial management, for five years. A senior French technical advisor would also be placed to deal with pedagogical matters.
6. Due to an acknowledged insufficient local ability with procurement procedures, the Government of Guinea has requested that *USAID assume procurement responsibility* for the U.S. technical assistance, training, and offshore commodities. Capacity-building in this area will be provided by USAID to help the Guineans to perform these functions.

A program involving two major components was identified:

- a. direct budgetary support of \$22.3 million, to be provided in three tranches contingent upon the Government's having successfully met a pre-determined set of conditions:
- b. a \$5.7 million technical support package to cover the cost of a Senior Technical Advisor (STA) in administrative and financial management, assigned to the Technical Secretariat of PASE for the full five years of the adjustment program and to provide an account upon which the Government of Guinea, in consultation with the STA and USAID/Guinea, may draw to obtain goods and services to support the educational reforms.

RTA Assistance. A short-term RTA, John P. Dubey, arrived in Conakry to work under the supervision of the USAID Human Resources Development Officer, Stephen H. Grant, in early March 1991. His primary functions were (a) to assess the current status of the Guinean education system's financial, administrative and personnel systems, and (b) to propose a program of short- and long-term technical support to address the concerns raised by his evaluation. During the two-month period, the RTA served as a technical advisor to the Director of the ST and worked most closely with the respective Directorates of

Administration and Financial Affairs (DAAFs) of SEEPU and the Ministry of National Education (MEN), which is responsible for post-secondary education and research.

Dubey, working closely with donor contacts and government counterparts, identified specific weaknesses in both the composition of the two DAAF's administrative and fiscal systems and in the ability of their staff to operate these or other systems. He has proposed a two-year program involving both long- and short-term technical assistance to correct these deficiencies. The two long-term positions are:

- Principal Technical Advisor and Chief of Technical Assistance for Finance and Administration – to be responsible for the overall technical support of the Director of the PASE and for the coordination of the various IEES technical assistance inputs;
- Public Sector Accounting Systems and Procedures Expert – to work directly with SEEPU and MEN DAAF accountants to establish comprehensive, efficient internal accounting systems and to train the Guinean staff in their faithful execution.

One medium-term consultancy was specified:

- Budget Development, Preparation and Execution – to develop, install, and operationalize a computerized budget execution and monitoring system in collaboration with appropriate Guinean staff and, particularly, with the DAAF directors;

Short-term consultancies identified were:

- Accounting Systems Operationalization – to intervene directly with immediate hands-on assistance in the DAAF accounting systems, procedures, and records;
- Office Space Planning and Utilization – to design, cost, and plan the execution of new DAAF and SEEPU/MEN offices proposed for a new MEN building; design, cost, and plan the execution of warehouses for SEEPU and MEN;
- Local and International Procurement and Tendering – to develop and install in DAAF-SEEPU/MEN a sophisticated and competent procurement function capable of obtaining all approved equipment and commodities in the most cost-time efficient manner, and under conditions measurably more favorable to the Government of Guinea, consistent with accepted professional practice and the test of close audit;
- Materials Management and Control – to establish a state-of-the-art, fully-computerized materials management function capable of supporting PASE efforts to guarantee a perpetual in-stock position at minimum inventory carrying costs while maintaining rigorous control and eliminating unaccountable shrinkage;
- Perpetual Property Control System – to establish a rigorous, proven and easily audited, computerized turnkey system of government-owned property control, assets accounting, and key access control, with extensive local counterpart training, which will permit constant and error-free management of all furniture, furnishings, equipment, vehicular and other assets, including stewardship/usage accountability, maintenance and repair follow-up, security, loss prevention, and depreciation accounting;
- Personnel Management – to rationalize and implement a credential- and merit-based system of hiring, evaluation, and promotion for DAAF staff, at all levels and to create a comprehensive computer-based personnel records-keeping system, with microfiche;
- Administrative Management Training and Development – to provide immediate training to DAAF technical and support staff in the basic functions of their jobs and in the new systems, procedures, and tasks associated with the other consultancies and the overall project, as well as to establish ongoing training, reinforcement and job upgrading materials, mechanisms and capabilities;

- Computerized Information Systems – to support all components of the DAAF office in identifying, gathering, tabulating, processing, and interpreting required information, employing both mechanical and computer-assisted techniques;
- Internal Audit – to systematize an internal audit process and recruit, coordinate, and train Guinean staff in its execution;
- Increased Female School Enrollment – to help the PASE to identify and address directly the different issues that currently inhibit the full and equal participation of girls in the national education process;
- Monitoring and Evaluation – to provide the PASE, the DAAF, and the several related components with the motivation and tools to monitor its own performance to permit the development of appropriate reforms;
- External Audit and Financial Management Review – to appoint external auditors to the PASE and direct their activities and coordinate the responses to audit queries and the annual management report;
- USAID Conditionalities – to evaluate the performance of and assist the GOG in meeting the conditionalities of the project agreement in order to permit tranche releases;
- Government of Guinea Debt Repayment – to assist the Ministry of Finance to understand and implement the mechanisms necessary to plan and track all actions supporting the national debt repayment obligation; and
- Education Sector Training Needs Analysis – to provide guidance and coordination in the nationwide assessment of training needs at all levels of the education sector.

The scope of many of these proposed consultancies extends beyond the purview of the pending PIO/T and may result in a second contract with the USAID/Guinea Mission. The position of permanent RTA is anticipated to be filled before the end of July 1991.

PIO/T Negotiation. A PIO/T has been drafted, negotiated, and agreed upon. It awaits final approval in Washington, D.C. Included are most of the principal functions articulated by the Dubey consultancy: fielding a resident technician who will serve as a principal advisor to the Director of PASE in the areas of administration and finance and will manage and coordinate the inputs of 12 person-months of short-term consultants.

Country Coordinator. Joshua Muskin will be assigned to work as the IEES Country Coordinator for Guinea on a part-time basis after the final contract has been signed. He has met with Dubey, IEES staff and S&T/Ed management, as well as with the responsible Washington-based World Bank staff, regarding the Guinea education project. He will perform the function of administrative backstop to the IEES activities, as well as contribute directly in the areas of training and monitoring and evaluation.

3.2.2 Plans for Project Year Eight

An IEES RTA is expected to be placed in Conakry early in Project Year Eight. Initial activities will involve the establishment of an IEES office, located in the PASE Director's office. The RTA will function as the principal consultant to the National Coordinator of PASE and other senior Government of Guinea offi-



cials within the cooperating ministries in the financial and administrative management of the nationwide education reform. He will oversee and coordinate the analysis of current sectoral systems, procedures and personnel, and other related issues while intervening more directly, as required, in the reform, new design, implementation, and monitoring of administrative and financial matters.

The assignment of the RTA will be followed shortly by the execution of short-term technical assistance, divided among individual consultancies, described above:

- Budget Development, Preparation and Execution;
- Office Space Planning and Utilization;
- Local and International Procurement and Tendering;
- Materials Management and Control;
- Perpetual Property Control System
- Increased Female Enrollment; and
- External Audit and Financial Management Review.

Tentative agreement has been reached with USAID/Guinea to supplement the RTA position with another full-time advisor, who would also be placed early in Year Eight. This individual would provide technical expertise and training in the area of Public Sector Accounting Systems and Procedures. The purpose of this position is to provide direct, intimate support to the DAAF offices of MEN and SEEPU to streamline, re-direct and computerize the complete internal accounting system of the national education system and to create a comprehensive, working management accounting structure that might also serve as a model for the surrounding public service environment.

Discussions have already proceeded regarding the possibility of a second, complementary PIO/T to accommodate an estimated 12 additional months of short-term consultancies. This would permit IEES to provide the other technical assistance which the Dubey consultancy identified with the USAID/Guinea HRD officer (Grant) and the World Bank (Joseph DiStefano) as being crucial to the successful execution of the IEES Guinea assistance.

3.3 HAITI

3.3.1 Summary of Activities During Project Year Seven

The Incentives for Improving Basic Education (IIBE) Project is entering its sixth year of the original USAID funding commitment. Continued funding is anticipated through May. An independent Haitian organization has evolved from the Project, the Fondation Haïtienne de l'Enseignement Privé (FONHEP), which grants money directly from AID/Haiti.

IEES continues to operate the IIBE project to provide specific technical services to FONHEP. In the past year, activities have focused on primary functions:

1. Monitoring of the school performance with respect to administrative and instructional developments, the use of materials, and other innovations introduced by the Project;
2. Data collection and analysis from an experimental program (PEP);
3. Conduct study of school finance and household-level finances and expenditures for schooling; and
4. Assessment of the degree of implementation of the IIBE Project Evaluation Plan to date and preview of evaluation activities planned for the 1990-91 school year, including the start of preparations of an English language update on project evaluation activities and results.

The Project, through FSU's Center for Technical Service, continues to support FONHEP to promote the process of institutional development and to provide general programmatic reinforcement. Supplies purchases continue to be made by IEES staff at FSU. The operation of the CST also remains an IIBE/IEES function.

Two new hires occurred during the year that should have a significant impact upon the further progress of the Project:

1. The arrival in February of a permanent Chief of Party, Charles Tesar, provides Rosny Desroches, the Director of FONHEP, with an important resource for interacting with USAID/Haiti and Florida State University (FSU). Tesar also serves to help Desroches increase the efficiency and competency of the FONHEP office and administrative staff and of the research and project evaluation staff. Finally, Tesar has begun to pursue with Desroches means to expand the quality and quantity of services provided by FONHEP, to broaden the target client group, and to investigate new funding possibilities to permit FONHEP to continue to operate after USAID funding has ceased.
2. Joshua Muskin became Francophone Countries Coordinator for IEES in June, 1991. He is assigned to the Haiti project, serving the IIBE project from the IEES office at FSU. Muskin provides routine administrative back-stopping for purchases and consultant services requested by the Project. He will also support institutional development activities in the areas of monitoring and evaluation, publications, school support and testing services, and other substantive areas as requested by the Chief of Party.

Accomplishments

The most notable accomplishments of the IIBE Project are visible in the regular execution of its school support activities. These include:

1. Continuous involvement of 259 private schools in rural and depressed areas of Haiti, with a reported student enrollment of almost 60,000;
2. Three *school director training sessions* for directors of Project schools in improved school administration practices;
3. Two *teacher training sessions* for 1,469 (1,100 male, 369 female) teachers from the 259 Project schools in improving instructional and management methods;
4. *Instructional materials* furnished to 259 schools;
5. *School equipment* provided to 238 participating schools;
6. *School renovations* carried out at 41 Project schools, bringing the total to 86 of a planned 99 school renovations;
7. *Performance incentive grants* earned by 2,623 Project school directors and teachers;
8. Continued involvement with and support of *pre-primary education programs* in 72 Project schools;
9. *School feeding programs* functioning in 134 (85 new) Project schools; and
10. The maintenance of an evolving *operational information base* on private schools and their teachers and students.

Several "extraordinary" Project activities occurred during this cycle:

1. The implementation in June, 1990, of Project-developed achievement tests in the subjects of French, Creole and Mathematics, given to 3,100 students in the research sample group. Tentative results have been compiled and will be ready for dissemination in late Summer 1991;
2. Mathematics, French, and Creole modules also were developed and tested for the Distance Training Pilot Project;
3. The Ministry of National Education (MEN) officially adopted the Project's mathematics modules and has proposed to replicate the Project's teacher training format. Additionally, the MEN is considering official certification of the Project teacher training program to convey Government-approved diplomas to participants;
4. A pre-award audit of FONHEP was completed, as formative education is planned for next year;
5. The Qualitative Research Survey Report – which revealed weaknesses in the pedagogical management of the classroom and the need to strengthen parent committees – and a statistical analysis of summer teacher training workshops was completed;
6. Project school monitors and regional office personnel received training in curriculum development and parental education;
7. A two-year Project review for 1988–1990 was prepared and published;

8. *A Research and Evaluation Program, Overview and Update and a Rapport d'Evaluation-Recherche, Résultats Préliminaires, 88-90* were prepared and published; and
9. FONHEP collaborated with the Ministry of Education to initiate a contact with the World Bank.

3.3.2 Plans for Project Year Eight

A critical initial activity for Project Year Eight will be the preparation of an Amendment to the current USAID contract to prolong the life of the IIBE program for another two (2) years. The proposed funding level for the Amendment is US\$ 7.6 million. Two of the primary purposes of the Amendment come directly from the original Project agenda:

1. To permit the last two cohorts of schools to have a full four years under the project (capturing time lost during the recent political turmoil); and
2. To provide time for completing the collection and analysis of the data.

The fundamental goals and purposes of the Project will remain the same – school support and institutional development for FONHEP – yet the scope of the interventions, support and activities are expected to expand. Particularly, an evolution of the Project is anticipated in the following ways:

1. More formalized and regular interaction between FONHEP and the public education sector;
2. Design, testing and implementation of a primary level Civic Education curriculum;
3. Design and implementation of an institutionalized monitoring and evaluation capacity for all private primary and pre-primary schools, that could also serve the public education sector;
4. Strengthening further the institutional capacity and organization of the independent private school sector, in an effort to raise it to the level of the Catholic (CEEC) and Protestant (FEPH) school sectors;
5. Expansion of the role of FONHEP in supporting pre-primary programs beyond the present pilot level; and
6. Movement of FONHEP towards self-sustainability by helping to create a capacity for soliciting and receiving funds from sources other than USAID.

Research, technical assistance and training activities planned for the upcoming Project year are:

1. Continuation of data collection and analysis of FONHEP intervention strategies;
2. Continuation of data collection and analysis for school finance study;
3. Continuation of data collection and analysis for pre-school program;
4. Continuation of research, development and distribution of new instructional materials for pre-school and primary classes;
5. Technical support to FONHEP in administration and management;
6. Possible support in project identification and administration to the Ministry of National Education;
7. Computer and management training for FONHEP staff;

8. Foreign certificate training in pre-school education for PEP staff members; and
9. Elaboration and initiation of a new Project research agenda and of an institutionalized school and Foundation monitoring and evaluation protocol.

Donor Collaboration with Pre-school Program

Proposed and supported by the intervention of Dr. Richard Pelczar, of S&T/Ed, USAID/Washington, a final new activity will be explored for possible pilot implementation in IEES Project Year Eight. FONHEP and IIBE, with Pelczar's participation, have begun exploring the possibility of collaboration between FONHEP's PEP (pre-school) program and the intersectoral approach to early childhood development (nutrition, health, and maternal care and education) activities of AID and various other donor and non-governmental agencies operating in Haiti. Desroches, Tesar and Pelczar have already contacted Unicef, USAID/Haiti and the Peace Corps and received enthusiastic responses. Peace Corps has committed five (5) volunteers to work with PEP on this. Other groups, such as CARE and Save the Children, are expected to collaborate. The effort will commence with the creation of an inter-agency working group, organized by IIBE.

Project Amendment

Two processes must precede the preparation and approval of the Project Amendment:

1. The formal presentation of the pre-award audit to the comptroller of USAID/Haiti (pending); and
2. An external project review of FONHEP and IIBE (planned for October, 1991).

Assuming that these activities proceed relatively smoothly, preparation of the Amendment should occur in November and December, 1991, with funds coming available around March, 1992.

Sector Assessment Update

A final Project activity that is under consideration at this time is an updated education sector assessment. Given the many changes in Haitian society since the 1984 IEES Sector Assessment under the Duvalier regime, the possibilities for closer collaboration with MEN, and the increased interest of the international assistance community in the education sector, an updated analysis is a growing priority.

3.4 INDONESIA

3.4.1 Summary of Activities During Project Year Seven

IEES assistance in Indonesia has been characterized by collaborative problem identification, a concurrence of priorities, and agreement over intermediate strategy. The IEES Sector Review, conducted September-October 1985, involved active participation by Indonesian counterparts from all of the education subsectors, as well as from Balitbang Dikbud. The review identified and prioritized problem areas in the education and human resource sectors that were amenable to joint IEES/MOEC intervention. The Country Implementation Plan for IEES activities in 1986 and subsequent Plan Updates (1988 and 1990) have operationalized these policy adjustment priorities in the form of an integrated set of activities designed to be mutually supportive of the goals of the Educational Planning and Policy (EPP) Project and IEES core-funded assistance. Over the previous six years of IEES involvement in Indonesia, centrally-funded and mission-funded activities have been highly integrated, which is in keeping with the collaborative design and capacity-building goals of the project. Separation of activities conducted in Indonesia along the lines of IEES and EPP funding sources would be arbitrary due to the high level of integration and the frequency of shared funding. Such separation also would detract from the understanding of overall project progress.

The overarching objective of both IEES and EPP activities has been to assist in developing an ongoing policy research, analysis, and planning capacity within the MOEC, and specifically within Balitbang Dikbud. Initial IEES focus was on policy research and technical assistance for macro-level efficiency issues at the national planning level. The EPP Project, in contrast, was designed to assist in actualizing this planning capability through the development of an Education Management Information System (EMIS) capacity and thus more immediately produce tangible educational outcomes at the provincial, district, and even school levels. IEES success in Indonesia has been to an important degree attributable to this integration and complementarity between IEES and EPP. Ten major co-authored policy issues working papers have been produced as a result of the first five years of this collaboration.

The macro-level external efficiency focus and the national planning thrust of IEES during these initial years were a logical outgrowth of the Sector Review and were consistent with IEES and MOEC consensus on priorities. The increased attention to micro-level issues and decentralization of educational planning, beginning in Year Seven and continuing in future project years, has evolved from the need to produce documentable and measurable outcomes at the school and community level. This progression to micro-level activities is consistent with mutually agreed upon project goals and priorities. The major challenge for IEES in Indonesia over the next three years of project life is to seek an acceptable balance between maintaining the momentum of the macro-level strategic planning activities that have defined IEES achievements since

1984, while moving toward the focused implementation activities aimed at producing tangible school effects. Activities for project Years 7 and 8, as described in this plan, are intended to implement this dual direction of macro- and micro-level concerns.

IEES activities in Indonesia have been very highly leveraged in terms of policy impact on the huge and complex Indonesian educational system relative to the modest IEES resources invested. There continues to be strong interest from both the MOEC and USAID/Jakarta in IEES assistance in the area of national planning, as well as in the development of planning capacity on lower levels. There is considerable momentum resulting from the investments IEES has made in macro-level efficiency policy research within the Indonesia context and across other countries within the IEES overall project, such as Botswana and Haiti. These and other IEES activities have progressed past the policy adjustment decisions phase as a result of the past five years of effort. IEES continues to support these activities into the implementation phase to achieve tangible effects at the school level.

Overall Summary of Accomplishments to Date

Progress to date under IEES/EPP has been impressive, both in terms of staff development to enhance institution building, and in terms of policy development. To date, 25 in-country training sessions have been conducted, involving over one thousand participants from numerous educational and planning subsectors as well as different levels of government. Six MOEC staff members have completed Masters degrees. Two have returned to work with the EPP Project within the Ministry, while the remaining four have gone on to do their Ph.D. studies. Two are scheduled to complete their Ph.Ds. by the end of 1991 and the other two by Summer of 1992. The Policy Analysis Group (PAG) within the MOEC has continued to write policy papers that are influential in shaping the annual planning exercise (Rakernas), the current five-year plan (Repelita V), and the upcoming new 25-year plan. Analysis of the extensive data set on the quality basic education in Indonesia has been completed, although additional related studies may be identified in the future to more fully utilize this valuable data. Work continues to progress on the development of market-oriented manpower planning models through the identification of indicators of the linkage between schools and the labor force. Surveys of schools and employers of graduates conducted under the Quality and External Efficiency of Vocational/Technical Training/Education study contribute to this model building effort and the national 25-year planning activity.

During Year Seven, major planned activities were carried out in three major conceptual areas. These three areas are: (1) Policy and Planning; (2) Knowledge Building; and (3) Educational Management.

Policy and Planning

Under this category, four main activities are being implemented. These activities are: (1) curriculum development; (2) improving the quality of teacher education; (3) cost analysis of both external and internal efficiency consequences of educational reforms; and (4) long-range planning. All of these activities are

identified in the Indonesia/IEES Country Implementation Report (1990 Update) as crucial for supporting the transition from six to nine years of compulsory basic education in Indonesia.

Curriculum Development. This activity, funded completely through IEES, was planned with Balitbang Dikbud for assistance in strategic planning to address the problem of developing a curriculum reform strategy that would produce a streamlined, less costly national curriculum with regional, culturally-specific supplements, better textbook quality, and improved textbook distribution. The strategy paper, *An Analysis of the Status of Curriculum Reform and Textbook Production in Indonesia*, based upon a study completed by IEES in Year Six, was presented at the July 1990 Annual Planning Conference (Rakernas). This paper assessed the implications of the expansion of six to nine years of basic education for curricular development, and identified options for strengthening the performance of students at the primary and lower secondary levels of schooling. It also identified key issues in the Indonesian basic education curriculum and formulated strategy options for ameliorating problems stemming from those issues. A curriculum reform team, comprised of an educational planner and science/math specialist, has been created to undertake further, more specific, studies over the next year to guide the development of the new curriculum in recognition of the country's multicultural and multilingual complexity and the objectives of the New Education Law.

Research into the potential for cooperation between the private sector and the MOEC to produce low-cost texts, learning materials, and teaching aids also was conducted under this curriculum reform activity using EPP funds. The costs and benefits of private sector participation were assessed and possible organizational structures for public/private cooperation were outlined as a foundation for future implementation trials.

Improving the Quality of Teacher Education. The policy context for the delivery of basic education services has changed dramatically in the past few years with the decisions to move primary teacher training from the senior secondary (SPG, SPO) to the tertiary level (IKIP, PRIP, SIKIP), upgrade current primary teachers from the SPG to the Diploma 2 (D2) level through inservice training, remove caps on primary teacher salaries, include junior secondary schooling (grades 7-9) in the basic education cycle, and subject all teachers (primary through university) to the same criteria for promotion. The intent is to stabilize and strengthen basic education in order to improve the quality of labor force entrants to help achieve the country's goal of industrial take-off.

In Year Six, a Teacher Education Team, consisting of Frances Kemmerer, Dean Nielson, and Patrick Lynch, completed a review of the new teacher policies related to teacher incentives and inservice and preservice training as a first step of an ongoing formative evaluation and policy adjustment process. The team's final report presented a series of recommendations and an evaluation design for a teacher quality improvement system. During August 1990, under shared IEES/EPP funding, Dean Nielson developed a monitoring and evaluation framework for the D2 program for primary school teachers based on distance learning techniques, incorporating the relevant findings from the earlier study. Information gathered

through this monitoring and evaluation system will be important input to the country's long-range educational planning effort.

Cost Analysis, Finance and Educational Efficiency. This activity has been conducted as an EPP special study and has resulted in a number of important working papers over the past two years. Work under this activity, conducted primarily by Walter McMahon in collaboration with Indonesian counterparts, is directed toward planning empirically-based research relevant to the identification and refinement of 25 year planning goals. The goal of this work is to rationalize educational output as a function of labor market demand. The use of market-oriented manpower planning models is expected to enhance economic efficiency of education and facilitate achievement of education and human resource goals.

During Year Seven, McMahon completed three policy-oriented strategy papers. The first, entitled *Market Signals and Labor Market Analysis: A New View of Manpower Supplies and Demands in Indonesia*, develops policy options as they relate to 25 year goals for each level and type of education. This paper includes the calculation of the costs and benefits reflecting the market signals (i.e., relative resource scarcities or costs, and growth bottlenecks or demands) as well as the results of the manpower planning analyses. The second paper, entitled "Labor Market Analyses and Growth," includes rates of return to education broken down by province. The third paper, entitled "Market Signals and Manpower Planning," further describes the linkage between schools and the labor force. McMahon has developed policy simulation diskettes and overheads as media to effectively present the data and analyses contained in these papers to facilitate policy discussions by the Indonesians.

Preliminary development and analyses for the new 25-year plan was also carried out under this category during Year Seven and will be continued into Year Eight, possibly under the proposed PRESS project. Continued work in this area is critical because it provides information on the cost consequences of any investment in curriculum reform and improvement in school quality, which is crucial to the policy decision process.

Input to Indonesian 25-Year Planning. A planning meeting took place in November 1990, led by Don Adams and the Long Range Planning Team, to work out a strategy for research to contribute to the process of conceptualizing and organizing the 25-year planning activity for Indonesia. In Spring 1991, Adams undertook a study of the interaction of education, cultural, social, and political systems in the context of societal change. This study was targeted at interpreting the important non-economic consequences of education and schooling and the implications for long-range planning— in particular, the development of culturally-specific supplements to the planned streamlined national curriculum. Adams also conducted a survey of education policy makers and administrators within Indonesia. The results of this survey will help identify priorities among national educational goals and objectives and to select strategies to cope with problems anticipated by these educational system participants. These activities are funded through EPP.

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Knowledge Building

IEES and EPP provide funding for research initiatives in two key areas: (1) factors relating to improving the quality of schooling, particularly in terms of teacher and student achievement; and (2) the impact of various kinds of community support for education. Three major studies have been initiated in Indonesia under these categories: (1) Quality of Basic Education; (2) Quality and Efficiency of Vocational/Technical Education; and (3) Strengthening Local Education Capacity.

Quality of Basic Education. An extensive policy study on the Quality of Basic Education (QBE) was initiated as an EPP Special Study in 1986. During Year Seven, IEES invested some limited resources in attempting to reap benefit from this potentially very valuable study and to move it to completion. Fran Kemmerer and Michael Green conducted intensive analysis of the QBE data set to determine its quality and potential for providing answers to critical policy questions relating to quality of schooling. They also attempted to determine whether IEES should invest further resources in this activity. A workshop was held to review the findings of these analyses with Balitbang Dikbud staff, to determine what further analyses of the data set might be desirable, and to assist in drafting a publication focusing on the profiles of the communities, school, headmasters, teachers, families, and students in the study sample. Workshop participants decided that a full analysis of the teacher and cost data should be undertaken, resulting in a report to include any recommendations for further analysis of the data set.

Quality and Efficiency of Vocational/Technical Education. The Government of Indonesia is committed to continued expansion of enrollment in senior secondary vocational/technical education, while at the same time doing so without a corresponding increase in funding for expansion. The policy thrust must be to improve the quality, effectiveness, and efficiency of the expanding subsector. To work towards achieving this multi-faceted goal, the policy research activity on the Quality and Efficiency of Vocational/Technical Education (QEVT) was planned to include a variety of studies. These IEES/EPP funded activities are:

- critical review of the relevant policy issues in the vo-tech subsector,
- longitudinal study of the Vocational/Technical system's graduates (together with a control group from SMA's),
- comprehensive senior secondary school quality survey,
- survey of employers,
- school costs and funding study, and
- special study of the characteristics of graduates that are entering predetermined "technology" related to occupations or higher education tracks.

The initial phase of the longitudinal study and employers' survey was conducted during the Fall of 1990 by J. Strudwick in conjunction with Balitbang Dikbud staff. In Spring 1991, a plan for future phases of this research activity was devised to move towards achievement of the stated objectives of determining the external efficiency of the subsector, determining what factors affect quality education in the senior secondary

vocational/ technical education subsector, and to assess the degree to which quality education relates to external efficiency. In addition, the data collected within this QEVT study is utilized in data analysis and research reporting skills workshops (see Educational Management section), thus serving the dual purpose of skills enhancement and providing information to the policy-making process in Indonesia about the extent of the responsiveness of the vocational/technical subsector to labor market demands. Eventually, the findings from this study will be integrated with W. McMahon's macroeconomics of education analysis to draw out policy implications at the macro level.

Strengthening Local Education Capacity. The Strengthening Local Education Capacity (SLEC II) research initiative focuses specifically on community support and financing of education. This initiative, funded through IEES, draws upon the community support information available in the Quality of Basic Education data set and also the SLEC I joint research project, which focused on strengthening parental and societal participation in school activities for enhancing social commitment to schools and consequently the quality of education.

SLEC II is to be a first-time joint research effort between IEES/Balitbang Dikbud and the Bureau of Planning. Jack Bock reached a tentative agreement on this collaborative effort with Balitbang Dikbud officials and the Head of the Bureau of Planning after preliminary discussions held in July 1990. In January 1991, Juliet Chiew further explored the decentralization activity between Balitbang Dikbud and the Planning Bureau and found the two entities very receptive to the proposed activity. The results of these discussions will be translated into research agendas to be conducted beginning in Year 8 and directed towards improved planning for educational efficiency improvements through actualization of the country's objective of decentralization.

Educational Management

In Project Year Seven, IEES and EPP continued to assist the MOEC in both Technical Support for the further development of the EMIS and Capacity Building of the policy and planning component of the MOEC. Both of these activities have been designed to provide vertically cross-cutting support for the Policy and Planning and also the Knowledge Building activities within the IEES project.

Technical Support-Efficiency Indicators for Education. In June 1990, Jim Cobbe worked with Balitbang Dikbud staff to adapt the work of Douglas Windham and Walter McMahon on developing Indicators of Educational Efficiency appropriate to the specific organizational and policy context of Indonesia's educational system. The group established the baseline data needs and designed the foundation for how these data will be fed on a continuous basis into the Educational Management Information System (EMIS). The baseline indicators determined included efficiency, equity, and quality. The group produced an initial draft of a manual to guide the use of these indicators for policy analysis and planning at national, provincial, and district levels entitled, *Draft Manual for Production of Analytic and Retrospective Indicators of Education in Indonesia*.

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The manual will assist policy decision makers to derive efficiency and quality indicators from available data in order to track the present status of the country's educational system, to look back at the historical development of Indonesia's educational system over the first 25-year plan (Repelita V), and to compare the system to those of other Asian nations.

During May 1991, Jim Cobbe returned to Indonesia to monitor development of the indicators of educational quality, equity, and efficiency and to identify economic and demographic factors related to educational efficiency. This new information was incorporated into the final draft of an indicators' manual, which is intended to be illustrative of the kind of document that should be produced on an annual basis by Indonesia. Mr. Cobbe also assessed the ability of the Balitbang Dikbud to continue to complete the development of this indicator system to determine the need for future external assistance. He found that Balitbang Dikbud counterparts from Pusat Informatika had made progress in routinizing the indicator data into the annual planning process. It was his opinion that the MOEC could continue the indicators work without further foreign technical assistance.

Capacity Building. A strong need for intensive training for middle level policy research personnel was identified in the following areas: (1) financial and cost analysis; (2) policy research design, sampling, and analysis of large data sets; and (3) sector analysis methodology. IEES carried out workshops in the latter two of these areas during Project Year 7. The purpose of these workshops was to provide experience and hands-on exercises utilizing the data from the ongoing two IEES research activities – "Cost and Quality of Vocational/Technical Education Study" and "Quality of Basic Education" – as a vehicle for creating local capacity for data analysis, reporting, and sector assessments.

(a) Policy Research Design and Data Analysis

Two workshops in a series of workshops designed to cover the entire process of policy research were conducted by Jerry Strudwick and Michael Green in August 1990 and in January 1991. The August workshop focused on completing an elementary analysis of the eight data bases related to vocational/technical school quality, instruction in intermediate SPSS, and advanced use of descriptive statistics. Participants, who were drawn from Balitbang Dikbud's younger staff, gained experience in cleaning up the Student ID data set and eight new QEVT data sets. A manual and two papers were completed as a result of this workshop.

The January 1991 workshop was added at the request of the Balitbang Dikbud to provide further training in complex data analysis of selected QEVT data bases. Participants were staff from the senior Pusat Informatika. The focus was on policy issues identification and prioritization and also report writing. A series of short workshop research reports are being prepared on the identification and prioritization of school quality and external efficiency policy issues that relate to senior secondary education, in particular vocational/technical education. A manual for training in the methods covered in the workshop was also prepared.

(b) Sector Assessment Update Workshops

In response to the MOEC's and USAID Mission's strong desire to update the sector assessment conducted in 1985, a series of workshops was devised to train local staff in sector assessment methodologies. These workshops were designed to produce the following outcomes: (1) a cadre of Indonesian professionals at the national, provincial, and Kabupaten level competent to conduct sector assessment in the future; (2) a completed problem/issue-driven sector assessment update on Basic Education within three sample provinces; and (3) a hands-on training manual which will enable the Ministry of Education to train additional MOEC personnel to conduct sector assessments in other provinces and Kabupatens.

The first of these workshops was held for 15 days during January 1991 with a total of 20 participants from the Balitbang Dikbud and the provinces of West Java and South Sulawesi, two of the three sample provinces. The workshop gave training in economic and subsector assessment methodology using survey and interview data collected at the provincial level. This data was analyzed to examine the problems/issues, in depth, in these provinces in order to update the relevant national data. Participants were assigned data collection tasks to complete prior to the next workshop originally scheduled for May 1991. This second workshop, however, was postponed due to a USAID travel restriction, but is scheduled for July 1991 (see Project Year Eight plan).

In May and June 1991 Anthony Cresswell, the workshop leader, made an interim follow-up visit to review and provide feedback to the three provincial teams on the application of sector assessment skills and knowledge they gained during Workshop I. This monitoring information will be used to modify upcoming workshops II and III in order to meet the specific needs of participants.

Year 7

Activity	Date	Personnel	Outputs	Impacts
Policy and Planning				
1. Project Planning	Jan. 1991	J. Bock	Preliminary discussion with Director of Planning regarding development of collaborative activity focusing on decentralization within planning.	Responsibilities of the Ministry of Planning and the Division of Planning and Research within the Ministry of Education (Balitbang Dikbud) will be more clearly delineated such that the efficiency of both agencies is enhanced.
2. Cost, Finance and Efficiency	March 1991	W. McMahon	<p>Policy Paper, 'Market Signals and Labor Market Analysis: A New View of Manpower Supplies Demands in Indonesia.</p> <p>Strategy papers, "Labor Market Analysis and Growth" and "Market Power and Planning."</p> <p>Policy Simulation Diskettes and overheads (provided to Boediono).</p> <p>Proposed papers on technology and education.</p> <p>Request to the Bureau of Statistics to include educational questions in the annual SAKARNAS survey.</p> <p>Draft Terms of Reference for the resource allocation strategy (policy analysis component of PRESS.</p>	<p>Important inputs to the 25 year planning process to improve the linkage between schools and the labor force. This connection is fundamental to improving the external efficiency of education.</p> <p>Present factual data to support oral discussion of policy options developed in policy and strategy papers. Contribution to the proposed conference on long-range planning for human resource development.</p> <p>Provide information useful to the MOEC to enable it to respond to the growing needs for trained manpower and to improve the quality and effectiveness of the education and training systems.</p> <p>Policy research results to help lead to decentralization of the existing manpower allocation system. A shift to market-oriented manpower planning models will enhance the economic efficiency and achievement of educational and human resource goals.</p>
3. Curriculum Reform	March-April 1991	K. Ross P. Spector	Research results related to the development of textbooks and low-cost instructional materials. Topics studied include: legal/regulatory conditions, licensing, purchasing capacity of parents, and training needs for establishment of private sector production and distribution systems. Responsibility of national down to school level discussed.	Definition of the potential for cooperations between the private sector and the MOEC to produce cheap texts, learning materials, and teaching aids. Private sector participation will impact the government centers currently producing and distributing materials. The cooperative relationship in instructional materials production should translate into a more effective link between education and a productive work force, which is a national goal.

Activity	Date	Personnel	Outputs	Impacts
4. 25-Year Planning	May-June 1991	D. Adams	<p>Survey of educational policy makers and administrators within Indonesia to discern perceived future education problems, priorities, strategies, and policies.</p> <p>Study of the interaction of education, cultural, social, and political systems in the context of societal change.</p>	<p>Perceptions and knowledge needs of survey respondents are important information to guide identification of future priorities among educational goals and objectives in the 15-year plan. A range of strategies to cope with anticipated problems can be built into the planning process.</p> <p>Interpretation of important non-economic consequence of education and schooling and the implications for long-range planning. Offers answers to the question of how to make schooling better foster learning of articulated national values. This information will facilitate curriculum reform through the creation of culturally-specific supplements to streamlined national curriculum.</p>
Knowledge Building				
1. Quality and Efficiency of Voc/Tech Education	May-June 1991	J. Strudwick	Research activity planning.	Preparation for upcoming (8/91) voc/tech workshop and future research activities.
2. SLEC II	Jan. 1991	J. Chiew	Tentative agreement with Head of Bureau of Planning on research component of decentralization project.	Information to feed into the decentralization of the educational system, which should help increase effectiveness in coordinating research and analysis.
Education Management				
1. Data Analysis Workshop III a. Policy Research Design, Sampling, and Data Analysis	Jan. 1991	J. Strudwick M. Green	Training in the use of computerized information systems (SPSS/PC+) that are a vehicle for policy analysis selection of policy options to improve education efficiency.	Creation of a critical mass of mid-level educational policy researchers training in research and design, quantitative analysis of large data sets, sophisticated sampling procedures, and report presentation. This is critical to the development of institutional capacity of sustained policy research analysis and planning envisioned as the higher thrust of IEES activities.
2. Sector Assessment Workshop I	Jan. 1991	F. Kemmerer A. Cresswell	Training of national and provincial educational planning office personnel in economic and subsector assessment methodology using provincial survey and interview data collected by workshop participants. Simultaneous training of counterparts and collection and analysis of in-depth, problem-focused data.	Create local capacity to conduct comprehensive, highly focused sector assessments with minimal input from external consultants. Ability to conduct sector and subsector review at the provincial rather than at the national level.
3. Indicators, Cost	May-June 1991	J. Cobbe	Monitoring information on indicators of educational quality, equity, and efficiency. Determination of local capacity to complete development of indicators/EMIS system. Identification of economic and demographic indicators related to educational efficiency.	Input to the national and provincial planning process on how to use scarce resources for education most effectively and appropriately. Allocation of resources on an objective basis will optimize learning outcomes. Contribution to the 25-year planning process and to the use of the emerging EMIS at the national, provincial, and district levels.

Activity	Date	Personnel	Outputs	Impacts
4. Sector Assessment Monitoring Visit	May-June 1991	A. Cresswell	Review and feedback to 3 provincial teams on the application of sector assessment skills and knowledge gained by trainees during the 1 Sector Assessment Workshop I. Review of survey and interview data collected since the January workshop.	Assessment of the degree to which learning within the workshop has been transferred into the trainees' job setting. Future workshops will be modified to address any observed deficiencies in knowledge, skills, and transfer of learning. Data provides insight into the quality of basic education in Indonesia.

3.5.2 Plans For Project Year Eight

The plans for Project Year Eight are presented in two separate sections to reflect activities that are mainly centrally funded IEES and those that are carried out and funded under the bilateral project of EPP. The IEES funded activities are discussed under the four IEES conceptual categories of (1) policy and planning; (2) knowledge building; and (3) education management. Plans for the fourth IEES category of dissemination and networking have not been outlined for this eighth year, but will be covered under the IEES centrally-funded activity of dissemination and networking.

IEES ACTIVITIES

I. PLANNING AND POLICY

Curriculum Reform

This year, the major policy and planning activity will be Curriculum Reform. The main purpose of this activity will be to assess the extent to which the revised 1994 curriculum is related to the aims of economic growth and equity, both major issues in the country's long-range plan.

The curriculum reform team, originally planned to be comprised of N. Postlethwaite, U. Huh, and B. Balzano, was canceled due to difficulties of time scheduling of the members. In order to initiate the activity and remain on schedule, Pak Moegiadi and Jack Bock agreed to revise the team activity into individual consultancies by N. Postlethwaite and B. Balzano. As a result, B. Balzano, a math and science curriculum specialist, will initiate the activity with a five-week visit in July/August.

During this visit, Balzano will provide an appraisal of the science & math sections of the 1984 curriculum. She will provide assistance to and work together with an appointed team of the Curriculum and Educational Facilities Development Center, Balitbang, on the following tasks:

1. To discuss the master plan of the 1994 curriculum designed by the Curriculum and Educational Facilities Center;
2. To discuss fundamental issues related to the nine-year basic education and secondary education, including math and science curricula, and suggest several alternative recommendations for the development of their respective 1994 Curricula;
3. To give special attention to the assessment and development of math and science curricula for Primary and Secondary education, in accord with the demands of national development;
4. To formulate strategies of curriculum reform and implementation particular to science and math.

N. Postlethwaite will make two visits to Indonesia. Given his narrow windows of availability, he will be able to make a 3-week visit in February 1992 and another 3-week visit in February 1993. Postlethwaite's input into the curriculum reform activity will be to assist in the development of:

- a) curriculum networks in the provinces; and
- b) a built-in evaluation and monitoring system.

Recommendations made in a final report will guide future evaluation of the impact of the curriculum reform on student preparation for advanced academic study and placement in occupations.

Project Coordination

Another activity under this category of policy and planning will be a trip out to Indonesia in July/August 1991 by Jack Bock. The purpose of this visit is to meet with the Indonesian counterparts to negotiate agreement on the plan of activities for Year Eight, on a general outline for IEES activities for Years Nine and Ten, and a proposal for the follow-up PRESS project.

II. RESEARCH AND KNOWLEDGE BUILDING

Under this conceptual category will be two major activities: (1) Strengthening Local Education Capacity (SLEC); and (2) Quality of Basic Education (QBE). While the QBE Study has been an ongoing study, the SLEC study will be continued with a renewed focus after a time lag of inactivity for a couple of years.

Strengthening Local Education Capacity II

Jack Bock, Indonesia country coordinator, will meet with Indonesian officials from the Bureau of Planning and Balitbang Dikbud during his July/August 1991 visit to discuss and agree on an activity design for strengthening of local education capacity in educational planning and management. The activity is designed to provide support to the GOI's initiative to decentralize educational decision-making by (1) building on the SLEC research initiative sponsored by IEES during its first five-year phase; and (2) by contributing to an already existing decentralization project currently in operation

Two different MOEC agencies will be involved in these activities: Balitbang Dikbud and Biro Perencanaan. Initially, Balitbang Dikbud undertook the SLEC research initiative in IEES Phase I, which was an activity aimed at identifying mechanisms that would raise local capacity (i.e., that of parents and communities) to fund and participate in the management of education. Recommendations flowing from this IEES research initiative included (1) the strengthening of local MOEC capacity to determine their fundraising and community support strategies; and (2) the strengthening of community participation in education in school management and planning skills (IEES, 1989).

Currently, Biro Perencanaan is in the process of implementing the 3-year project COPLANNER (Community Participation in Planning and Management of Educational Resources), which is funded by UNDP. This project aims at developing the capacity of schools, parents and their communities to identify their own educational needs and priorities, thus involving them in their own planning and management of education.

This is done through the notion of vertical school clusters, administered by a cluster council composed of parents, teachers and community members representing the school councils of each cluster school.

The converging interests and contributions of both IEES/Balitbang Dikbud and UNDP/Biro Perencanaan in supporting the GOI's initiative at decentralization in the education sector provide a propitious opportunity for a collaborative effort between the two agencies. Congruent with IEES secondary goals of instituting effective donor collaboration to reduce unnecessary duplication of efforts in the field, the opportunity is present for a coordination activity between IEES/USAID and UNDP. The IEES/SLEC activity is proposed as an innovative research activity in which basic and applied research will directly provide strategic input for determining planning initiatives for decentralization.

Quality of Basic Education

A wrap-up activity is planned for this study during Project Year Eight. D. Chapman and F. Kemmerer intend to complete an article on the quality of Indonesia's basic education system based on analysis of the QBE data set completed in Year Seven.

At this stage, further analysis of the data set is deemed unnecessary, as information useful to policymakers has already been extracted and presented in Year Seven.

III. IN-COUNTRY EDUCATION MANAGEMENT

In Project Year Eight IEES will continue to assist the MOEC in the Capacity Building of the policy and planning component of the MOEC through a series of workshops and monitoring activities commenced during Year Seven.

Sector Review Update Workshops II and III

A. Cresswell and F. Kemmerer will conduct two workshops at six month intervals to continue the training of local officials in sector assessment methodology. The two workshops will focus on analysis of data collected by workshop participants since the first workshop held in Year Seven. Participants will analyze this provincial-level survey and interview data to describe the status of three subsectors: educational management, educational finance, and education and manpower.

The final outputs will be a trained cadre of middle-level Indonesian policy makers who will be able to conduct comprehensive, highly focused sector assessments with minimal input from external consultants. They will be able to conduct sector and subsector assessments at the provincial level rather than at a superficial national level. There are two final products. The first will be the sector assessment update that will serve as a guideline to effective decision-making for the educational sector in the long-range planning and decentralization efforts. The second product will be manuals on methodologies taught during the

workshop to support future updates conducted without the need for any substantial input of external consultants.

A. Cresswell will make a monitoring visit to Indonesia during the months between the two workshops to review the provincial teams' progress and to provide them with feedback.

QEVT Data Analysis Workshop IV

A fourth data analysis workshop is planned under this category. This workshop will build upon three workshops held in prior project years to provide additional training in methods of data collection, analysis, and reporting.

EPP ACTIVITIES

The EPP bilateral project will continue funding two major category of activities. The first category is comprised of two special studies: (1) Teacher Education; and (2) Low Cost Learning Materials. The second major category includes four major activities in preparation for Indonesia's 25 Year Plan: (1) Cost Analysis, Financing, and Educational Efficiency; and (2) Cultural & Social Changes in Education; (3) Voc/Tec Education; and (4) Education and Demography. They will each be discussed in turn.

It should be noted at the outset, that the Cost, Analysis, Financing, and Educational Efficiency activity may be categorized as both a Special Study as well as an activity in preparation for Indonesia's 25 Year Plan. This activity will, however, be discussed in the latter section.

EPP SPECIAL STUDIES

Improving the Quality of Teacher Education

D. Nielson will make six trips to Indonesia during 1991-1992 to examine the implementation and financing of the D-II Inservice teacher training program, focusing on problems of implementation in remote areas. Nielson will formulate alternative delivery methods to overcome problems observed during his studies in order to facilitate an increase in the number of teachers who earn D-II diplomas. Enhanced teacher training is needed to improve the quality of education through the newly-required nine years.

Low-Cost Learning Materials

P. Spector and R. Reilly will make three trips to Indonesia during Project Year Eight to conduct a series of small-scale exploratory studies to determine the most practical approach to producing and selling low cost learning materials through the private sector. These studies will build upon their initial studies conducted during Year Seven to recommend strategies of loan guarantees, contracts with existing private publishers, or development of school-community based enterprises to stimulate increased private sector involvement in instructional materials production and distribution.

The first trip is scheduled for July 1991, in which R. Reilly's scope of work will include the following:

1. set up a pilot to try out the sale of very low-cost learning materials in South Sulawesi;
2. help the Book Center to prepare usable copy and help the printer(s) to select paper, assign prices, format, set up, package, address, dispatch and distribute materials at the prices selected for the tryout;
3. advise on advertising and marketing;
4. help maintain quality control during the production and distribution processes, and obtain base line information, and set up record keeping procedures;
5. help recruit, select, and train survey personnel, and supervise their activities. P. Spector will design the study, develop the survey instruments, design training for surveyors and train them. J. Strudwick will help design the study and design and conduct the analysis of data. He will also help to conduct the survey.

EPP: INDONESIA 25 YEAR PLAN

Cost Analysis, Financing, and Educational Efficiency

This ongoing EPP activity examines educational cost, quality and efficiency to ensure an appropriate emphasis on market oriented analysis of the labor demand vis-a-vis educational output. W. McMahon will complete three tasks during the upcoming project year. He will develop and analyze cost data to determine the rate of return to education and the extent of fit between education and employment. This information will serve as the basis for his second task of developing a computerized school aid formula to guide the GOI's financing of schools. The third task will be to carry out a feasibility study of developing job placement offices within the educational system to improve the external efficiency of education.

Cultural & Social Changes in Education

This activity supports the conceptualization and design of the long-range planning process and also the management of the 25-Year Plan once it is approved. In Project Year Eight, D. Adams will lead a review of current work on the 25-year educational plan to make recommendations on strategies to cope with uncertainties and implementation obstacles. This assessment will draw upon the results of EPP studies completed in prior project years. There are tentative plans for Adams to organize a Colloquium for Indonesian policy planners from education and other related ministries, such as BAPPENAS, Manpower, and Labor to discuss a broad range of issues on long-range planning in Jakarta for Nov./Dec. 1991.

Quality and Efficiency of Vocational/Technical Education

The longitudinal study of the Voc/Tech system's graduates will be continued in Project Year Eight. Two follow-up surveys on job placement of graduates will be conducted to document the transition from education to employment as an indicator of external efficiency of education. Jerry Strudwick will compli-

ment the longitudinal study with a survey of employers of voc/tech graduates to determine further training needs of voc/tech students to facilitate the country's desired industrial "take-off."

Education and Demography

J. Cobbe is very tentatively scheduled to make a visit to Jakarta in December 1991 in conjunction with the Colloquium to be organized by D. Adams. A second trip would be in April/May 1992. At the request of Boediono, Head of Pusat Informatika, a possible future activity would be to rework the draft paper "Education, Demographics, the Labor Market, and Skill Acquisition: Indonesia over the next twenty-five years." The reworked draft would focus on (1) a description of what the situation is with respect to the labor market; (2) comparisons with the experience of other countries (to include problems to avoid from relatively unsuccessful countries as well as successes to emulate); and (3) attention to actual policy recommendations.

Another activity would be to find out more about the behavior and performance in the economy of those graduates of SMA and higher education in particular who do not secure wage and salary employment. Their numbers are going to increase, so planning should pay more attention to what has happened to them in the past and what they will benefit from in the future. We know that a majority of SMP graduates, a substantial fraction of SMA graduates, and growing numbers of tertiary graduates do not find wage employment but are economically active in the self-employment and family enterprise sectors. However, we know very little else about them, and in particular about whether their education is doing them any good, and if so what, in the economy.

PROJECT YEAR EIGHT PLAN: July 1991-June 1992

Activity	Date	Personnel	Outputs	Impacts
IEES: Policy and Planning				
1. Curriculum Reform	July 5/Aug. 15	B. Balzano	An appraisal of the science & math sections of the 1994 curriculum & strategy of curriculum reform and implementation.	Assessment of extent to which the curriculum is related to the aims of economic growth and equity which are major issues in the country's long-range plan. Recommendations on the need to develop methods for evaluating the impact of the curriculum on student preparation for advanced study and placement in occupations, which will guide further curriculum reform under the next 25 Year Plan.
	Feb. 1992	N.Postlewaite	A written appraisal of the 1994 curriculum, and strategy of curriculum reform and implementation. Final report.	
2. Planning and Negotiation of IEES Year. 8-10 Activities	July 1991	J. Bock	An agreed-upon plan for IEES year 8 and a tentative plan for years 9 and 10 by Moegjadi, Boediani, Pongtularan, and Rifkin.	An effective plan for activities through the end of the EPP project and transition to the proposed follow-up project.
IEES Knowledge Building				
1. SLECPM Decentralization Workshop	Dec. 1991-Jan. 1992	J. Chiew N.Mandalong D. Hoover	Exploration of new models of community planning, management, and decision-making. First-of dynamic model of phenomena related to educational planning. Training for national & provincial educational planning officials in new approaches to conceptualizing, understanding, and planning for change. Hands-on experience for officials in use of software for dynamic model building.	Important input to the decentralization process within the MOEC. Strengthening of the bottom-up planning process. Encouragement of innovative ideas and potential models to contribute to future direction of educational administration in Indonesia.
2. Quality of Basic Education		D. Chapman F. Kemmerer M. Green	Article on the quality of basic education in Indonesia. Recommendations for further studies.	
Education Management				
1. Workshops a. Sector Assessment Update Workshop 2 b. Sector Assessment Update Workshop 3	July 1991	T. Cresswell F. Kemmerer	A review and revision of work of sector assessment teams to date. Analysis, discussion and possible recommendations.	Creation of local capacity to conduct comprehensive, highly focused sector assessments with minimal input from external consultants. Ability to conduct sector and subsector assessments at the provincial level.
	Dec. 1991-Jan. 1992	T. Cresswell F. Kemmerer	Revision and finalization of sector assessment work. Plan for dissemination meetings. Final edited sector assessment update practical how-to training manual.	The sector assessment update will serve as a guideline to effective policy decision making in the long-range planning and decentralization efforts.
2. Sector Assessment Monitoring	Oct. 1991	T. Cresswell	Review and feedback to teams in their home provinces regarding sector assessment activities performed between workshops II & III. Identification of needs for further analyses.	Provide information to guide planning of Sector Assessment Update Workshop 3

Activity	Date	Personnel	Outputs	Impacts
EPP: Special Studies				
1. Improving the Quality of Teacher Education (18 mo. policy research)	6 trips	D. Nielson	An examination of the financing of the D2 In-service Teacher Training Program. A determination of implementation problems of the D-2 Inservice Teacher Training Program in remote areas. Formulation of alternative delivery methods that are cost effective and appropriate to the teacher population.	An increased number of teachers will be able to complete in-service training and earn the D-2 diploma. Better trained teachers are expected to improve the quality of basic education through the newly- required nine years.
2. Low Cost Instructional Materials	July 10-25 July 18-25	P. Spector R. Reilly	A series of small-scale exploratory studies to determine the most practical approach to producing and selling low cost learning materials through the private sector. Analysis of potential for (1) loan guarantees, (2) contracts with existing publishers, and (3) development of school-community enterprises.	Stimulation of increased private sector and school-community production and distribution of instructional materials. Production and distribution of instructional materials at a cost affordable to all students will create greater equity in access to materials. Increased efficiency should help overcome shortage/surplus conditions across geographical (urban/rural) areas. Public sector will be able to concentrate effort and resources on quality of education.
EPP: Indonesia 25-Yr. Planning				
1. Cost, Financing, & Efficiency of Education				To provide analyses and data useful in the preliminary planning for Indonesia's next 25 year plan.
a. Education and Growth	July 1-Aug. 14, 1991	W. McMahon N. Xu	Critical evaluation of what is known about the growth process in Indonesia.	
b. Development of Computerized School Aid Formula	July 1991	W. McMahon	A policy paper on the GOI's role in financing local schools.	
c. Financing Basic Education in Indonesia	July/Aug. 1991	W. McMahon	A policy paper on educational Finance Reform that looks primarily at the potential for additional resource recovery from the local districts.	
d. Conference	Dec. 1991		Presentation and discussion of all work completed to date.	
e. Achieving Broadly Based Development	May 1992		A policy paper focusing on the distribution of basic education among children in the population and among the provinces, as a means of achieving wider participation in productive earning capacities.	
f. Assistance with Preparation of the Next 25 Year Plan (Repelita IV)	Spring 1992			
g. Cost Analysis & Cost Effectiveness	Summer 1992			



Activity	Date	Personnel	Outputs	Impacts
2. Cultural and Social Changes in Education	July 1991	D. Adams	Review of current work on the 25 year educational plan, including description of degree and types of uncertainties faced, based on earlier EPP studies. Delineation of strategies to cope with uncertainties and recommendations for implementing planning.	Support of the conceptualization and design of the whole long-range planning process. Facilitation of the management of the 25-Year Plan once approved.
	Nov./Dec. 1991	D. Adams	Colloquium for Indonesian policy planners from education and other related ministries, e.g., BAPPENAS, Manpower, Labor, to discuss a broad range of issues involved in long-range planning, including both economic & socio-cultural dimensions	Input into the 25-Year Plan of Indonesia.
3. Quality & Efficiency of Voc/Tech Education	a. Research Activities Aug. 1991–Sept. 1992 (5 trips)	J. Strudwick	Second and third longitudinal study follow-ups on job placement of voc/tech graduates using student ID and school survey data. Survey of employer expectations, preferences, and opinions regarding further training needs of the graduates. Final analysis of external efficiency of voc-tech schools and presentation of conclusions of QEV T Seminar II.	Documentation of the transition from education to employment is important to achieving economic "take-off" and external efficiency of education, two major goals of the country.
4. Ed. & Demography	Dec. 1991 April/May 1992	J. Cobbe		

3.5 NAMIBIA

3.5.1 Summary of Activities During Project Year Seven

At the request of the newly-independent country of Namibia, IEES conducted a Sector Review in November and December 1990. This review was published as *Basic Education in Namibia: Sector Review Report* in December 1990 and widely disseminated and discussed in Namibia in early 1991. This review—and its recommendations for building a learner-centered educational system to serve the new nation—was strongly supported by Minister of Education Nahas Angula, Permanent Secretary V. Ankama and Deputy Permanent Secretary Jan Visser. The IEES/USAID team consisted of Robert Morgan, David Evans, Douglas Windham, Frank Method, Sue Grant Lewis, and Julie Rea. The team was assisted in Namibia by Moses Omeb and Josephat Aipinge. A summary of the findings of this report is included below.

System Problems

Problems with the existing education system are easily identified. Namibia's education system is quantitatively large enough to educate most children. However, it is ineffective and produces only a relative handful of successful graduates each year. It fails almost completely to give those children who do not manage to survive and reach the upper standards any real skills for employment or functional skills for life. It expends relatively generous funding for the system as a whole, yet large parts of the education system are demonstrably short of basic materials and lack minimally adequate physical facilities. It expends extraordinary effort on examinations and certifications, yet has little data or research on instructional effectiveness. It has relatively adequate staffing levels, yet most teachers lack the desired certification and formal qualifications for their assignments. It has the technical and administrative capacities to accomplish almost any objective it sets, yet has massive inefficiencies. Clearly, the solutions to Namibia's problems do not lie simply in increasing the resources available to expand the current systems, nor even in reallocating available resources to give everybody a more equal chance within the current systems.

The main factors responsible for this pattern of systematic failure, selection bias, inequity of results and massive inefficiencies are:

- *the content biases, subject selections and hidden curricula* embedded in the formal curriculum and materials;
- *the rigidities of the administrative structure*, which is extraordinarily top heavy relative to instructional staff, detailed in its administrative guidance and remote from most of the schools;
- *the heavy reliance on examinations on all levels*, with most geared toward selection and screening of students, rather than toward diagnostic assistance to the teacher or the student;
- *the process of certification of teachers*, reflecting both the limited facilities for the training of teachers in most of Namibia and the reliance on teaching standards and assumptions about appropriate teacher qualifications which may be unrealistic for most teachers to achieve and inappropriate for the teaching realities most teachers face.

Each of these subsystems controls the output and effectiveness of Namibia's education system and will have to be fundamentally and systematically rethought and reformed within the new education goals and objectives of independent Namibia. The team differs somewhat from other observers in the relative priority for addressing these factors.

First, most of the initiatives being discussed focus on changing curriculum at the Junior Secondary and Secondary levels as a first priority. The team recognizes that changes at the upper levels are necessary to respond to short term demands for equity of result and more open competition for opportunity in the modern sector. However, expansion at the upper levels will have very high costs and may be difficult to justify in the short term, given the uncertainties with respect to job creation for secondary school leaders. The long term objective both for social equity and for systems efficiency must include major reform and revitalization of basic education at the Primary level, starting with Junior Primary, if not earlier with efforts to involve communities more effectively in early childhood and other preparation for education. A sound education system cannot be built upon the systematic frustration and failure of children before they have had a chance to learn. Educators who are conditioned to expect most children to fail can hardly be expected to help most of them to succeed.

Second, the administrative structure, which is now being unified and strengthened at the regional level, may still be too top-heavy in terms of the total staffing and may still contain structural aspects, such as the heavy reliance on traditional subject advisers, which could preclude much innovation and flexibility at the local level.

Third, the examinations structure needs to be rethought, not just in terms of its validity in terms of the new curriculum and national education objectives, but also in terms of how effectively it serves the needs of teachers and students for diagnostic help geared to achievement objectives.

Fourth, though it is clear a major effort will be required to raise teacher qualifications, it is not clear that credentials as such are the key to more effective instruction. There is a tendency to equate lack of teacher qualifications and credentials with a lack of teaching competencies and motivation. It is not possible to assess what the precise objectives should be for teacher training and retraining until much more development work has been done on the new instructional objectives, materials and desired classroom practices.

Priorities For Resource Allocation

To address these structural problems, new resources will be needed and existing resources will have to be reallocated. However, it matters how resources are reallocated. Simply increasing the size of the current system is not likely to change the result. Unless new resources result in a more effective instructional system, they are at best being wasted and at worst are strengthening systems which are largely the problem. For example, the plans for staff increases in administrative positions and for salary increases reflecting teacher upgrading may both consume most of the available incremental funds needed for other reforms and

compound the problems of rigid administration and excessive concern with teacher credentials and upgrading.

The team's sense of priorities for resource reallocation to increase instructional effectiveness includes:

- instructional materials development and production
- teacher training and support for teachers in the classroom
- facilities other than classroom instructional space
- classrooms and other instructional facilities

These areas for investing additional resources are consistent with the recommendations of most observers and with the existing plans of the Ministry. All of these need to be addressed. However, some priority should be given to instructional materials development and refinement before making commitments to large scale teacher training or retraining. With respect to teacher training, the team would give priority to inservice training over pre-service training and to training geared to supporting teachers in the typical classroom over training intended mainly to upgrade credentials.

Though school building and classroom improvement clearly is a priority in many areas, particularly in the rural areas of the North, the building requirements need to be kept in perspective and measured against other critical needs. Some sensible, more cost effective, building technologies are being developed for new secondary schools and these should be encouraged. Other cost-effective approaches should be explored at the primary level. Clearly, it is almost impossible to teach in the worst of the schools, with almost no materials and with the children sitting on rocks under a tree; equally, it would be possible to absorb all the funds available for other reforms in attempting to build schools at the standard of the best of the White schools. This would needlessly delay efforts to improve education for most children. Demonstrably, it is possible to educate children effectively in relatively modest physical facilities, given appropriately designed materials and with teachers trained, motivated and supported to teach in such circumstances.

Thus, along with the effort to improve classroom facilities, the team would give increased priority to other facilities at rural schools, including hostels and teacher housing, staff rooms for teacher workspace, storage facilities for materials, water and electricity for schools, and other equipment or support necessary for effective instruction. Consideration also should be given to a range of ancillary facilities, such as local teacher centers to enable teachers to work together without traveling to the regional centers and/or community education centers to enable communities (with the help of NGOs) to mount community education and adult education initiatives. These and other facilities issues need to be examined carefully before making expensive commitments and before prejudging facilities as too expensive. Further research and analysis of issues of cost-effectiveness would be very useful. For example, though some observers have argued that boarding schools are too expensive, it is possible that boarding schools, including primary schools, may be more cost-effective than generally realized, depending on whether the extra care and supervision translate into higher percentages of completers and/or fewer wasted years in repeating grades.

Namibia has relatively adequate resources with which to address its education needs, once it has worked its way through the transition phase of expensive reform, consolidation and restructuring. However, it is possible to expend very large sums on activities and functions (such as overly expensive construction, topheavy administrative staffing, teacher upgrading not linked to curriculum reform or changes in classroom practice) which have very little impact on instructional effectiveness, and which may make the even system less efficient, equitable and sustainable. As noted above with respect to hostels, the tradeoffs and choices are not always intuitively obvious. Thus, a strong recommendation is for strengthened analytic systems at all levels, linked not so much to the current systems of examinations and other control systems, but to the efficient allocation of the resources available to implement the physical restructuring of the education systems and the development of more effective instructional systems. Efforts to strengthen systems capacities appear most needed in the following areas:

Strengthening Capacities

Policy Planning and Analysis. A specialized unit is needed, preferably at the staff level within the Ministry of Education, capable of modeling the medium to long term implications of various policy choices. This should be kept somewhat distinct from the other planning units necessary for carrying out line functions of estimating needs and managing the education systems. To make effective use of such analytic capacities, it will be necessary to consider a number of changes in budgeting and internal accounting; for example, to enable the experimental projects and other development components to be distinguished from ongoing recurrent budgets.

Management Information Systems. Better data is needed at all levels. The improvement of the demographic data which underlies education policy and planning decisions is particularly critical. The available education data collected by the Ministry are relatively good and complete. However, other types of data will need to be collected and assessed as Namibia shifts to a new administrative structure and to new education objectives. In particular, there is great need for better data at the school and classroom level to enable analysts to understand what actually accounts for differences in instructional effectiveness achievement and persistence. This is critical information for development of a more effective instructional system.

Instructional Systems Design. This is not so much a single function or unit as it is an analytic and developmental perspective which must pervade all the other systems. It will require both better analysis in each unit and new mechanisms for educators to work together across unit boundaries to ensure complementarity of approaches within a common strategy of improving instructional effectiveness. It will require a systematic effort by education leaders at all levels to reorient the thinking from a process of managing the selection of students as they seek to survive a series of academic tests to an expectation that most children will learn and that it is the professional obligation of each educator to ensure that they do. This reorientation will take time.

Materials Development and Production. Closely linked to instructional systems design is the development of materials which support the curriculum objectives and desired classroom practices. The full range of instructional materials need to be considered, from simple materials available to any observant and resourceful teacher, to materials which have to be centrally produced and supplied. Electronic media and distance teaching technologies need to be considered to supplement the texts and other materials available in the typical classroom. Most importantly, Namibia needs to develop its capacities to carry out its own development and assessment of materials in terms of its instructional objectives. The issues of how and where it obtains the materials can then be addressed.

Policy Issues

Finally, the team considered a number of policy issues which need to be given further consideration. These appear to be key choices which will determine how effectively the reforms discussed above will be carried out. The team does not have specific recommendations to offer. However, the following need to be discussed in the planning and implementation of any large scale assistance effort.

- How to increase the budgetary increment available for reallocation to improve equity and efficiency. Issues for discussion would include the intensity with which the more expensive facilities are being utilized, as well as the budgetary allocations by level, by region and by function, especially for non-salary inputs.
- How to ensure that reallocation results in increased instructional effectiveness, rather than expanded administrative and control structures. Issues for discussion would include the allocation for administrative staff expansion versus teachers and for teacher salary costs versus other instructional input needs.
- How to build both relative autonomy and long-term support for high quality research, analysis and curriculum materials development capacities. Issues for discussion would include the progress in establishing the National Institute of Education Development (NIED) and the mechanisms in place to ensure that the research priorities reflect both expert judgment as to the research issues and the priorities of Namibia's education reform. Particular care should be taken to ensure that NIED is not distracted either with functions that are more appropriately handled within the line units of the Ministry or with academically interesting research and experimentation which is marginal to Namibia's education development objectives.
- How to build effective partnerships with NGOs, communities, and the private sector. Namibia has an unusual opportunity to build an education system making effective use of the full range of education partners. Because of the relative neglect of many areas and populations of Namibia, the public education system has not over extended itself into attempting to deliver all forms of education to all learners. For the same reason, Namibia has relied on NGOs to an unusual extent to provide the leadership for most adult literacy and adult education initiatives, as well as to meet the schooling needs of a number of communities. There are several local NGOs with strong staffs, leadership and credibility in disadvantaged and returnee communities. Other donors, particularly in Europe, have substantial experience in assisting such groups. There are a number of coordination and joint-funding mechanisms under discussion and the Ministry is currently reviewing its policies on the support to privately-managed schools and privately-provided school facilities. These discussions should be encouraged and supported if possible.
- How to facilitate donor coordination within a common policy framework. The Ministry of Education and the National Planning Commission have taken useful first steps to bring donors together to discuss Namibia's needs and possible responses. UNDP has also taken steps to coordinate

donor initiatives, particularly with the UN agencies. Interestingly, major local NGOs and corporate sponsors of social responsibility education programs were prominent in the Ministry's coordination meetings. Though no permanent mechanism is apparent at present, there clearly is both a need for coordination and interest in doing so, both by the Government and by all donors with whom the team spoke. A strong recommendation is that these initiatives be encouraged and that the USAID program be developed within a common framework to which most other donors are committed as well as the Government of Namibia. USAID should encourage the Government to establish this framework and a coordinating forum for the discussion of assistance issues as soon as possible.

Etosha Conference. IEES assisted the Government of Namibia in organizing the First National Consultative Conference on Basic Education Reform in Namibia at Mokuti Lodge near Namutoni at the Etosha Pan in Northern Namibia, April 8-12, 1991. The conference was attended by the President of Namibia, the Minister of Education, the Heads of Ministry of Education Departments, and by representatives of assistance agencies in Namibia and USAID. During the conference, workgroups of 8 people each discussed the future of Namibian education, the areas in most need of reform, and the priorities for reform. These workgroups then debated in pairs and finally joined in plenary session to consolidate their ideas and recommendations. IEES is now preparing for publication the proceedings of the conference and a brochure summarizing the consensual agreement reached for the direction of the national education system.

3.5.2 Plans for Project Year Eight

IEES plans for assisting the Government of Namibia in Project Year Eight are now under discussion. Wes Snyder serves as IEES Country Coordinator for Namibia and will prepare assistance plans in collaboration with the Government of Namibia, AID and IEES project management. Namibia has requested full participation in the IEES project and will attend the IEES International Conference in November 1991.

A contract was signed between the Namibian Ministry of Education and Culture and Florida State University to assist with primary education reform in April 1991. Outlines for this assistance during IEES Project Year Eight are presented below.

Activity	Target Date	Agent(s)
1. Orientation to MOEC Situation and Needs Assessment Field Visit	July 1991	Grant & McLanahan
2. Refine FSU team staffing. (Includes determination on positions required, and dates of estimated arrival at post.)	July, August 1991	Snyder, Grant
3. Commence recruitment and selection of team members. (Advertising, vetting, interviewing, negotiating, and selecting team members)	August – September 1991.	Snyder, Grant, Morgan & Minister
4. Start MOEC-FSU Windhoek infrastructure creation (Includes collecting resumes of Namibian Office	August 1991	Lambert, Grant

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Activity	Target Date	Agent(s)
4. (continued) Manager, Secretary, and Driver for October interviews. Includes planning for office space, and basic accoutrements and determining and processing purchase needs.)		
5. Develop scope and sequence of work to be performed by David Macharia	August – Sept. 1991	Lambert, Macharia, Ellis
6. Start to identify first counterparts for team members. (Includes those who will work part or full time with team members, and possibly later form part of NIED.)	September 1991	MOEC Officers
7. Provide assistance to MIS group under Mr. Voights. (Includes TDY consultant for three or four weeks.)	September 1991	Moses
8. Develop EMIS sub-contract	September 1991	Snyder, Morgan
9. Start collection of baseline photo data in schools. (Includes videotaping of sample classrooms from across the nation.)	October 1991	Grant, Minister McLanahan
10. Start collection of teacher survey data from schools. (Includes sample survey of teachers re primary education reform as follow up to Etosha Conference.)	November 1991	Snyder, Grant, MOEC
11. Start collaborative schools-oriented research project with MOEC and Harvard (Includes coordination of data collected in 9 and 10 above, and other related research activity.)	January 1992	MOEC, Fuller, Snyder
11b. Research capacity and needs for MOEC/NIED	January – March 1992	Snyder, Fuller Grant, MOEC
12. Commence support for Ju Wa Bushman Project	November 1991	Grant, MOE
13. Commence evaluation master plan. (Development of strategy to evaluate the reform and develop evaluation measures, and start the process.)	February 1992	S.G. Lewis & MOEC
14. Visits by FSU team members to schools outside Windhoek for orientation and assessment.	November 1991 – March 1992	FSU Team
15. Assist MOEC representative in textbook selection in U.S. (Includes strategy and contacts with publishers in the U.S.)	October 1991	Grant, Snyder
16. Invite Minister and other representative to U.S. International Conference (Includes follow-up to Conference for "Education for All" and FSU IEES International meetings.)	November 1991	Morgan
17. Commence in-depth assessment of curriculum development and materials production capacity in MOEC. (Includes determination of strengths and	November 1991– March 1992	MOEC, Grant et al.

3.6 Nepal

3.6.1 Summary of Activities During Project Year Seven

Nepal was proposed in Project Year Seven as a second location (Botswana was the first) for a research agenda examining teacher and school factors related to educational efficiency. Meetings were held in Kathmandu during January 1990 with Ministry of Education and USAID Mission personnel to determine the appropriateness, focus, and potential scope of that research. Earlier discussions focused on three areas, described below.

1. Teacher behaviors and classroom characteristics that most encourage high levels of student achievement and retention.
2. Investigation of the career patterns of teachers. Nepal needs to increase the number of primary school teachers. If the projected demand for teachers is to be met, it will be important to identify (a) the incentives that will attract secondary school graduates into teaching and (b) the incentives which are most powerful in teacher retention.
3. A third area of research interest is the study of headmasters. Headmasters play a particularly important role in educational quality because they are responsible for instructional supervision, local school-community relations, and school-Ministry communications. All three of these factors are important to the quality of the education offered in the school. Research on headmasters can identify ways to support and help headmasters in these tasks. The research can offer suggestions for headmaster selection, training, and supervision.

It is decided that this research would be directed by the IEES RTA, through consultation with IEES staff and David Chapman, and that the research would be an integral part of the RTA's planning activities in the Ministry. It was emphasized that the research would involve meaningful participation of local researchers, and would provide an integral part of the overall MOEC research agenda.

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

3.6.2 Plans for Project Year Eight

IEES, government counterparts, and USAID Mission staff have agreed about what can be accomplished and are now engaged in developing appropriate action plans for IEES. Nepalese officials are determined to develop more strongly linked data management, planning, and evaluation capacities. They have expressed a particular desire to develop data-based plans and policies and to coordinate donor assistance to reflect a comprehensive MOEC sector agenda.

Considering IEES general objectives and the foundation already established in the Manpower and Statistics (M&S) Section and in the radio education project, IEES intends to build on and expand activities in the following areas during the coming project years.

- Establishment of an EMIS Steering Committee,
- Continued improvement of the data collection and dissemination process through the training of staff at the district and regional level,
- Continued training (in and out of country) in computer skills, in data analysis techniques, and in the development of models for educational planning,
- Development of a set of educational efficiency indicators to strengthen the links between data collection and utilization in the Ministry, and to pinpoint what additional data the MOEC is likely to require in the future,
- Identification and implementation of IEES research topics and study designs to complement the World Bank-funded expansion of the Primary Education Project, as well as other MOEC initiatives.

A plan to support and utilize an MOEC EMIS has been developed. It sets out policies, job responsibilities, and processes to strengthen the existing system. Implementation of the plan will be enhanced by the continued involvement of IEES. The plan includes:

The full-time presence of an RTA. Consistent prodding by a person familiar with the system, available to follow up decisions, and present when the "moment is right" to take advantage of situations is likely to be the most effective long-term approach. Competency builds gradually; changes in standard operating procedures also emerge slowly as competency is recognized. The RTA will model and encourage horizontal communication within the MOEC. In addition, the World Bank has expressed interest in having the RTA work with the research evaluation section of its expanding Basic and Primary Education Project (BPEP).

Training/Education. Learning to interpret and draw conclusions from data for planning purposes is the essential next step in the MOEC's development of an effective EMIS. Such learning will occur through on-the-job training as well as through formal sessions to review and discuss data and information needs. IEES will continue to encourage this process and to disseminate it more broadly within the MOEC.

As responsibilities are defined and assigned, MOEC staff will require additional training. Implementation of a new system demands the sort of ongoing support, attention, and expertise that IEES is ideally

suited to provide. In sum, IEES should maintain a continuous, flexible, and low-keyed presence so as to consolidate and expand the progress made in data collection and management made in Nepal since 1985.

IEES is now planning with government, Mission, and other assistance agencies for the implementation of Project Year Eight activities. IEES Country Coordinator for Nepal John Mayo and RTA Howard Williams met with government and Mission officials in March 1991 to discuss the coordination and direction of IEES. These are outlined below.

Support for Data-Based Decision Making in the MOEC

IEES assistance from 1986-1989 has achieved a sustainable data collection and analysis capacity within the MOEC. This work is widely recognized in Nepal and, along with the IEES-sponsored Sector Assessment and Policy Research Initiative on Education Management Information Systems (EMIS), has created a high visibility for IEES across HMG ministries and other assistance agencies.

IEES continues to emphasize, however, that the timely and accurate production of school statistics does itself not result in improved efficiency of the educational system. The necessary next step in Nepal is to work closely with MOEC leadership to introduce the regular flow of well-considered and clearly-presented data-based summaries of critical efficiency issues into the policy-making and program development procedures of the ministry.

The MOEC leadership is now prepared to act upon the recommendations of the Sector Assessment and the EMIS research, but still lacks both the human and technical resources to do so. IEES is uniquely positioned, as MOEC, World Bank (expansion of primary education), and ADB (expansion of teacher training) approach final planning stages of major education initiatives, to achieve efficiency impacts far beyond the level of the modest resources invested.

Recent discussions with Bank pre-appraisal team members confirm that they consider IEES-assisted data-based decision-making system to be essential to future MOEC efforts. Due to the lengthy Bank planning process for the proposed Basic and Primary Education Project (BPEP) and the current uncertainty regarding USAID funding levels, BPEP planning team members have expressed support for IEES assistance in EMIS strengthening. An EMIS Steering Committee will be supported to bring data providers and data users (and potential users) together on a regular basis during IEES Phase II. This committee will serve the dual purposes of (1) "marketing" the data, for use in planning and decision-making and (2) providing overall guidance to the M&S Section in developing its agenda for data coverage and analyses.

Efficiency Indicators

Dr. Uphadhaya also has expressed interest in developing an MOEC set of Indicators of Educational Performance (or Efficiency), organizationally sponsored through the EMIS Steering Committee. A selected set of indicators will establish factors on which data can be collected to determine the status, and subsequent progress on these key issues of interest to the MOEC. Examples of key indicators may include

type and level of community resource utilization, school enrollments, drop-out and repeater rates, representative data on instructional quality, and student performance. An MOEC indicator set will also provide information for project and program design and assessment, resource allocation decisions, and baseline sectoral information for prioritizing and focusing other donor assistance.

There are two additional benefits of an indicator set sponsored by an EMIS Steering Committee: (1) it will serve to solidify the link between data collection and its use, and (2) it will serve to highlight and prioritize additional data needed by the MOEC. In some cases, additional data will be difficult to obtain from routine reporting or survey, especially information on the actual process and quality of instruction. The EMIS Steering Committee, using the indicator set as a reference, will be able to identify and prioritize areas for research which, in turn, can be supported by IEES and other donor groups. The careful identification and prioritization of research needs within the MOEC will ensure that the results of such research will be used.

Support for Policy Research

A significant aspect of IEES work in Nepal will be policy research examining the influences of selected teacher and school characteristics on student achievement and retention. This research is directly relevant to a major policy goal of the Ministry over the next ten years, the achievement of universal primary education by the year 2000. This research is critically timed to feed into the major education investments of the World Bank and ADB, which are now in the final planning stages. The IEFS-sponsored policy research can provide important insights to guide the investments of both government and donor funds.

This research will be theory-based and will employ a combination of classroom observation, interview, questionnaire, and student test data. As appropriate, the research could be extended to examine micro-level analysis of the cost-effectiveness of varying pedagogical strategies, including the use of radio and self-instructional materials (both of which are now being used in teacher training in Nepal).

The research will be conducted collaboratively by IEES and Nepali researchers, with primary field direction provided by the RTA. Assistance from other IEES researchers will be provided where appropriate. The research initiative will last two to three years.

Research in Nepal

This study will investigate (1) family, school, and community factors contributing to grade repetition and student attrition at the end of first grade and (2) what actions parents, school personnel, and community leaders believe can be taken at the community level and by the Ministry to improve student flow in grade one. The design of the study is grounded in two premises. First, grade repetition and dropout at the end of grade one represents one of the most serious constraints to internal efficiency now facing the education sector in Nepal. Second, much is already known about the reasons for first grade repetition and dropout. However, much of the solution to improving student flow will rest on interventions undertaken at

the community level. The MOEC needs more information on community-school dynamics if it is to effectively assist communities in improving the efficiency of primary education.

Rationale for the Study

High rates of student dropout and grade repetition have been identified as two of the greatest threats to the internal efficiency of primary education in Nepal. At present, only one student in four will complete grade five in five years. The problem occurs throughout the primary grades – for grades 1-5, the average rate of grade repetition is 29 percent and student dropout averages 9 percent. The greatest problem, however, is at the end of grade one. Sixty percent of pupils who enter grade one do not continue to grade two the next year – 49 percent repeat grade one the next year, while 11 percent drop out of school completely. Moreover, recent research has found that those who repeat grade one are at a higher risk of dropping out in the future.

Student dropout poses a direct threat to Nepal's goal of universal primary education by the year 2000. It represents a serious wastage of human resources as people lack the basic literacy and numeracy skills necessary to function effectively in the modern sector of the economy. Additionally, it represents a serious financial inefficiency as repetition and dropout increase the cycle cost of primary education. Grade repetition operates both directly and indirectly to reduce efficiency – it ties up school resources that could otherwise be allocated to children not yet in school and it creates a group that have an increased likelihood of becoming dropouts in the future. Reduction of grade one dropout and repetition are two of the most important ways in which the MOEC could improve the efficiency of primary education and move toward its goal of universal primary education.

MOEC leadership is fully aware of both the dimensions of the problem and the importance of addressing these issues as a means of raising the quality and efficiency of primary schooling. There is a growing recognition that the most effective interventions to address student flow in grade one must be at the family, school, and community levels. However, it is still not clear what actions are most successful in reducing attrition and repetition. Research to address this issue is a necessary next step in the Ministry's efforts to improve student flow at the primary level.

Reasons for first grade repetition and drop-out

Recent research and the personal experience of Nepali educators are the basis for identifying the major factors contributing to high first grade repetition and dropout. The major factors contributing to dropout are:

- child is needed to work at home*
- parents can't afford costs of schooling (even when tuition and textbooks are free)*
- lack of parental encouragement and support*
- child gets discouraged and does not want to continue*
- logistics of attendance are too complicated (e.g., school is too far from home)*

underage children in grade one do not have the learning readiness to successfully complete grade one work
parents judge the quality of education too low to warrant sending their child to school
child cannot do the academic work
incorrect count of students leads to artificially high dropout rate
combinations of above reasons

The factors contributing to repetition include:

poor classroom instruction: student doesn't learn
poor assessment: teachers do not know how to assess student readiness for promotion to grade two; students who should pass are told to repeat
underage children in grade one do not have the learning readiness to successfully complete grade one work
poor nutrition, poor diet impairs learning
schools hold children back to increase student count, which is the basis for teacher, textbook and other resource allocation to the school
combinations of above reasons

While educators and government officials know much about the problem, they are less sure about the solution. The question that must now be addressed is: "What actions can be taken by the school, community, and Ministry to reduce the high levels of first grade repetition and dropout?" The answer to this is found in the school and community level dynamics, dynamics which are still not well understood.

Current MOEC response to these problems

The MOEC recognizes the importance of the problem and has actively supported initiatives incorporated in donor-funded projects aimed at improving student flow (described below). The Ministry, however, has not itself implemented MOEC initiated interventions to address this problem.

Relationship of this research to other donor activities

All the major international assistance working in the education sector of Nepal recognize the importance of improving student flow through the primary grades and several donor groups have supported the design and implementation of interventions aimed, all or in part, at reducing attrition and repetition. Specifically, UNICEF has sponsored the development of community day care programs, intended in part to free the time of school age children to attend school. The PEP project, funded under a World Bank loan, was an integrated program of curriculum improvement, teacher training, and materials development (among other things). Project evaluations found that retention and dropout were reduced in PEP schools. The BPEP project, a new multi-donor project being lead by the World Bank and now under negotiation (USD \$30 million; five years), extends many of the elements of PEP and would introduce automatic grade promotion in grades 1-3. The Asian Development Bank is supporting a project to assist in the construction and operation of teacher training schools. Each of these donor efforts is argued, in part, in terms of the positive impact the activities are expected to have on reducing primary school repetition and dropout.

While a variety of activities are being pursued to improve student flow, only PEP has evaluated the impact of its interventions on retention and dropout. To date, no comparative studies have been conducted across the various interventions of different sponsored projects and MOEC policy initiatives.

Relevance of this research activity within the MOEC and IEES

The focus and design of this study are particularly appropriate for three reasons. First, Nepal is in the process of actively implementing democratic reforms which give local citizens more say in the operation of government. It is an appropriate time for the MOEC to actively elicit their participation in resolving the problems now facing primary education. Second, the study is designed to detect cross-sectoral factors that contribute to student progression and retention, factors that may have little to do with the structure or operation of schools directly. For example, the community survey may find that in communities that have more advanced water systems, pupils spend less time carrying water and therefore more time studying. The study design recognizes that effective interventions to improve progression and retention may be effected from interventions in other sectors (than education). Third, the study provides a structure through which a related agenda of the MOEC can be addressed. While recent research suggests that school level enrollment data, once recorded at the school level, is transmitted to the central MOEC with a high level of accuracy, there is evidence that these data are not being accurately recorded in the first place. This study offers an opportunity to audit the accuracy of data recorded at the school level.

This research is an extension of the IEES efforts to assist the MOEC to improve the usefulness of its education information system. The focus of past IEES work has been on assisting the MOEC to improve the quality, relevance, and timeliness of its national education data as a basis for policy formulation and planning. A major challenge now facing the Ministry is to use this improved information in ways that improve the quality and efficiency of education, particularly at the school and classroom level where the actual process of education occurs. This study offers an example of how national level data can be used.

This research also represents an extension of IEES efforts to assist the MOEC to improve the usefulness of its education information system. The focus of past IEES work has been on assisting the MOEC to improve the quality, relevance, timeliness, and usefulness of its national education data as a basis for policy formulation and planning. Through its own initiatives and the assistance of IEES, the Ministry has made substantial progress in achieving these goals. A major challenge now facing the Ministry is to use this improved information in ways that improve the quality and efficiency of education, particularly at the school and classroom where the real process of education occurs.

This study responds to that challenge. It is undertaken as action research (1) to identify factors that distinguish schools and communities with high and low attrition and (2) to elicit the suggestions of local citizens about how these problems might be addressed. The study uses data from the EMIS in school selection. Results of the study are, in turn, expected to provide suggestions for how national education data can be used in the support of community level initiatives to improve a major inefficiency in primary education. In



this respect, the study offers a model that the MOEC can easily adapt to investigate other problems that now confront education development in Nepal.

Overview of Design

The study is designed as a comparative case study of schools with extremely high and extremely low rates of first grade repetition and dropout. Twenty schools – ten schools with particularly high and ten with particularly low progression and retention rates – will be identified through an examination of MOEC school data. Structured interviews will then be conducted with parents, school personnel, and community leaders at each school location. Interview data will be content-analyzed as a basis for identifying primary differences among schools in the high and low groups. The interview data and the results of the content analysis will be used to develop a Community-School Profile of schools in each group. Based on a preliminary analysis of the interview data, follow-up focus group discussions will be conducted with community and school leaders in each school to identify their beliefs about what actions might be taken at the community, district, and central ministry level to improve student progression and retention at the end of first grade. Findings from the content analysis of interview and focus group data will be interpreted together to provide a set of results, conclusions, and recommendations for how schools, communities, and the Ministry can work together to improve student flow at grade one.

Instrumentation

Four data collection forms will be employed in the field interview activity:

1. School Data Recording Form

This form will ensure collection of comparable data from each school. Portions of it will be completed with data available from the EMIS at the Ministry. These data will be validated during school visits. The remainder of the form will be completed during a site visit by a member of the research team. The site visit will be used to collect such data as actual student attendance, levels of first grade repetition and drop-out, average distance from home to school for first graders, and availability of textbooks and instructional materials, number of teachers, class size and student-teacher ratio and a description of the school facility, including number of classrooms, and availability of water and latrines.

2. Teacher Interview Protocol

This protocol will collect data on such issues as teacher qualifications, attendance, teacher-community rapport, level of career satisfaction, and perceptions about the causes and possible solutions for first grade dropout.

3. Parent Interview Protocol

This protocol will collect data on level of education, family socioeconomic status, parent attitudes toward schooling, their familiarity with the activities of their children's school, family factors constraining student participation in school, particularly first grade, and perceived consequences for their child from repetition or dropout. The protocol will also collect data on criteria parents use in judging school success, and their perception of their

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school's performance on those criteria, parent's attitude toward schooling in general and their local school in particular, and their assessment of their children's teachers and the headteacher.

4. Community Leader Interview Protocol

Community leaders will be identified through the interviews with parents and school personnel. The interview with these individuals will collect data on the quality of school-community relationships, how those relationships are expressed, and community perceptions of the first grade teacher. Participants will also be asked to provide background information about the community--primary means of income generation, etc. Data will also be collected on the extent to which the community provides the primary school with direct financial support, indirect financial support and non-monetary support.

Data from these interviews and statistical summaries will be compiled to produce twenty Community-School Profiles. Each will describe the community dynamics that shape pupil persistence and progression and each will be organized in five sections: school factors, teacher factors, parent factors, community factors and statistical overview.

Following the interview phase of the study, focus group discussions will be conducted with parents, teachers and community leaders. Focus groups are structured small-group discussions which probe for underlying reasons for action, attitudes, and behavior patterns of participants. Each group is directed by a discussion leader from the research team and lasts approximately two hours. The discussion is recorded, transcribed, and the transcriptions analyzed using content analysis procedures. In this study, focus groups will be used to (1) explore the underlying reasons for patterns of community-school interaction identified in the interviews and (2) elicit participants' views on what actions schools, communities, and the MOEC might take to reduce first grade repetition and attrition. The analysis of the focus group data will provide a picture of how community members understand the problem of student flow and identify possible solutions as viewed by those closest to the problem.

Sample

Schools for the interview portion of the study will be sampled within the major three geographical regions of Nepal: Hill, Terai, and Mountains. Since the major population of Nepal resides in the Terai, a larger number of schools will be selected from this region. This sampling framework will help ensure the inclusion of sub-groups which may hold substantially different perceptions and solutions to the issues of repetition and dropout. The sample is illustrated below:

<u>Region:</u>	<u>Number of Schools:</u>	
	High Rates	Low Rates
Hill	3	3
Terai	4	4
Mountain	<u>3</u>	<u>3</u>
	10	10
Total Number of Schools: 20		

Based on the results of the interviews, 4-6 school locations will be selected for focus group discussions (2-3 from the high repetition/attrition group and 2-3 from the low group). Communities within each group that place the highest value on schooling will be selected for this phase of the study. Within the communities selected for inclusion in this phase of the study, separate focus groups will be conducted with teachers, parents of first grade students, and community leaders.

Data Analysis

Interviews will be conducted using a structured format, which ensures that respondents (within each group) address the same issues. Data from the interviews will be analyzed using content analysis, in which major themes are identified and the frequency with which different views are held are determined. Results of the separate sets of interviews will be integrated in the form of School-Community Profiles, case studies of each of the communities. Additionally, findings from the interviews will be used to develop the protocol that will guide the focus group discussions.

Recordings of the focus group discussions will be transcribed, translated (as necessary), and content-analyzed. Results will be examined across groups (1) within each community and (2) within groups across communities (e.g., all parents, all teachers, all community leaders). Focus group findings will be combined with results of the interview study within the framework of the School-Community Profiles.

Anticipated Outputs of the Research

Four outputs are expected from this research:

1. Quarterly progress reports to be submitted to the EMIS Steering Committee Chairman and Technical Committee.
2. A written report summarizing the study design and findings that is suitable for publication as an MOEC and IEES research report.
3. A seminar for senior education leaders and MOEC personnel which report the findings and examine the implications for policy and practice.
4. A manuscript suitable for publication in a relevant international journal that summarizes findings of this study and the implication of those findings for improving educational efficiency in other countries.

Anticipated Benefits of the Research

The anticipated benefits of this research activity are, first, that the Ministry will have a better understanding of the community level dynamics that might contribute to improving student flow. Second, the design offers a model for policy research that the MOEC can use to investigate the impact of interventions aimed at solving other issues in educational quality and efficiency. Third, participation in the study will help build research capacity within the MOEC.

Within the IEES project, this research will be directed by Howard Williams, the IEES Resident Technical Advisor to Nepal. He will have primary responsibility for the design, implementation, and analysis of data and for reporting study results.

Figure 1

Possible Factors to Examine in Parent, School, and Community Interviews

Parent Factors

- parent education; intergenerational pressures in support of schooling
- socioeconomic status
- parent attitudes toward schooling (in general)
- parent attitudes toward their local school (in particular)
- criteria parents use in judging success of schooling for their children
- parents assessment of their local school in those criteria
- parental assessment of school quality
- parent-headteacher relationships
- parent perceptions of constraints on first-grade attendance (for their child)
- parent perceptions of the consequences of student dropout for their child
- parent perceptions of the consequences of grade repetition for their child
- family factors constraining student participation, progression, and retention in primary school

School Factors

- level of first grade repetition
- level of first grade dropout
- school availability
 - average distance from home to school
- teacher qualifications
- teacher attendance
- teacher-pupil ratio
- availability of textbooks and instructional materials
- utilization of textbooks and instructional materials that are available
- availability of interventions aimed at reducing first grade repetition and dropout
- amount of instructional time per week
- teacher perceptions of causes of first grade repetition and dropout
- adequacy of facilities

Community Factors

- economic indicators of community
- primary means of income generation
- community-school relationships
 - ways that relationship is expressed
- community support of the primary school
 - direct financial support,
 - indirect financial support,
 - non-monetary support
- community-school relationships
 - ways that relationship is expressed
- community perceptions of first grade teacher

4.0 BUDGET FOR IEES PROJECT YEAR EIGHT

IEES BUDGET ESTIMATE

Project Year 3

FY 1992

PROJECT DELIVERABLE COMPONENTS	Indonesia	Botswana	Nepal	Guinea	Haiti	Namibia	Deliverable Line Totals
I. Policy and Planning							
Resident Technical Advisers	-	-	-	-	-	-	0
Short-term Tech Assistance*	48,000	24,000	18,000	-	36,000	-	126,000
Local Program Costs (@ 15% RTA+STA)**	7,200	3,600	2,700	0	5,400	0	18,900
Other Direct Costs (@ 10% RTA+STA)***	4,800	2,400	1,800	0	3,600	0	12,600
Subtotal	60,000	30,000	22,500	0	45,000	0	157,500
II. Knowledge Building							
Resident Technical Advisers	-	-	-	-	-	-	0
Short-term Tech Assistance*	45,000	30,000	42,000	18,000	-	18,000	153,000
Local Program Costs (@ 15% RTA+STA)**	6,750	4,500	6,300	2,700	0	2,700	22,950
Other Direct Costs (@ 10% RTA+STA)***	4,500	3,000	4,200	1,800	0	1,800	15,300
Subtotal	56,250	37,500	52,500	22,500	0	22,500	191,250
III. Education Management							
Resident Technical Advisers	-	125,000	120,000	-	-	-	245,000
Short-term Tech Assistance*	80,000	44,000	-	-	-	-	124,000
Local Program Costs (@ 15% RTA+STA)**	12,000	25,350	18,000	0	0	0	55,350
Other Direct Costs (@ 10% RTA+STA)***	8,000	16,900	12,000	0	0	0	36,900
Subtotal	100,000	211,250	150,000	0	0	0	461,250
COUNTRY SUBTOTALS	216,250	278,750	225,000	22,500	45,000	22,500	810,000
<p>* Includes person months calculated at the rate of \$18,000/month. One person month includes 22 days @ \$250/day, plus fringes, international travel, and overhead @ 21%.</p> <p>** Represents the average of local support costs, including personnel, transportation, facilities, and equipment for program seminars, etc.</p> <p>*** Represents the average of headquarters support costs, including coordination, communications, insurance, printing, consumable supplies, etc.</p>							
IV. Dissemination/Networking							
Project Newsletter							25,000
Research Publications							32,000
Cooperative Dissemination							23,500
Regional/International Conf							80,000
Subtotal							160,500
V. Project Management							
External Evaluation							70,000
ANNUAL GRAND TOTAL							1,250,500

APPENDIX A
SEMI-ANNUAL PROGRESS MEMORANDUM
JULY 1990–JANUARY 1991

MEMORANDUM

TO: Richard Pelczar, AID/W S&T/Ed
FROM: Robert Morgan, IEES/FSU
DATE: January 10, 1991
SUBJECT: Semiannual Summary of IEES Progress

This memorandum provides a summary of the progress made by the Improving the Efficiency of Educational Systems (IEES) Project from July 1990 to January 1991. IEES plans are contained in the document, *IEES Plans for Project Year Seven*. Complete details of project achievements are contained in the field reports and centrally-prepared documents submitted during this period.

Botswana Central IEES Activities

A. Summary of Activities

Activity	Date	Personnel	Impact
1. EMIS/EASE Training	ongoing	S. Burchfield	Development of efficiency indicator tracking system, training in Planning, Busarries, and DNFE
2. Policy Adjustment: National Development Plan Seven	ongoing	S. Burchfield	Completion of NDP7 in 1/91; parliamentary approval scheduled for 7/91; best utilization of resources for educational investment
3. School-based Research	ongoing	S. Burchfield D. Chapman	Research findings as input for policy making

B. Summary of Progress

IEES Resident Technical Advisor (RTA) in Botswana, Shirley Burchfield, met with IEES project management in 10/90 and updated country plans for central activities. These plans were approved and form the framework for IEES central assistance which focuses on the three areas of (1) Policy Adjustment, (2) Research for Policy Guidance, and (3) Development of an education efficiency indicator tracking system. During this reporting period, the database analyses were completed for the National Development Plan Seven (NDP7) with recommendations for allocation and management of MOE resources. NDP7 has now been formally submitted to the Government of Botswana (GOP) and approval is expected in 7/91. IEES inputs to the development of the Education Chapter of NDP7 were critical in its development and in focusing support on efficiency issues.

IEES RTA Burchfield coordinates monthly meetings of a MOE Database Managers Group, which has proven effective in supporting the institutional development of the EMIS/EASE system. In addition, a Policy Advisory Committee, chaired by the Permanent Secretary, has been organized and also meets monthly with Burchfield to provide guidance for the EMIS/EASE at the top decisionmaking level of the ministry. By building support for the

system at the implementation level, while simultaneously organizing guidance at the decisionmaking level, IEES has managed to avoid many of the organizational problems often associated with creating effective information systems.

IEES RTA Burchfield coordinates IEES school-based research inputs, which leverage the resource investments of IEES, JSEIP, and MOE. This effort, which is overseen by IEES Research Director David Chapman, produced two final research reports during this report period and continues to undertake an ambitious research effort to determine which classroom inputs and processes result in the most effective learning outcomes in Botswana classrooms.

Botswana: Junior Secondary Education Improvement Project (JSEIP)

A. Summary of Activities

Activity	Date	Personnel	Impact
1. <i>Development and systemization of the instructional system</i>	ongoing		Improved quality of curriculum, instructional materials and assessment
Assistance with the formative evaluation of Science curricular materials	5/11–7/13/90	E. Burkman	
Curriculum and Materials Design, Teacher Training for Art	5/31–12/31/91	L. Ives	
Assist Social Studies Curriculum Development Unit and Secondary Education Officers in reviewing and editing drafts of new Social Studies Texts	6/9–8/31/90	J. Lundstrum	
Design and Development of Design and Technology Curriculum	8/6–9/31/90	J. Robb	
2. <i>Development of the preservice and inservice teacher education system (policies and activities)</i>	ongoing		MCE institutional development, capacity development, JSE instructional staff capacity development
Planning of short and long-term training programs with Principle of Molepolole College of Education, Dean of Faculty of Education of University of Botswana, Secondary Art Education Officer, and Curriculum Development Officer of Art	7/14–8/14/90	G. Draper	

Development of a Guidance Training Model for use in Inservice Education of Guidance Practitioners	7/08/-8/22/90	S. Rollin	
3. <i>Development of administrative and management policies for the instructional system</i>	ongoing		Staff development, JSE organizational development
Planning for Policy and Organizational Development of MOE	7/2-8/15/90	J. Nagel	
Assist in Review and Restructure of Procedures of Student Assessment and Examination	7/2-15/90	A. Nitko	
Development of Computerized Curriculum Database	2/8-4/16/91	J. DuPlessis	

B. Summary of Progress

JSEIP's impact on education in Botswana has been targeted in five areas: curriculum development, preservice teacher training, inservice teacher and administrator training, research, and planning. Significant progress in these areas has been made during this reporting period:

- 51 person-years of resident technical assistance has now been provided, resulting in a strong and viable Junior Secondary Education system now in operation
- 2,300 person months of short-term training has been completed; as a result, MOE capacity has been greatly increased and now requires a much lower level of technical assistance
- 26 Masters degrees have been completed by Botswana MOE staff (28 expected by end of 1991), raising the professional performance of MOE staff
- \$1.2 million (US) of commodities have been provided, including instructional materials, computers, furniture, vehicles, equipment and books
- 5 of the planned 8 Regional Education Centres have been constructed, as well as the central Curriculum, Development, and Evaluation (CD&E) building
- 58 person months of short-term technical assistance (70 local and foreign advisors) have been provided, with decreasing need as local capacity has developed

During this report period, the JSEIP Project was extended through 12/91. A follow-on project, Basic Education Consolidation (BEC), has been identified and approved by AID.

JSEIP's accomplishments have been recognized in many areas. By the end of this reporting period, the new English and Setswana curricula were fully developed and organized. Significant progress has been made in Science, Social Studies, Design and Technology, and Art. These innovative and thoroughly tested curricula will reach completion in 1992 and 1993. JSEIP support for preservice and inservice teacher training has resulted in the development, field-testing, and training necessary for the successful development of these new national curricula.

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JSEIP has assisted the MOE in developing the CD&E from a small unit and staff to a functioning department with a modern building, curriculum library, research and testing center. CD&E now has the demonstrated ability to develop, manage, and support the instructional component of the educational system. Five organizational studies of CD&E have analyzed the organizational dynamics, constraints, and opportunities in the curricular system, explicated regulations and policies regarding curriculum development, and recommended policies and procedures for improving testing and examinations.

JSEIP has sponsored three Community Consultation Conferences which generated direct interaction between central agencies and local communities about critical educational problems. To focus the discussion of the varied participants, these conferences were structured around the main topics of "curriculum, communication, and education and work." This approach was effective in capturing the main issues affecting the development of curriculum and building strong support for improved instruction.

JSEIP has also provided major instructional and catalytic leadership for the National Teacher Training College for Junior Secondary Education (Molepolole). This leadership has been provided through the work of two resident technical advisors at the college and many short-term advisors. These advisors have served as administrators, curriculum developers, teachers, supervisors, workshop coordinators, and laboratory designers. Teacher and administrator inservice workshops have focused on developing the instructional capability of teachers and on institutionalizing the inservice role of MOE Field Education Officers.

A school-based research program was initiated by JSEIP and is now also supported by central IEES resources (as described above). This program provides observations analyses of teacher-student behaviors, affect, and performance as a knowledge base for policy and curriculum development. Debated policy and practice changes can now be tested against this research database to ascertain probable outcomes. This research thus contributes to investment choices for maximum program and instructional outcomes. The first research volume from this effort, *Curriculum in the Classroom*, was published by Macmillan Botswana during this reporting period.

An evaluation of JSEIP was conducted for USAID in August 1990. The evaluation concluded that the project had achieved significant success in the development of CD&E and the Molepolole College of Education. Based on this evaluation and its perception of JSEIP accomplishments, the MOE has directed that the BEC follow-on to JSEIP maintain consistency both in philosophy and personnel.

Guinea

A. Summary of Activities

Activity	Date	Personnel	Impact
RTA Preparation	2/27 – 3/27	J. Dubey	Improved capacity for administrative and financial management
IEES Planning	TBA	TBA	
Backstop for Central Office	April	TBA	
Resident Technical Advisor Recruitment	May	TBA	

B. Summary of Progress

Following the Education Sector Review and the PAAD preparation in May 1990, activities in Guinea have focused on preparation for the IEES role in delivering technical support to the government as part of an overall strategy of educational reform. Guinea's educational system is suffering the consequences of twenty-five years of mismanagement, underfunding and neglect. Primary school enrollment rates (approximately 28 percent of the age

cohort) are among the lowest in the world. The quality of instruction provided in the schools is almost uniformly poor, and administrative controls within the system are either weak or non-existent.

In response to these problems the government has promulgated a National Education Policy that calls for a concerted effort to restructure, expand, and improve Guinea's educational system. The policy has been operationalized in the Programme d'Ajustement Sectoriel de l'Education (PASE), which comprises a series of administrative and policy reforms intended to lay the groundwork for subsequent expansion of enrollments and improvements in quality in the system.

HAITI

A. Summary of Activities

Activity	Date	Personnel	Impact
Management Support	7/08 – 7/13	J. McLanahan	Management Assistant for the efficiency of IIBE operations
Preprimary Component	7/10–7/18	M. Pigozzi	Support to 60,000 primary school students or 10% of private primary schools through provision of educational materials and school supplies
PEP Computer – Database	7/13 – 7/20	M. Johnson	Analysis of IIBE data
Evaluation and Analysis	7/14 – 7/22	S. Madhere	Determination of most effective means of school support through quantitative and qualitative evaluation
Project Assessment	7/18 – 7/25	P. Easton	Assessment of project performance
Computer Software Evaluation and Training	7/22 – 7/28	A. Cresswell	Ongoing capacity building
IIBE Coordination	8/05 – 8/10	K. Tietjen	Coordination for effective project management
Management Support	8/21 – 8/29	J. McLanahan	Ongoing management support
IIBE Coordination	9/05 – 9/12	K. Tietjen	Ongoing
Management Support	9/26 – 10/03	J. McLanahan	Ongoing
PEP Computer – Database	10/6 – 10/14	M. Johnson	Analysis of IIBE data
Evaluation and Analysis	10/07 – 10/14	S. Madhere	Quantitative and qualitative analysis
Preprimary Component	10/11 – 10/16	M. Pigozzi	Ongoing
IIBE Coordination	10/28 – 11/01	K. Tietjen	Ongoing
Management Support	11/06 – 11/14	J. McLanahan	Ongoing
IIBE Coordination	11/11 – 11/16	K. Tietjen	Ongoing

Preprimary Component	12/26 – 12/02	M. Pigozzi	Ongoing
PEP Computer – Database	11/26 – 12/03	M. Johnson	Ongoing
Educational Finance Research	12/02 – 12/05	S. Fass	Recommendations for school finance
IIBE Coordination	12/02 – 12/11	K. Tietjen	Ongoing
Management Support	12/08 – 12/14	J. McLanahan	Ongoing
Preprimary Component	1/06 – 1/11	M. Pigozzi	Ongoing
PEP Computer – Database	1/06 – 1/11	M. Johnson	Ongoing
IIBE Coordination	1/06 – 1/18	K. Tietjen	Ongoing
Data Analysis	1/20 – 1/26	S. Madhere	Ongoing
Chief-of-Party Placement	3/14	C. Tesar	New COP
Research Review and Analysis	3/18 – 4/05	K. Tietjen	Lessons learned from IIBE research
Educational Finance Research	3/19 – 3/23	S. Fass	Recommendations for school finance
Management Support	3/17 – 3/21	J. McLanahan	Ongoing
Management Support	3/26 – 3/27	R. Morgan	Ongoing
Preprimary Component	4/07 – 4/13	M. Pigozzi	Ongoing

B. Summary of Progress

The major accomplishment of the IIBE Project in the period July 1990 - January 1991 was the continuation of a smooth and increased transfer of responsibility to the local Haitian institution, the FONHEP, during a time of great political uncertainty in Haiti and top executive personnel changes within IIBE. FONHEP is well ahead of schedule in assuming responsibility for the Project's school support component, due in part to the fact that it has escaped the problems associated with frequent government changes because it is firmly based in the private sector. Of greater significance are the important needs being met by the Project and the commitment of the Commission episcopale des ecoles catholiques (CEEC) and the Federation des ecoles protestantes c'Haiti (FEPH) to primary education in Haiti, in partnership with USAID and IEES.

In addition to the uncertain environment of political turmoil that prevailed during most of the period, the Project was faced with the tasks of recruiting both a new Chief-of-Party/Resident Technical Advisor and an FSU Coordinator, which were successfully completed without interrupting regular operations. Charles Tesar has assumed responsibility for activities in Haiti, and Joshua Muskin will soon begin coordinating the Project from FSU.

School support activities are proceeding as scheduled. Recent activities have focused on the development and refinement of programs designed to facilitate the monitoring of the PEP Project, and the dissemination of instructional materials. In particular, three workbooks and new video equipment were field-tested, while experimentation began with the use of audio cassette for data collection in rural zones. Also, descriptive documents

of three PEP models were completed and five PEP reports reviewed, with the aim of providing feedback for the improvement of final reports.

The Policy Research component continues its progress toward the development of an integrated and consolidated database for longitudinal study, which will enable analyses to yield more conclusive findings on Project outcomes. Current efforts toward that end include data entry of all information collected during the school year 1990, analyses that compare financial data with academic outcomes, and the refining of computing procedures for the assessment of student achievement and analysis of school background data. Preliminary results from the latest analyses only confirms the trends that have emerged in earlier work: there are several converging indicators of the positive impact of the IIBE Project on student achievement; however, the size of this impact is not equally significant for all grade levels and all instructional subjects.

Qualitative research is also an important element of the Policy Research component. The qualitative evaluation plan for 1991 is now complete. The first FONHEP qualitative studies have been critically analyzed so that the abstracted findings can be used to strengthen FONHEP capacities. Both quantitative and qualitative methodologies have already proven to be useful in the formulation and refining of strategies and tactics used by the Project to achieve its goals.

INDONESIA

A. Summary of Activities

Activity	Date	Personnel	Impact
<i>Teacher Education</i>			
a. Improving Primary School Quality Through Upgrading Project Development Workshop	(3/90: prior report period)	D. Nielsen	Development of an evaluation design for a teacher quality improvement system
b. Monitoring and Evaluation of the D11 Program for Primary School Teachers	8/25 – 9/1/90	D. Nielsen	Development of a monitoring and evaluation framework
<i>Educational Efficiency & Market Signals</i>			
Education and the Economy: 25-year Planning	10/30 – 11/22/90	W. McMahon	Development and analyses for the preliminary of Indonesia's 25-year Plan
<i>Cultural/Social Changes in Education</i>			
25-year Planning	6/2 – 7/25/90	D. Adams	Conceptualization of an integrated set of 4 analytic and research papers for the Indonesian long-range planning team developing the national 25-year plan
<i>Quality & Efficiency of Voc/Tec Education</i>			
a. Survey of Employers of Secondary School Graduates	10/18 – 12/12/90	J.Strudwick	Provision of data for Balitbang Dikbud to address educational efficiency issues related to the transition from Education to Employer.:

b. Longitudinal Study
Follow-up and Data
Analysis Results Seminar

<i>Curriculum Development</i> Ongoing search for candidates to form a curriculum reform team	6-12/90	staff	
<i>Country Implementation Plan Preparation</i>	6/1 -6/27/90	J. Bock	IEES, Balitbang, USAID Mission and S&T agreement on best utilization of project resources 1990-1992
<i>Directors Review Meeting</i>	11/11 - 20/90	J. Bock	Presentation and Review of IEES accomplish- ments in Indonesia
<i>Knowledge Building</i>			
1. Quality of Basic Education (QBE)			
a. QBE preliminary analysis in SUNYA	9/1-15/90	F. Kemmerer M. Green	Analysis of QBE data set to provide com- prehensive basis for investigating those factors most influence on educational effectiveness and efficiency
b. Presentation of analyses of QBE study	11/28 - 12/16	F. Kemmerer	Recommendations for efficiency and quality improvements
<i>Strengthening Local Education Capacity</i>			
a. Preliminary agreement for collaboration of IEES, Balitbang Dikbud and Planning Bureau research	7/15 -8/15/90	J. Bock	Improved planning for educational efficiency improvements
b. Exploration of decentralization activity between Balitbang Dikbud and Planning Bureau	1/7-31/91	J. Chiew	Tentative agreement with head of Balitbang Dikbud on research component of decentralization project
<i>In-country Management Indicators of Educational Efficiency</i>	6/1 - 28/90	J. Cobbe	Initial draft of "indicators" manual to guide the use of indicators for policy analysis s and planning at national, provincial and district levels
<i>Sector Review Workshop I</i>	1/11 - 28/90	F. Kemmerer T. Creswell	First of three workshops to train cadre of Indonesian educators to conduct a sector review.

B. Summary of Progress

Several activities designed to contribute to Indonesia's preparation for extending the six-year basic education cycle to nine years, as well as for planning the next twenty-five years of educational development, were conducted during this period.

The Improvement of Teacher Education activity was begun with a workshop by Dean Nielsen and resulted in a research design for monitoring and evaluating the D11 program for primary school teachers. Also, a strategy paper for national curriculum reform in Science and Math was completed by a team comprised of Gary Theisen, Jim Hughes and Paul Specter. This paper was presented at the National Planning Seminar (RAKERNAS) in July 1990 and is the basis for the design of an extensive curriculum reform activity by a team of three specialists over the next 18 months.

A planning meeting took place in November 1990 led by Don Adams and the Long Range Planning Team who together worked out a strategy of research papers which will contribute to the process of conceptualizing and organizing the twenty-five year planning activity for Indonesia.

The IEES Country Implementation Plan for Indonesia was developed during July 1990. This document, collaboratively developed by the MOEC, USAID/Jakarta and IEES, lays out the integrated set of activities and budget for the next eighteen months.

The three months prior to the suspension of activities (due to the travel advisory) were extremely productive in Indonesia.

SECTOR ASSESSMENT WORKSHOP SERIES. The Ministry of Education has made the significant policy decision to introduce the Sector Assessment methodology introduced by IEES in 1985 into their routine planning process. They have asked IEES to assist in adapting the methodology to Indonesia's own unique organizational characteristics and planning needs. This modified sector assessment approach will be:

- **Problem-Focused.** This first workshop series will concentrate upon basic education, particularly the extension of basic education to nine years (lower secondary).
- **Participatory.** The Sector Assessment Update that will result from these workshops will utilize largely Indonesian personnel. IEES consultants will serve primarily as trainers.
- **In-Depth.** The approach will not concentrate only at the national level, as did the original 1985 Sector Review. This workshop series will also explore the issue of Basic Education within three sample Provinces (and, if feasible, several Kabupaten).

The workshop series (the first of the planned three workshops was completed in January, 1991) is designed to produce the following outcomes:

- A cadre of Indonesian professionals at the national, provincial and Kabupaten level competent to conduct Sector Assessments in the future.
- A completed Sector Assessment update on Basic Education within the three sample provinces.
- A "hands on" training manual which will enable the Ministry of Education to train additional MOEC personnel to conduct sector assessments in other provinces and Kabupatens.

INDICATORS OF EDUCATIONAL EFFICIENCY. Building upon the work already done by Douglas Windham and Walter McMahon on Efficiency Indicators, Jim Cobbe, from Florida State University, has worked with Balitbang Dikbud staff to adapt this work to the specific organizational and policy context of Indonesia's educational system. Cobbe and Balitbang personnel have established the baseline data needs and designed the foundation for how these data will be fed, on a continuous basis into the Educational Management Information System. Also, they have produced an initial draft of a Manual which is intended to guide the use of these indicators for policy analysis. During his forthcoming consultancy to Indonesia, Cobbe will determine whether Balitbang staff is able to complete the development of this indicator system or whether it still requires further external technical assistance.

POLICY STUDY ON THE QUALITY OF BASIC EDUCATION. This extensive study was initiated as an EPP Special Study in 1986. During Year 7, IEES has invested some limited resources in attempting to reap some benefit from this potentially very valuable study and to move it to completion. Fran Kemmerer and Michael Green conducted intensive analysis of the QBE data set to determine its quality, its potential for providing answers to critical policy questions relating to quality of schooling and, equally as important, to determine whether IEES should invest further resources in this activity. In December 1990, Kemmerer and Green conducted a workshop in Indonesia to review the findings of their analysis with Balitbang Dikbud staff, to determine what further analyses of this data set might be desirable, and to assist in drafting a publication focusing of the profiles of the communities, schools, headmasters, teachers, families, and students in the study sample. At the conclusion of the workshop it was decided that a full analysis of the teacher and the cost data would be undertaken. A final report will then be issued which will include any recommendations for further more tightly targeted analysis of this data set.

In general, it is the view of the researchers that have worked with this data that it is potentially very rich and has not yet been fully mined for its valuable policy insights.

POLICY STUDY ON THE QUALITY AND EFFICIENCY OF VOCATIONAL-TECHNICAL (QEVT) EDUCATION. The principal components of this extensive policy research effort are:

- a critical review of the relevant policy issues in the voc-tec sub-sector
- a longitudinal study of the senior secondary school graduates
- a comprehensive senior secondary school quality survey
- a school costs and funding study
- a survey of graduates' employers
- a special study of the characteristics of graduates that are entering predetermined technology-related occupations or higher education tracks.

In addition, IEES and EPP are sponsoring a series of workshops to enhance the data analysis and research reporting skills of the Balitbang Dikbud staff associated with the QEVT study.

This policy study has already produced a number of significant policy working papers which have influenced policy decisions within the Department of Vocational and Technical Education as well as at the Annual Planning level.

EDUCATION FOR GROWTH AND EQUITY. The extensive body of policy research conducted by Walter McMahon since the inception of IEES in Indonesia has focused on the contribution which education and human resource development can make and on what can be done to increase its contribution to economic growth, including a wider participation of the population in the growth process. McMahon's current work is directed largely, although not exclusively, toward planing empirically based research relevant to the identification and refinement of 25 year planning goals. McMahon's body of work for IEES in Indonesia includes numerous policy working papers co-authored with Indonesian counterparts, all related to the topic of Economics of Education and, in particular, to the issue of rationalizing educational output as a function of labor market demand.

Namibia

A. Summary of Activities

Activity	Date	Personnel	Impact
Education Sector Review	11/24-1 2/15/90	R. Morgan D. Windham D. Evans	Identification of critical Sector needs
Education Sector Planning Conference	4/08 - 4/12/91	R. Morgan W. Snyder	

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U. Huh
A. Coleman
M. Mambo
P. Ramatsui
F. Leburu
R. Nesbit
E. Odotei
N. Johnson
F. Chung

B. Summary of Progress

The Namibia Education Sector Review yielded a thorough examination of all subsectors of the Namibian educational system, in terms of both achieving national goals and of maximizing allocative efficiency. A sharp focus on the critical issues of system performance was maintained throughout, with the major issues of education system management, external assistance to Namibia within each subsector, and policy and practice concerns being reviewed. Recommendations for improvements in each subsector, in collaboration with national decision-makers, were made in light of the analysis of equity and efficiency dimensions of basic education in Namibia, as well as the adequacy of the public resource base for education.

As a first step in achieving the goals formulated during the sector review process, a Learner-Centered Primary Education System Consultative Conference will be held in April 1991. With independence recently achieved in 1990, there is an immediate need to consolidate educational resources and develop a comprehensive and cohesive strategic plan for the development of these resources to best serve the education of Namibia's youth. The purpose of this workshop is to develop a "collective ministry perspective" on the various areas of reform in education in terms of both the organizational development of the Ministry of Education (to deliver quality education) and the technical aspects of mass education (to develop learner-centered education with equitable access and efficiency).

NEPAL

A. Summary of Activities

Although no IEES activities were conducted in Nepal during this period, project management remained in close contact with both mission and MOEC personnel.

For approximately six months beginning in the Spring of 1990, Nepal experienced considerable political and social unrest. Order returned later in the year with the adoption of a new constitution. It called for the reinstatement of a multi-party democracy and the scheduling of national parliamentary elections for May of this year. As a result of these developments, IEES has recently resumed work in Nepal, following a hiatus of twenty months.

Under IEES Phase I, an RTA (Barbara Butterworth) was assigned to the MOEC from February 1986 to June 1989. During that period a sustainable data collection and analysis capacity was developed within the Ministry's Planning Division. To expand such capacity and to bring it more directly to bear on the MOEC's planning activities, USAID/Nepal has "bought into" IEES II for the services of an RTA for another two years. Howard Williams, IEES' RTA designate, will begin work in Kathmandu in April 1991.

Following recent discussions with MOEC and USAID Mission officials in Nepal, it was agreed that the following activities would be initiated by Williams upon his arrival:

1. Reconstitution of a Steering Committee to discuss, formulate, and focus plans for all IEES assistance, including training and short-term TA.
2. Help in the preparation of an "educational brief" for use by the Additional Secretary in presenting the goals, programs, and projects of the MOEC to external audiences.

3. Assist staff of the National Educational Committee in the preparation of a ten-year plan representing MOEC goals and activities, as well as those of participating donors, notably AID, the World Bank, and the Asian Development Bank.

4. Continued assistance to the Planning Division's Manpower and Statistics Section in enhancing the latter's analytic capabilities, developing varied production formats, and streamlining data flows from regional and district offices. Such assistance will be focused on the annual collection of enrollment and achievement data and, perhaps more immediately, on the school mapping exercise currently sponsored by the World Bank's Primary Education Project (PEP).

Longer-term IEES activities will include:

1. Establishment of an Educational Management Information System (EMIS) Steering Committee along the lines recommended by the IEES study conducted by NEW ERA during Phase I.

2. Extension of EMIS training activities within MOEC to include regional, district, and school-level personnel.

3. Development of a set of efficiency indicators to strengthen the links between data collection and utilization in the Ministry and to pinpoint what additional data the MOEC is likely to require in the future.

4. Identify appropriate policy research topics and study designs to complement the World Bank funded expansion of the Primary Education Project as well as other MOEC initiatives.

Senegal

A. Summary of Activities

Activity	Date	Personnel	Impact
Education Sector Review	9/14 – 9/30/90	D. Kinsey J. Moulton K. Tietjen	Identification of Sector needs and planning for AID assistance

B. Summary of Progress

IEES provided a summary assessment and analysis, based on the successful collection, expansion and updating of descriptive material, of Senegal's priority education sector needs. USAID/Senegal had requested such an assessment for use in consideration of educational assistance for its five-year planning process.

Senegalese and USAID goals in the domains of agriculture, health, population and an active market economy depend upon the availability of Senegalese people with literacy, numeracy and other basic skills that are taught in primary school and nonformal education programs; therefore the focus of the assessment is on identifying and analyzing the problems most apparent in these programs.

Options suggested to USAID/Senegal for addressing these problems include:

(1) in primary schooling:

- cooperation with other donors in persuading and supporting the government to implement its 1984 reform measures;
- improvement of the quality of primary schooling through assistance to INEADE and other channels in the areas of in-service school director and teacher support and materials development; and
- direct assistance to school/community groups to enhance community support of primary schools and integration of schools into the community in order to improve the school's role as a provider of basic education to children in the community.

(2) in nonformal education:

- improvement of the capacity of nonformal education trainers and facilitators;
- support for NGOs that have grassroots-level educational programs; and
- development of materials for new literates in maternal languages.

(3) in girls' and women's education:

- support for increased access for girls to primary schools and nonformal education programs;
- adoption and promotion of nonformal education programs that have been proven effective for women's literacy training and basic education; and
- building adult education programs around early childhood concerns.

Central Project Activities

Plans for Project Year Seven. A detailed plan for IEES Project Year Seven (1990-91) was approved during this reporting period. A draft of this plan had been submitted during the previous reporting period.

IEES Travel Updates. Travel updates indicating personnel, task and time of all project assistance were provided twice during this reporting period to inform AID/W, project personnel, national educators and other assistance agencies in collaborating countries.

Quarterly Project Financial Reports. Two Quarterly Project Financial Reports were prepared and submitted during this reporting period.

Framework for Educational Indicators System. A framework for developing Educational Indicators Systems was developed by project management during this period. This draft framework has been widely circulated through both project and professional networks and has elicited much positive response. A review of this system is included in the Winter 1990-1991 *IEES Bulletin* and an expanded document will be discussed at the proposed national planning conference in Namibia in Spring 1991. Following that meeting, the document will be finalized and used as a planning document in collaborating countries.

Project Impact Monitoring System. Development of this system was begun 1989-90 and completed during this period. The system will provide regular monitoring and reporting of project impacts to complement the existing IEES Fiscal Monitoring System. The system is now under review and will be disseminated to project field staff for implementation during the next reporting period.

IEES Research Plan. Plans for IEES research were submitted as part of the *IEES Plan for Project Year Seven* and were approved during this reporting period.

IEES Bulletin. The Summer 1990 issue of the *Bulletin* was published during this period and focused on strategies and achievements of three IEES field project, IIBE in Haiti, EPP in Indonesia, and JSEIP in Botswana. The Winter 1990-1991 issue of the *Bulletin* was prepared during this period and is currently in production. This issue focuses on the strategy of private education support which has proven successful in Haiti and also reviews the development of the IEES Educational Indicators System. The Summer 1991 issue will focus on the strategies for building an efficient learner-centered educational system in independent Namibia.

Collaboration with S&T/Ed Project ABEL. IEES continued to work closely with Project ABEL during this report period:

- All IEES project documents were made available to ABEL.
- IEES participated in ABEL S&T/Ed Project Coordination meetings in Lome, Togo and in Washington, DC, during this reporting period. IEES experiences in networking and efficient dissemination of information are shared with ABEL project management.
- IEES supported the ABEL conference in Lome, Togo, and actively participated in the conference.

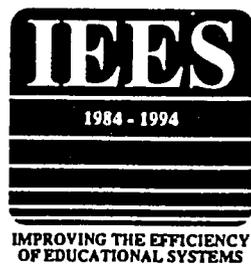
Plans for IEES International Conference. IEES submitted a plan to S&T/Ed for an International Conference during this reporting period. This plan was included as an appendix to *IEES Plan for Project Year Seven*. Final conference planning awaits Government of Botswana and USAID/Gaborone approval.

Attachments: 3

APPENDIX B
PROJECT IMPLEMENTATION MONITORING SYSTEMS
(PIMS)

IEES
PROJECT IMPLEMENTATION MONITORING SYSTEM (PIMS)

JUNE 1991



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1.0 COMPONENTS OF THE PROJECT IMPLEMENTATION MONITORING SYSTEM

1.1 Purpose

The purpose of the IEES Project Implementation Monitoring System (PIMS) is to provide project monitors, RTAs, and Country Coordinators with a framework for tracking those impacts on educational effectiveness and efficiency that are related to project inputs.

1.2 Design

In concept, the PIMS is based on the monograph, *Indicators of Educational Effectiveness and Efficiency*, by Douglas Windham (1990). The scope of the PIMS focuses on the *qualitative* aspect of IEES's indicator tracking system. The PIMS identifies the kinds of impacts that have occurred within the educational system throughout the life of the Project. The PIMS focuses on the qualitative aspects of impact on effectiveness without reference to size or quantity. The PIMS is not designed to *measure* efficiency *per se*. The end products of the PIMS are brief descriptive statements of effects (impacts) along the internal dimensions of effect set out in the monograph: attainment, achievement, attitude/behavior, and equity.

The main components of the PIMS are inputs, process indicators, and outputs. Specific data under each component category are collected according to the goals identified in the Country Implementation Report (CIR), which is prepared at the beginning of the five-year period and updated on an annual basis. The CIR is the major planning document that identifies and budgets all IEES inputs. It represents agreement between the Government, the Mission, and IEES management on areas of assistance to make internal improvements in sectoral efficiency.

All project-related effects are tracked on the basis of the CIR, the approved IEES annual plan, and the annual review of accomplishments across all countries.

The PIMS identifies and records Project inputs, proceeds to trace their effects on processes within the educational system at all levels, and ends with descriptive statements of output that can be attributed to the Project's inputs. Definitions and scopes of the major Project-related components are as follows:

- Inputs are specified in the Annual Country Implementation Reports include those Project-supported activities (e.g., consulting and other inputs) that affect the availability of resources to the classroom, school, or system;
- Process Indicators describe the interaction of IEES inputs that affect administrative behavior, and teacher and student time allocations;
- Outputs include effects on student attainment and achievement, attitudes and behaviors, and equity.

While Windham (1990, pp. 68-92) goes on to discuss external, post-schooling indicators of effect, the PIMS focuses internally on those changes made at the student, teacher, school, and system levels. Figure 1 on the next page represents the three major components of the PIMS (top row). Together, the components provide a framework for the collection of information required to determine the relationships between project inputs and their effects on subsequent policy and non-policy (regulatory) changes that result in favorable outputs. The left column of the chart indicates categories of Project inputs over five years. For example, the input-categories under the Knowledge-Building Component (# 2) include all the research inputs directly provided from IEES resources. The other components are also sub-divided into their respective data categories.

1.3 Project Inputs

The IEES Inputs Component is organized into four main categories: Policy and Planning, Knowledge Building, Education Management, and Dissemination/Networking.

1.3.1 Policy and Planning

The major Policy and Planning inputs are made in two categories: a.) Sector Assessments and Updates; and b.) initial negotiations and decisions on the nature and extent of IEES assistance over the life of the project.

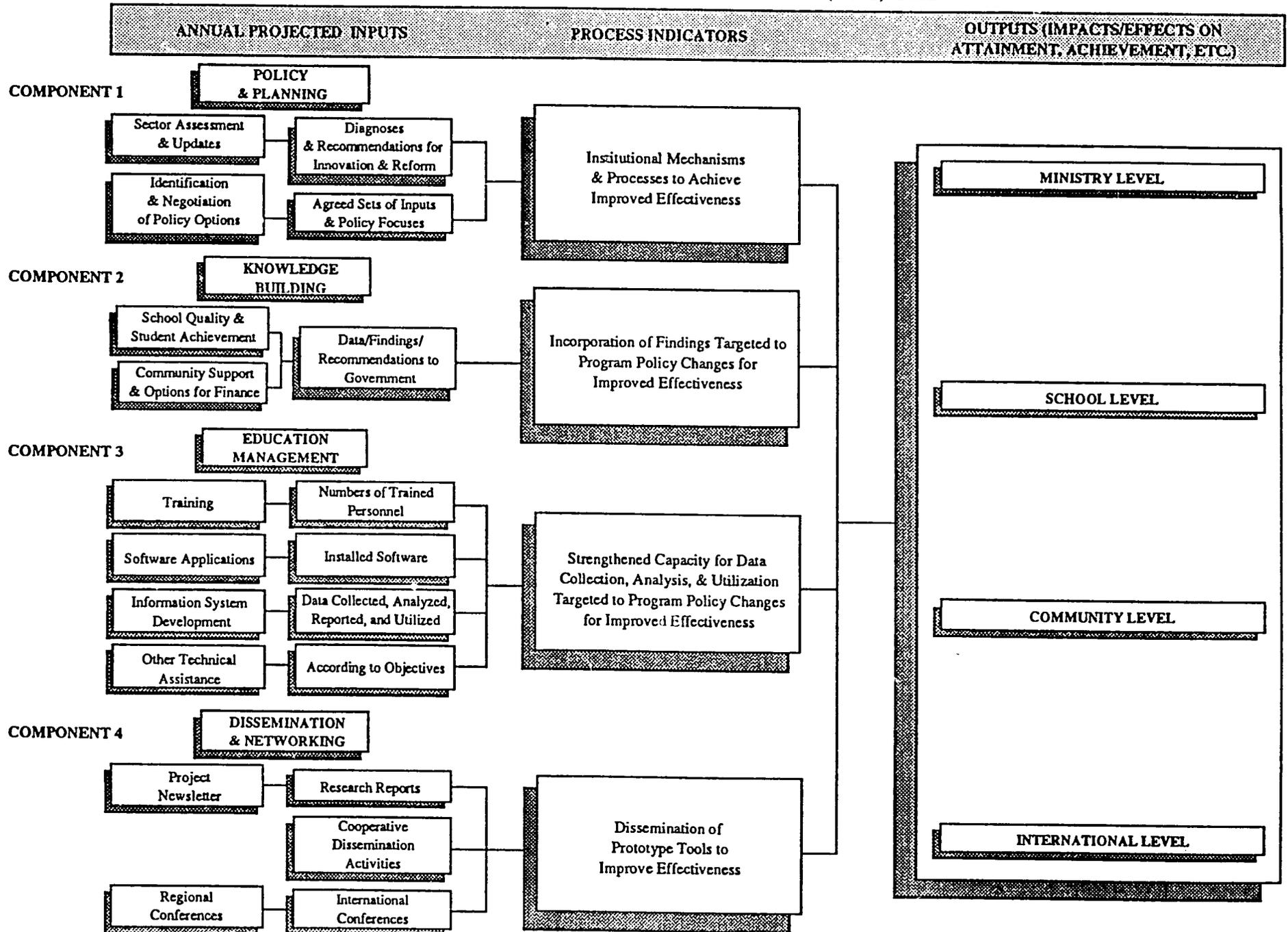
1.3.1.1 Sector Assessment and Updates. In the event sectoral or sub-sectoral studies are planned, particularly in new countries, assistance may be provided to conduct studies, diagnoses, and analyses for the generation of policy options.

Diagnoses and Recommendations for Improvement and Reform. Inputs for sector and subsector analyses will result in a set of diagnoses and recommendations for assistance efforts. These diagnoses and recommendations provide the context for all subsequent IEES inputs.

1.3.1.2 Initial Negotiations. Initial negotiations for IEES assistance include agreement on the basic areas of improvements in educational effectiveness. Effectiveness improvements and the policy adjustment objectives necessary to achieve them vary from country to country. These may be stated as specific objectives to achieve certain classroom-level impacts or as broader statements that define areas of reform system-wide. In either case, the improvements agreed upon determine the nature and quantity of IEES inputs.

Inputs for the development of policy options, sector and sub-sector assessments, and the CIR are determined once policy adjustment choices that will lead to improvements in effectiveness have been clarified and agreed to by all parties. As the first step in the input identification process, the clarification of policy and planning options provides a set of targets for structuring all other project inputs, namely, Knowledge Building and Education Management Information Systems.

FIGURE 1
PROJECT IMPACT MONITORING SYSTEM (PIMS) GRID



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Agreed Set of Outputs and Policy Focus. Initial policy negotiations will result in agreement between the Ministry, the Mission, and IEES on the process or mechanisms through which policy adjustment options are to be developed, e.g., councils, meetings, seminars, changes in position titles and duties, budget development, etc. This agreement is essential to the purpose of project assistance over the next five years.

1.3.2 Knowledge Building

IEES knowledge building inputs have two focuses:

1.3.2.1 Research on school quality and determinants of student learning achievement. This would involve classroom-based research inputs that are designed to generate data for the development of policy options.

1.3.2.2 Research on community support and finance of schooling. This would include inputs designed to study parental and other forms of community support that will lead to the development of options for system-wide policy adjustment.

Collectively, IEES-sponsored research results in data, findings, and/or recommendations for programming and policy dialogue.

1.3.3 Education Management

IEES inputs include a wide range of technical assistance designed to improve the management of information throughout the educational system, from initial generation and collection to analysis and presentation. Four areas of focus are:

1.3.3.1 Education Management Systems (EMIS) Training. Capacity building involves training in a variety of formats, from participant overseas training to specialized skill building workshops.

1.3.3.2 Software Applications. Adaptations of off-the-shelf software applications are part of EMIS development.

1.3.3.3 Information System Development. This includes major technical assistance for capacity building. Management information systems provide the channel through which data is organized, analyzed, and introduced into the policy dialogue.

1.3.3.4 Other Technical Assistance. As requested by the Mission and government.

In sum, the function of EMIS is to promote the use of accurate and timely information by decisionmakers at all levels. IEES assists with the establishment of the capacity to collect, analyze, and report information for program and policy review and development.

1.3.4 Dissemination and Networking

This aspect of IEES is concerned with analysis and preparation of research findings for wider distribution to members of the international development community, including bi- and multi-lateral donor agencies, ministries of education, and other interested organizations. Inputs in this area focus on:

1.3.4.1 Production and Distribution. Reports and research results are published and circulated.

1.3.4.2 Conferences and Workshops. IEES organizes conferences and specialized workshops at the national and international levels to disseminate lessons learned and to engage policy makers in discussions about the implications of findings.

Publication and circulation of research results and reports provide donors and ministries with a rich array of resources to use in the policy adjustment process. Participation in international conferences encourages the exchange of information, networking, and exploration of issues vital to the policy adjustment process.

1.4 Process Indicators

The relationship between inputs and outputs is not always direct or causal. Many internal process factors intervene to mediate the relationship. The PIMS is designed to trace these relationships by describing qualitative changes that occur within the institutional framework of the ministry and its divisions. These changes lead to positive impacts in schools and classrooms.

Process indicators are concerned with the nature and extent of institutional adoption of the innovations introduced by project activities. They describe the development of institutionalized mechanisms and processes necessary to achieve impacts on efficiency and learning. The descriptions are meant to highlight the linkages between project-assisted inputs and their impacts on school and community level policy adjustments (and the resource allocations necessary to implement them).

Examples of process indicator descriptions include organizational changes, progress toward decentralization, enhanced training, management information, and other capacity, and higher priority given to empirically derived information. The descriptions may be brief, anecdotal inferences that are drawn in the context of Project experience. The question of causality is not a concern. Of interest is the responses to IEES inputs that will be sustained within the framework of the Ministry's management of the education system.

Process indicators of EMIS impact can include both the following as well as other improvements in the system's capacity to increase access, efficiency, and effectiveness:

- Trained Personnel. This can be expressed in terms of numbers trained for specific tasks or jobs.
- Software (Type and Use).
- Data Collection, Analysis, and Presentation to decisionmakers.

1.5 Outputs

Outputs are defined as impacts on attainment, achievement, attitude/behavior, and access/equity. Over the life of IEES, many impacts will be realized; some of these may be unanticipated. The PIMS provides a means to identify and trace both anticipated and unanticipated impacts.

Impacts are concerned with effects on educational efficiency. IEES resources are directed toward impacts on four levels:

1.5.1 Ministry Level.

Impacts on internal educational efficiency and learning achievement entail either resource allocation changes or regulatory changes not requiring additional resources. The question of budgetary adjustments includes reprioritization from previous allocation patterns, such as a decision to forego expansion of pre-service teacher training in favor of the development of programmed learning materials.

1.5.2 School Level.

Impacts at the school level result from improvements that affect the classroom. Examples are teacher behaviors, instructional materials, curriculum changes, in- and pre-service teacher training, allocation of resources, teacher incentives, and other policy interventions.

1.5.3 Community Level.

Impacts at the community level result from support of schooling rendered by the community. Examples are innovations in community finance, parental involvement, support for teachers, improvements in school fee administration, and activities that encourage shared responsibility for schools.

1.5.4 International Level.

A major purpose of IEES is to disseminate research on efficiency improvements internationally. This could take the form of publications, reports, and other materials as well as participation in conference activities and networks. Impacts at this level would be achieved within the contexts of policy changes amongst donor agencies and amongst governments engaged in educational reform.

1.6 PIMS Implementation

The means for implementation of the PIMS involves an iterative exchange of information with the country coordinator as the central data collection point. The role of the country coordinator in the process is to brief the Chief-of-Party/RTA on the PIMS and to serve as the data collector/interviewer to complete the attached questionnaire on a quarterly basis. The information collected is then summarized and reported to the Deputy Project Director, who adds data on costs of each input to compile a project-wide summary to be included in the semi-annual progress reports sent to S&T/Ed.

1.6.1 Schedule of Implementation

1.6.1.1 Briefing Field Staff. Country Coordinators will distribute the written materials necessary for implementing PIMS to Chiefs-of-Party/RTAs by November 30, 1991. The initial briefing and first interview

between the country coordinator and the RTA will be completed by December 31, with summary reports submitted from the country coordinators to the Deputy Director by January 15, 1992. Completed project-wide summaries, including cost data, will be submitted to the Dissemination Specialist by February 1, 1991 with updates made semi-annually thereafter.

2.0 PROJECT IMPLEMENTATION MONITORING SYSTEM QUESTIONNAIRE

2.1 Purpose for Questionnaire

This questionnaire is designed as an interview guide for country coordinators to interview RTAs, Chiefs of Party, short-term technical assistants, and other field staff. Its format is developed from the PIMS Grid, which should be filled in with the information gathered from the interview in summary form. Since the roles of the interviewees vary, the questionnaire can be modified and adapted according to program status, situation, and job context.

2.2 Organization and Mechanics

Beginning with the inputs made and recorded in the left column of the grid, discussion should focus first on outputs achieved in each of the major input categories of Policy and Planning, Knowledge Building, Education Management, and Dissemination/Networking. Once these are reviewed, the interviewer records any changes in inputs and/or outputs that have occurred since the last reporting period. Attention then proceeds on to the sections titled Outcomes and Impacts. As the interviewer progresses toward the right side of the Grid, results and/or projections are recorded on the Grid or on separate sheets. Factors that influenced impacts in addition to IEES inputs, particularly at the policy level, should also be considered and noted.

2.2.1 Current Inputs

After reviewing the list of inputs made by IEES over the time period, are there any changes that occurred in terms of the level and nature of effort made in each of the four major categories? At the end of each input statement, please indicate the *approximate* percentage of time spent by the RTA on that input.

2.2.1.1 POLICY AND PLANNING

2.2.1.2 KNOWLEDGE BUILDING

2.2.1.3 EDUCATION MANAGEMENT

2.2.1.4 DISSEMINATION AND NETWORKING

2.3 Projected Inputs

Summarize briefly the inputs projected over the next quarter.

2.3.1 POLICY AND PLANNING

2.3.2 KNOWLEDGE BUILDING

2.3.3 POLICY AND PLANNING

2.3.4 DISSEMINATION AND NETWORKING

2.4 Process Indicators

What changes occurred in process indicators that can be attributed at least in part to the IEES inputs made during the period?

2.4.1 POLICY AND PLANNING

2.4.2 KNOWLEDGE BUILDING

2.4.3 EMIS

2.4.4 DISSEMINATION AND NETWORKING

2.5 Anticipated Process Indicator Changes

According to the list of projected inputs for the next period, what changes in process indicators do you anticipate over the short and long term?

2.5.1 POLICY AND PLANNING

2.5.2 KNOWLEDGE BUILDING

2.5.3 EMIS

2.5.4 DISSEMINATION AND NETWORKING

2.6 Outputs

This section of the questionnaire is intended to prompt for information on the institutional and classroom effects achieved by IEES over the long term. While it is recognized that factors in addition to immediate IEES inputs contribute toward changes made at the institutional level, a review of outputs will provide some indications of the qualitative changes that have occurred in conjunction with IEES inputs. The impacts/effects should be recorded according to four levels of possible impact: on the Ministry, on the Community, on the School, and on education internationally.

2.6.1 Listing of Impacts

Considering the process indicators covered above, what effects within the institutional context of the Ministry can you identify?

2.6.1.1 Capacity strengthened in what areas?

2.6.1.2 What improvements in organizational and institutional operating procedures would you attribute to IEES outputs?

2.6.1.3 What other changes in practice did IEES outputs contribute to?

2.6.1.4 What shifts in long term goals/priorities for education made by the Ministry can be linked to IEES?

2.6.1.5 What reasons can you cite for the shifts that have occurred?

2.6.1.6 What other impacts outside policy adjustments would you attribute to IEES (e.g., improvements in the efficiency of textbook distribution)?

2.7 Qualitative Assessment of Project Status

2.7.1 Purpose

This section addresses issues and problems that have arisen over the period. The purpose is to gain a sense of the perceptions of key figures in the Ministry, Mission, and others of the impact the Project has had.

2.7.2 Generally speaking, what were the reactions to and impressions of IEES work over the period for the following participants?

2.7.2.1 Ministry (Please identify those you work with most closely.):

2.7.2.2 Mission (Please identify those you work with most closely):

2.7.2.3 Your own impressions:

2.7.3 What kinds of impediments/problems were encountered in implementing IEES activities during the period?

2.7.3.1 What steps were taken to deal with them?

2.7.3.2 What additional support do you need at this point?

2.7.3.3 Attachments/Appendices.

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APPENDIX C

**COLLABORATE DESIGN OF
EDUCATIONAL INDICATOR SYSTEMS
IN DEVELOPING COUNTRIES**

Collaborative Design of Educational Indicator Systems
in Developing Countries:
An Interim Report on an IEES Project Initiative

I. INTRODUCTION

This document constitutes the draft of a monograph on the collaborative design of a set of indicator systems for monitoring trends in educational system performance in particular developing countries, self-selected from among those that are currently cooperating in the Improving the Efficiency of Educational Systems Project.

The design of educational indicator systems is presently a "hot topic" in both the industrial and developing worlds (Bottani & Delfau, 1990; Chapman, 1990; Odden, 1990; Windham, 1988a, 1988b) as it holds out the hope of rationalizing the macro-management of educational systems and directing attention to the real impediments to improved performance and greater equity.

IEES Project activities in this domain were born of some related concerns, though ones that changed form significantly in the course of implementation. Evaluation of the first five years of IEES Project activity suggested a number of positive effects, but also a need to better document project impacts and the evolution of the baseline situation and socio-economic environment of the educational systems in question. Project staff therefore decided to begin work on a prototype indicator system for tracking the overall state of the education systems in participating countries, in part as an ongoing and greatly simplified form of sector assessment.

Once the team responsible for this effort began to bring together current research and thinking on indicator systems with its own experience in educational data use in developing countries, it quickly became clear that an additional two dimensions would be needed: first, incorporation into the model of qualitative data on educational processes, habitually the weak point of indicator systems; and, second, major and structural provision for host country counterpart participation in indicator system design and data definition, as well as anticipation of considerable variance and country specificity in design characteristics.

In the rest of this paper, we briefly describe our conceptual analysis of educational indicator systems, the prototype model of primary education developed, and the process envisaged (and now underway) for host country elaboration and modification of the model. We will also discuss the potential for utilizing the indicator system both for in-country educational planning and staff training purposes.

II. CONCEPTUAL ANALYSIS OF EDUCATIONAL INDICATOR SYSTEMS

A. The Nature of Indicators and Indicator Systems

Recently there has appeared an increasing amount of literature about indicators for educational systems, provoked by concern with educational accountability in this country and spearheaded by the OECD Indicators Project in the rest of the industrialized world, as well as by donors' attempts to improve educational management and soften the blow of diminished educational resources in less-developed countries (LDCs).

There is no uniform definition of the notion of an "indicator," however. Chapman (1990, p. 229) terms indicators "proxies used to represent the underlying reality of a system or program" and notes that they are necessarily an "oversimplification" of this reality. Cobbe (1989, p. 3) makes a distinction in his monograph between raw data, statistics and indicators, noting that the latter "should permit immediate -- or nearly immediate -- inferences about the performance of the [educational] system from the point of view of the objectives of the system."

Oakes (1986) defines an educational indicator as "a statistic about the educational system that reveals something about its performance or health"; and Smith (1988) further suggests that it "either assesses or is related to a desired outcome of the education system or describes a core feature of that system." Odden (1990, p. 24) points out that an "indicator system" is considerably more than a single indicator or statistic. It should provide measures of various components of the educational system as well as information about how those components work together to produce the condition of the system and changes in the condition of the system over time.

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

Such an approach seems unnecessarily restrictive, however. The essential notion is simply that of particularly meaningful data that point to and describe a significant characteristic of the educational system. In some cases, a single type of data may do this (Nuttall [1990] calls these "primary indicators"); in other cases, more processed composites of raw data or statistics may be used ("secondary indicators," in Nuttall's parlance). In all cases, commentators tend to emphasize the fact that, as Bottani (1990, p. 337) puts it, "indicators do not explain; they only point." Some additional resources must be called upon in order to *interpret* the data that an indicator system produces.

B. What is Worth Indicating?

If indicator systems only point, what are we pointing at? From a generic and "rational" point of view, the underlying concern in indicator system development seems to lie with discovering whether and how -- or "to what degree" and "in what way" -- the educational system is accomplishing its goals. Since those goals will generally be quite country-specific, and given that there is often considerable debate within a country as to what those goals ought to be, it follows that indicator systems may also need to be quite idiosyncratic and subject to modification, a tendency tempered only by some measure of concern with consistency and comparison over space and time.

At the same time, it is evident that the IEES Project, like other multinational endeavors of donor agencies, is predicated on the notion that there are some universal criteria of educational system performance, related in particular to issues of efficiency and quality. How universal are these criteria and how much uniformity can or should they lend to a multinational indicators project?

Educational Efficiency: Efficiency in the delivery of educational services is a central concern of the IEES Project. It is the Project's "middle name." A good deal of conceptual work has been done on the topic under the aegis of the project, particularly the substantial monographs by Windham (1988a, 1988b). Much of that analysis is implicitly adopted here. At the same time, we feel constrained to note that injunctions to maximize the ratio of educational outputs or outcomes to educational inputs frequently glaze over three fundamental issues:

First, technically speaking, *the concept of efficiency is only meaningful if you correctly specify (and measure) the outputs or outcomes in question.* Desired educational outputs and outcomes are not simple, and they may vary significantly from one country or region to another. They may involve affective as well as cognitive results, group as well as individual effects, and distributional as well as summational considerations. Policy makers may in reality be trying to maximize an entire vector or set of outcomes -- Windham refers to it as the outcome "mix", -- including (conceivably) the *desideratum* that the relative position of one group improve relative to that of another. Issues like these are often circumvented by imposing at the outset a conventional series of objectives and desired outcomes -- generally those in vogue with major donors.

Second, *efficiency is a ratio, not an absolute magnitude.* Applying the perfect competition and general equilibrium

postulates of neoclassical economics, it is generally assumed that efficient methods that are applicable at one resource level are generalizable across others as well. This may not be true; and, if not, the reasoning is in serious trouble. Also, for related reasons, as Cobbe (1989) points out, an efficiency criterion can be substantively ambiguous, particularly if a short-term view is adopted. For example, cutting inputs by one-half might "mathematically" improve efficiency in short-run perspective, yet have ruinous longer-term effects.

Third, *educational systems need to be efficient both in generating AND in expending resources*, and these two objectives are not always perfectly compatible. A system which produces less outputs per unit of input but manages to generate or elicit more input -- e.g., community or private financing -- may be better adapted to accomplishing national objectives than a more "efficient" one. In a sense, this point mirrors the economic distinction between technical and allocative efficiency, since the latter takes account of the relative prices of inputs and outputs and therefore the valuation that (public or private) consumers place on educational system performance.

Overall, Windham suggests that "the efficiency concept is a neutral device" (1988, p. 9), but that only holds under one of two very restrictive conditions: (1) if the term is given no content, in which case it is operationally useless; or (2) if there is substantial agreement among all stakeholders concerning the objectives or the "outputs" that are being maximized. To make the concept operational, some set of objectives or desired outputs must be specified; and the question then immediately becomes "Whose objectives? Desired by whom?"

Educational Quality: Fuller (1988) chronicles four different phases in the definition of educational "quality" -- from an initial stress on the mix of material outputs, through a period of increased emphasis on the importance of individual abilities and perceptions, to a phase of growing awareness of the centrality of cultural and social patterns that shape school process, and on to more recent awareness of the non-school-related and political objectives that "educational quality" campaigns may fulfill. Cobbe (1988, p. 3) identifies educational quality with the "value added" by the system, though this makes it nearly synonymous with the efficiency concepts discussed above.

Easton and Cayhana's paper on the efficiency and quality of technical education in Indonesia (Easton & Cayhana, 1989, pp. 3-4) notes two main tendencies in efforts to operationalize the notion of educational quality:

On the one hand, quality is defined as embodiment or approximation of characteristics that are socially accepted as

proof of excellence. Thus, if all teachers in an academic secondary school have Master's degrees, the group will be considered a high quality staff. On the other hand, quality is defined as proven ability to produce results -- in short, the argument that 'a tree is known by its fruits.'

Moreover, "educational quality" in the former sense is very often invoked in evaluations and policy studies for two reasons worth noting: first, as a substitute or proxy for efficiency measures, because genuine output data are so frequently unavailable; and second, because this open-ended concept is felt to capture more of the multiple and sometimes unquantifiable dimensions of educational outcomes than stricter input-output measures. Concern with educational quality therefore opens the door to the idea that other than quantitative data may need to be incorporated into an indicator system -- or used in tandem with it -- in order adequately to describe and analyze the current state of the educational system.

C. Specifying the Underlying Conceptual Model

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

We concur with the need to give some careful thought to the model of educational processes that underlies an indicator system. Most IEES studies and documents employ some form of a "CIPP" framework (in fact "CIPOO" insofar as the "product" is differentiated into "output" and "outcome"). The CIPP framework is not really a model in the sense meant above, however, but simply a set of categories (based albeit on a production function analogy) for thinking about educational processes. The question remains, "What kinds of 'inputs,' 'processes,' 'outputs' and 'outcomes' will be put in the model?" and "Who will make the decision?"

D. Choosing Indicators: Criteria and Methods

The next step is choosing the specific indicators to be tracked. We feel that the choice should be made by both

conceptual and practical criteria. Before discussing those criteria, however, there is a prior question concerning the "population" of possible indicators *from which* the choice will be made. In order to avoid overly or artificially constraining that initial set (and therefore all the choices made from it), we decided to inventory a large number of potential indicators, cross-classifying them by conceptual category or cluster. The choice criteria were then to be applied to this stratified grouping.

Chapman (1990, p. 229) suggests that "the appropriateness of particular indicators is judged in terms of their fidelity with the underlying reality they represent, the extent to which the indicators are relevant and understandable by the data users, and the extent to which data on these indicators can be collected and analyzed in a cost-effective manner." We attempt to include these criteria and perspectives in the discussion below.

(1) *Conceptual Criteria*

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

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

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

On both grounds, we can use -- though advisedly -- some of the literature reviewed by Fuller (1986, 1987) and others that seeks to identify key factors in improving educational quality in LDC schools. Obviously research on the countries in question has the greatest face validity, but is frequently hard to come by.

2. Practical Criteria

Practical criteria to use in choosing indicators are essentially of two kinds: (1) data availability considerations, and (2) data quality considerations. They will be broached in that order.

Data availability considerations are relatively straightforward, but are nonetheless worth careful examination. From the point of view of a centrally-administered international project, one could establish a hierarchy from "more to less available" with gradations something like the following:

- (a) Available in easily accessed international publications.
- (b) Available in more remote international publications.
- (c) Available in easily-accessed international data bases.
- (d) Available in national publications easily accessed in-country.
- (e) Available in national publications requiring specially-authorized access in-country.
- (f) Available in international data bases requiring special search or access.
- (g) Available in national data bases requiring special search or access in-country.
- (h) Available in-country in dispersed or raw data form requiring considerable collection or collation effort.

The order and relevance of this scale is obviously different if one is situated at the national or regional level, and appropriate changes should be made. In any case, there is some implicit rank order of availability characterizing the different forms of data that one might want to include in an indicator system.

Note that the time period must also be specified in determining availability. Data for a given indicator may be fairly accessible for the 1988-90 time period, for example, but much more difficult to obtain for the 1984-87 period.

Data quality: This is both the most critical and the touchiest practical criterion, it seems to us, a problem of major dimensions that is nonetheless carefully skirted in most discussions of educational indicators or management information

systems in LDCs. The issue can be politically sensitive, but it is also absolutely central to the development of any tracking system. The articles of Chapman (1990) and Chapman & Boyd (1988) are among the very few writings we have found to treat the topic straight-on, though the authors limit themselves to a particular technical treatment of the issue.

The underlying question concerns the *margin of error* in data; and the basic principle to assert, we feel, is that all information contains elements of error, and any responsible presentation of data should include an estimate of this margin or at least a discussion of the sources of error. The underlying types of error are threefold, and can moreover compound each other: reliability, validity, and sampling (representativity). Validity errors have already been discussed. We briefly consider the other two types in the following paragraphs.

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

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

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

At first glance, it might seem impossible to get information on -- and take account of -- these sources and margins of error. Given that the whole topic has potential for undermining the credibility of any information system, one could then understand the inclination to scrupulously ignore it. But the main point is simply to refrain from throwing the baby out with the bath water; or, as the French say, to remember that "the best is an enemy of the good." The main point is to start taking *some* account of sources and margins of error, to be ready to exclude the data

that seems most suspect in this regard, and to begin pushing for inclusion of margin of error information along with any data collection or analysis activity.

E. *Whose Conception?*

A number of critical questions arise throughout the foregoing reflection on the conceptual framework and practical guidelines for devising an indicator system: namely, *whose* conceptual framework shall underlie the indicator system? *how* shall it be devised? and *who* shall specify the criteria for choosing indicators and the complementary roles of qualitative and quantitative inputs? Though there is incontestably an international language of educational planning and research currently largely dominated by economics, there are a number of reasons to assert that actual indicator systems may and should vary significantly by locality.

The first reason is that, as noted above, efficiency has little meaning until operationalized by the specification of objectives, and those largely depend on the development strategy and perspectives of the countries in question. The second is that actual data availability may vary enormously as a function of other conditions within the host country environment. A third is that the ultimate utility of an indicator system depends entirely on one's ability to *interpret* the data, and most indicator systems therefore require a complementary set of qualitative insights that are normally highly country-specific.

To the degree that there is effective host country participation, therefore, the potential for variation in the indicators from one country to another will significantly increase, even though there certainly are international paradigms of educational development that exert major conceptual influence nearly everywhere. Moreover, there is also a potential here for variation *over time*. The notion of a key or critical aspect of an educational system has a time-bound quality and is strategy-related -- aspects that are thought to be critical at one point in time may not be at another period. The high value (and rare occurrence) of longitudinal analysis should drive proponents of the system to resist too many changes, but the likelihood of variation in data specification over time must be taken into account.

The conceptual analysis in and of itself therefore drives us to emphasize host-country participation and local "ownership" of the indicator system design process. Of course, this shift in center of gravity does not automatically answer and resolve the "cui bono?" or "who decides?" question. The same issues are simply transposed to a host-country level, and one must ask again whose criteria and conception are being used and to what degree

they match those of the supposed beneficiaries or ultimate underwriters of the educational system. We will return to this topic a little further on in discussing field implementation strategy.

III. DEVELOPMENT OF A PROTOTYPE MODEL

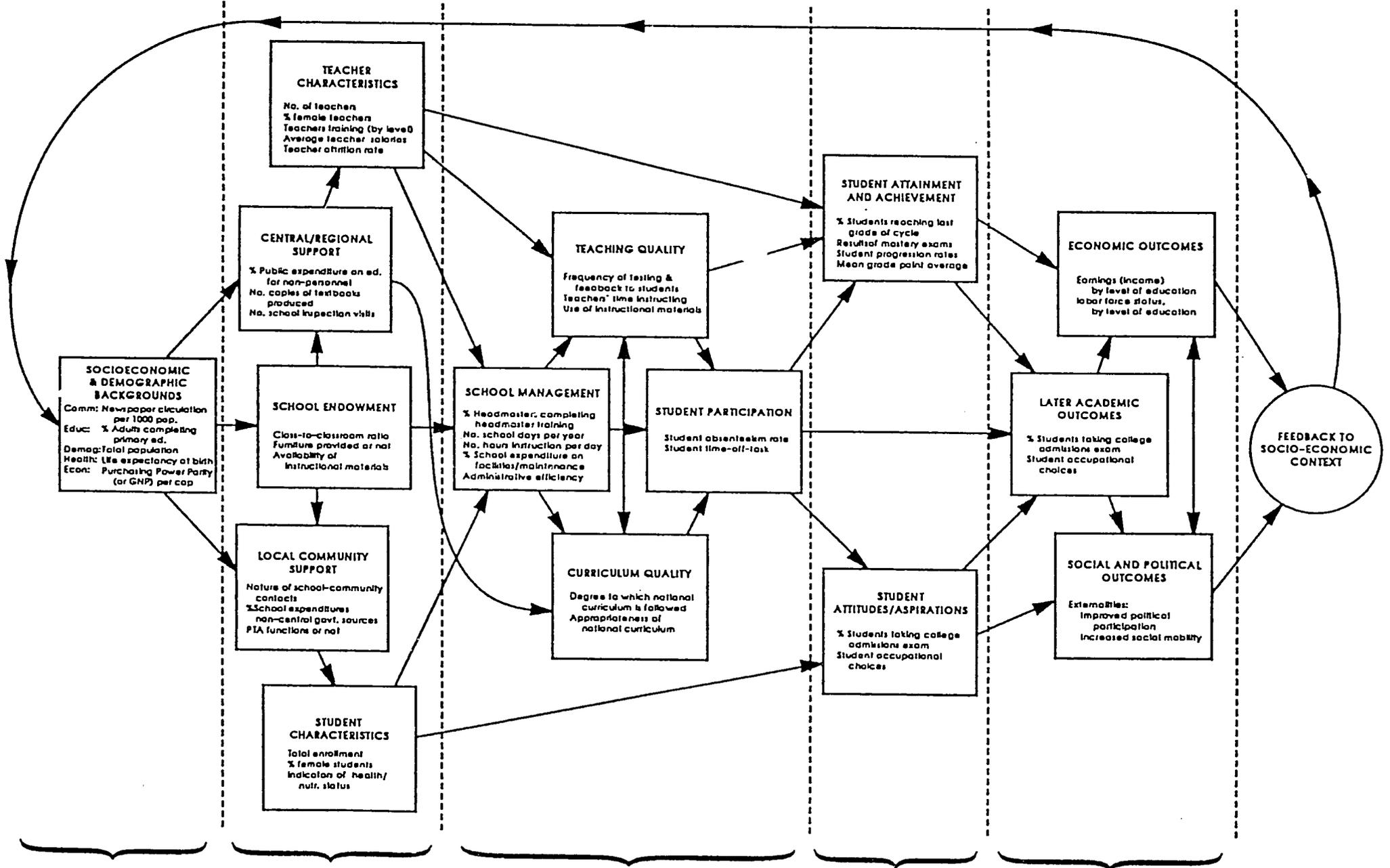
A. *Steps in the Process*

Our original intention was to move from consideration of these conceptual bases to the development of a simple indicator model applicable to all IEES countries and thence to collection and analysis of data that would illuminate trends in system performance and set a framework for discussion of Project impacts. As just explained, however, we came out of the original conceptual stage with a different set of proposed orientations. At that point, the ideal procedure would seem to have been an interactive design process including substantial host-country participation from the outset. For logistic and budgetary reasons, however, this was not feasible. Our fallback strategy was to proceed with design of an initial prototype model, using our collective field experience -- and that of the rest of IEES staff -- as a sounding board, then to treat the result as a stimulus for country-specific work and to develop a strategy for recentering the debate in host-country locations. In this section of the paper, we briefly describe the model development process and its initial results. In the next section, we turn to the question of the process for recentering the debate in participating countries.

The model elaboration process included the following steps: First, review of the theoretical bases of indicator systems and development of an initial conceptual framework. Second, inventory of potential indicators of system performance and classification into the categories of the conceptual framework. Third, choice of a set of indicators to compose the initial "indicator system." Fourth, submission of this framework to IEES staff and other colleagues for critique, discussion and modification.

This work was undertaken in the course of the 1990-1991 academic year. Candidate indicators were drawn from Windham's monographs (1988a, 1988b), sector assessment documents, World Bank and UNESCO publications, the writings of Fuller (e.g., 1986, 1987) and others on educational quality concerns in developing countries, and experience with indicator systems in Indonesia, Haiti and Botswana. To simplify the conceptual task, we based all reflection on the example of a country's primary education system.

TENTATIVE EDUCATIONAL SYSTEMS MODEL



① CONTEXT

② INPUT

③ PROCESS

④ OUTPUT

⑤ OUTCOMES

B. Initial Conceptual Model

The underlying conceptual model that we adopted was based to a certain extent on work previously done in Haiti and consists of three tiers: descriptive indicators, efficiency indicators, and equity indicators. At the descriptive level -- portrayed on the adjoining table -- the characteristics of the educational subsystem in question are organized into fifteen domains in roughly production-function fashion: beginning, that is, with context and proceeding through inputs, processes, outputs and outcomes of education. In an effort at simplification, we decided to choose for the initial prototype model two summary indicators per descriptive domain -- or thirty in all -- based on criteria of likely availability and relevance to overall issues of educational quality and efficiency. It subsequently proved difficult to narrow choices down this far without reference to the particular countries where the work would be done, so we retained an average of four proposed indicators per domain, counting on subsequent in-country work for refinement and pruning. The actual indicators and the rationale are laid out in Appendix A.

The next tier of the model concerns *efficiency indicators*. Strictly speaking, efficiency is a ratio of outputs to inputs. An efficiency measure is therefore generally a secondary indicator which is based on two or more primary indicators and may span across domains of a model like the one presented above for the primary education subsystem.

Each of the domains in the model may of course have its own *internal* efficiency measures, involving its own particular inputs and outputs. For example, the input to the school management domain may be dollars, and the output a certain number of services provided to teachers and students by school administration. These two measures could then be combined into a "local" efficiency indicator concerning purely the realm of school management. For the most part, however, we are dealing with more global composite measures.

Some of the descriptive indicators included in the list above are already implicit efficiency measures. Any form of completion or graduation rate, for example, is of this nature, since the "rate" compares those who succeeded (output) to all those who took part (input). We propose in addition to track three kinds of composite efficiency indicators based on the descriptive indicators already detailed:

(1) *Enrollment ratios*

Essentially total enrollment over the size of the appropriate age cohort in the population.

(2) *Resource sufficiency ratios*

These include textbooks per student and non-salary expenditures per student.

(3) *Resource cost per graduate*

Actual costs per graduate are too complicated to compute and require cost studies to which we will probably not have access. A simpler measure is **graduates per teacher-year.**

The third tier concerns *equity indicators*. Establishing equity indicators essentially involves attempting to disaggregate the types of data already proposed for assessment of the overall primary school system. To keep from exponentially increasing the amount of work to be done, the number of equity indicators, and the number of axes of disaggregation, should be kept modest. We suggest three axes of disaggregation and four indicators for equity comparisons:

Axes of disaggregation

Significant geographic or administrative regions
Private/public education
Gender (male/female)

Equity indicators

Net enrollment ratio
Cycle completion rate
Textbooks/student
Teacher training

C. Debate and Modification

Discussion of this overall model with IEES Project staff proved to be a highly instructive exercise and yielded a number of suggestions for improvement. Notable among these was the recommendation that at both the central and the country levels a distinction be made between an "ideal" version and a "feasible" version of the model.

The underlying idea is to identify and distinguish both a "best case" and a "likely" set of indicators. The first one gives all participants an occasion and an incentive to think about the kinds of information that they would really like to have in order to inform educational decisions bearing on system efficiency. It also gives us some protection against the danger of getting mired down in "least common denominator" approaches that lead to collection of an incoherent assemblage of data with

borderline validity simply because it was (all that was) available.

The second approach (development of "feasible" indicator sets) provides a reality check against impractical or inappropriate model specifications born of too much concern with conceptual elegance or completeness and insufficient attention to what is currently possible in different country settings. We anticipate that iterative review of the ideal and feasible models will result in (a) an operational (feasible) model that is conceptually tighter, and (b) a better articulated optimal model that will be increasingly useful for purposes of training, policy discussion and educational planning.

IV. IMPLEMENTATION IN THE FIELD: PROCESSES ENVISAGED

A. *Development of country-specific models*

Next, the center of gravity in the development of the ideal and feasible indicators sets will be moved to three IEES participating countries. There have been expressions of interest, but the final "self-selection" of these countries has not been made. We are not yet clear exactly how the discussion and potential use of the indicator systems will be organized at the host-country level. In several of the countries, the IEES Project supports a Resident Technical Assistant (RTA) who works in close collaboration with host country educational planners. Where possible, our intention is to review the prototype indicator system with the RTAs, who will in turn go over it with their counterparts. The minimal objective of the exercise will be to use the proposed system simply as a *tool for discussion and staff training*, and to enlist the help of host country counterparts in modifying and improving a model that the IEES Project will then use to track trends in educational system performance in the country.

If there is interest in participating countries, a good deal more can be done with the resulting system, or with the process of developing it. The exercise can serve as a basis for reviewing current uses of educational management information systems, designing means for interpreting their outputs, integrating qualitative information into the interpretation process, specifying types of local process research to be targeted for support, and/or training staff at different levels in the related analytic tasks.

B. Related Issues

Four major issues that merit exploration in tandem with this process are worth mentioning here. The first concerns the complementary roles of qualitative and quantitative outputs in educational decision-making, and the best means for ensuring a supply of relevant qualitative insight. Process data is the habitual weak point of indicator systems. We therefore envisage, as one component activity, a careful census of the qualitative and process studies currently underway in the countries in question (and potentially the encouragement of others through the IEES research agenda) in order to fill the gap and lay a firmer foundation for analysis.

A second and closely related issue concerns investigating actual patterns of use of data in educational agencies and pinpointing factors that determine their utility. The "sociology" and politics of data use is a topic as centrally important to EMIS operations as it is sensitive, and certainly merits thoughtful recognition.

A third important topic is related to the appropriate mix of nationwide and sample data in an indicator system. A number of more refined quantitative indicators -- as well as most types of qualitative information -- cannot be reliably collected for the whole country but can be very usefully approximated through focused sample studies. Developing this methodology as part of an EMIS merits closer attention.

A fourth critical subject concerns the relationship to be developed between national management information and indicator systems on the one hand, and regional or local ones on the other. Our experience clearly suggests that overly-centralized systems where field staff collect data solely to feed central files or computers end up receiving increasingly unreliable information. It is important to develop at the same time methods and procedures for synthesis and use of data at *local and regional levels*, not only as a support for better decision-making at this level, but also to help ensure that field staff see the use of the data collection effort and remain conscientious about it.

C. Analysis Strategy

Analysis is another congenital weak point of indicator systems, as participants in the current debate about educational indicators in this country have been quick to point out. Exactly how is one supposed to use the data gathered? Here lies one clear advantage of trying to articulate an underlying conceptual model, as we have begun to do above. That model can serve as an important aid in the analysis and interpretation of the indicator data.

Generally, we see two related directions for analysis: (1) examination of trends over time; and (2) diagnostic interpretation of system status data.

(1) *Examination of trends over time*

Part of the purpose of the indicator system is to provide a means of tracking the evolution of the educational system (most fundamentally vis-a-vis IEES activities) and spotting changes that provide early warning of serious problems or early evidence of major opportunities for school improvement. Consequently, a first level of analysis consists essentially of deducing direction and magnitude of changes in the key indicators from the longitudinal data assembled.

This is, of course, not quite as simple as it sounds, even assuming that enough sequential data on the same indicators are assembled to document a trend. One problem that typically confounds such an effort must be resolved before analysis can begin: the non-comparability of data on the same indicator at different points in time. It is quite conceivable that over time the indicator may be defined differently, the population on which the data were collected may be different and/or the reliability of the methods used may vary markedly. An initial effort to take account of these irregularities will need to be made.

(2) *Interpretation and diagnosis*

In a sense, the analytical model pictured above already constitutes a framework for interpretation of the data and even diagnosis of the problems observed, since the network pictures a series of supposed causal linkages among educational system variables. If an anomaly or problem is observed at one level, we therefore have at least a suggestion of where to look for causes or contributing factors.

Since each educational system is being considered individually and we are looking at aggregate or average values for the entire system (or subsystem), we cannot use quantitative techniques for analyzing variance across cases in order to explore or substantiate causal interpretations. We will need instead, insofar as possible, to examine and compare trends in conceptually related variables over time and use the results of this comparison to support causal or diagnostic reasoning.

Of course, what constitutes an "anomaly" or "problem" for highlighting and investigation can only be determined with reference to the particular objectives and norms of the

educational system under examination. This once again supposes the active participation and involvement of host country planners.

These remarks suggest the following order of action for interpretation of the data: First, determine trends. Second, isolate trends or persisting conditions that seem problematic, given the country's educational objectives (or, in their absence, accepted international norms.) Next, by comparative trend analysis, formulate questions and proposals about possible contributing conditions. Fourth, discuss the entire matter with host country researchers/planners and revise the analysis on this basis. Fifth, revise the indicator scheme and collection plan as warranted by the results of the analysis.

D. Dissemination Phase

The efforts described in this paper seem to us potentially to have some larger implications for data collection practices in education at the level of each country, as well as internationally. As much should be expected, since the IEES Project is in part an R&D endeavor with the explicit charge from AID of developing new procedures for educational planning and research that may be worthy of broader dissemination. If so, how should such dissemination be handled?

We think that the first critical dimension of the dissemination task lies *within* each host country. We will therefore be verifying in each case what are the existing in-country media for dissemination of educational research and reflection, and how we might collaborate with counterparts in using -- and simultaneously in strengthening -- these media. A second dimension evidently concerns exchange among participating countries and/or with educational personnel from potentially interested nations in the same region as the host country. A third and final dimension embraces international dissemination and publication within the United States.

In addition, we envisage publication at one or more of the above levels of a series of monographs to ensure broader availability of documentation on the development and products of this activity. Each monograph will represent a phase or particular theme of the project. Four distinct monographs and topics are presently anticipated:

- (1) Overview monograph on conception, development and adoption of appropriate indicator systems for tracking educational efficiency;
- (2) Survey and analysis of research now completed or

presently being conducted in participating countries on educational processes and quality dimensions, the habitual weak areas in indicator systems;

- (3) Monograph on problems of dovetailing national and local indicator systems and MIS's and on the staff and teacher training issues involved; and
- (4) Monograph on questions of cross-national comparison of procedures and resulting data from efficiency indicators systems.

V. CONCLUSIONS

Since the activities described above are still unfolding, it is much too early for sweeping conclusions. At most, we wish simply to draw attention to some of the longer-term characteristics and significance of the work undertaken.

In summary, one could say that "a funny thing happened on the way to establishing a project-wide indicator system for tracking efficiency trends": we remembered the importance of place and process and came up instead with a plan for engaging host-country participants in dialogue about -- and collaborative design of -- more flexible and location-specific systems. That this should happen in the IEES Project is not surprising, for some of the Project's finest hours and best accomplishments have lain in the impulse to translate the current technique and jargon of educational planning into participatory exercises, accessible to host country counterparts and subject to their modification, criticism and influence. Sector assessment as practiced in the project, for instance, for all its sometimes heavy jargon, positivistic assumptions and economic bias, has been widely appreciated as a means of making the process of foreign aid allocation and educational policy analysis more visible and of opening the door to greater direction of the process by host country nationals (Easton, 1988). A number of project activities have had, intentionally or not, major institutional development consequences; and most have been characterized by a concern to adapt research agenda to capacity-building priorities. The reorientation of the efficiency trends activity is thus in a sense simply a move to make it more consistent with the spirit of the IEES Project.

REFERENCES

- Bottani, Norberto. (1990) The background of the CERI/OECD project on international educational indicators. *International Journal of Educational Research*, 14, 335-342.
- Bottani, Norberto & Delfau, Isabelle (Guest Editors). (1990). Indicators of the quality of Education systems: an international perspective. Special edition of *International Journal of Educational Research*, 14, 321-408.
- Chapman, David (1990). The role of education management systems in improving educational quality. In Chapman, David & Carol Carrier (Eds.) *Improving educational quality: A global perspective*. New York: Greenwood Press. 217-242.
- Chapman, David & Boothroyd, Roger. (1988). Threats to data quality in developing country settings. *Comparative Education Review*, 32, 4, 416-429.
- Chapman, David & Carrier, Carol A. (1990). *Improving educational quality: A global perspective*. New York: Greenwood Press.
- Cobbe, James H. (1988). Education indicators for policy purposes in Indonesia. Jakarta: Balitbang Dikbud.
- Easton, Peter. (1988). *The role of economics in educational policy-making: Case study of an education sector assessment in the Republic of Haiti*. Unpublished doctoral dissertation. Tallahassee, FL: Florida State University.
- Easton, Peter & Cayhana, Ade (1989). *The quality and efficiency of vocational-technical education in Indonesia*. IEES Monograph series. Tallahassee, FL: Learning Systems Institute.
- Fuller, Bruce. (1986) Defining school quality. In Hannaway, Jane & Lockheed, Marlaine (Eds) *The contribution of the social sciences to educational research: 1965-1985*.
- Fuller, Bruce. (1987). What school factors raise achievement in the Third World? *Review of Educational Research*, 57, 255-292.
- Henderson, Hazel. (1990). Moving beyond economism: New indicators for culturally specific, sustainable development. *IFDA Dossier*, 75-76, 68-76.
- Johnstone, James H. (1981). *Indicators of Education Systems*. London: Kogan Page.

- Nuttall, Desmond L. (1990). Introduction: The functions and limitations of international educational indicators. *International Journal of Educational Research*, 14, 327-334.
- Oakes, J. (1986). *Educational Indicators: A Guide for Policymakers*. New Brunswick, NJ: Rutgers University, Center for Policy Research in Education.
- Odden, Allan (1990). Educational indicators in the United States: The need for analysis. *Educational Researcher*, 19, 4, 24-29.
- Windham, Douglas (1988a). *Indicators of educational effectiveness and efficiency*. Tallahassee, FL: Learning Systems Institute/IEES Project.
- Windham, Douglas (1988b). Effectiveness indicators in the economic analysis of educational activities. Special issue of *International Journal of Educational Research*, 12, 6.

APPENDIX

DEFINITION OF MODEL DOMAINS

I. CONTEXT

1. *Socio-Economic and Demographic Background*

This domain serves to establish the baseline context for assessing schooling inputs, processes, outputs, and outcomes. Five indicators have been selected to represent this domain: a) total population; b) life expectancy at birth; c) purchasing power parity (or GNP) per capita; d) newspaper circulation per 1000 population (to reflect literacy/communications); and e) the number of adults completing primary education.

II. INPUT

2. *School Endowment*

The domain of school endowment is intended to reflect the basic physical and material resources available at the school site. The three indicators selected to reflect the availability of instructional resources are a) class to classroom ratio, b) whether furniture is provided, and c) the availability of instructional materials.

3. *Local/Community Support*

The degree to which local schooling is supported by the community is reflected by this domain. The indicators of this support are a) whether a functional PTA exists, b) the nature of school-community contacts, and c) the percentage of school expenditures met through non-central government sources.

4. *Central/Regional Support*

The support offered to local schooling through the central/regional offices of the Ministry of Education, or other institutional provider is represented by a) the number of textbooks produced, b) the number of school inspection visits by MOE officers, and c) the overall and non-personnel Government/MOE expenditures.

5. *Student Characteristics*

Student population characteristics, i.e., what they bring to the schooling enterprise, are represented by a) total enrollment, b) the percentage of female students, and c) data on their health and nutritional status. This domain of student characteristics is distinct from how students engage in the instructional process, which is represented below in "student participation."

6. *Teacher Characteristics*

The characteristics of the teacher population (status of the profession and what they bring to the instructional process) are represented by a) the number of teachers, b) the percentage of female teachers, c) training (by level), d) average salaries, and e) attrition rates.

III. **PROCESS**

7. *School Management*

School management refers primarily to the organization and provision of instructional time and resources, with additional indicators of administrator qualification and efficiency. To represent instructional time and resources, the following indicators have been selected: a) number of school days per year, b) hours of instruction per day, and c) school expenditures on facilities and maintenance. Indicators of administrator characteristics are d) the percentage of headmasters completing headmaster training, and e) a summary index of administrative efficiency (*).

8. *Curriculum Quality*

The quality of the curriculum will be represented by summary indices of a) the degree to which the national curriculum is followed, and b) the appropriateness of the national curriculum (*).

9. *Teaching Quality*

The quality of teaching is represented by a) the amount of teacher's time spent on instruction, b) the use of instructional materials for instruction, and c) the frequency of testing and feedback to students.

10. *Student Participation*

This domain refers to effective school attendance and participation in organized learning activities. The underlying variables concern quantitative and qualitative appreciation of "time on task" -- that is, time spent on the activities designed or intended to promote achievement of the school's learning outcomes. The indicators that we have chosen in this realm are (a) **student absenteeism rate** and (b) **student time off-task**.

* Note: These "indicators" are a conceptual placemark, representing, to date, categories rather than actual indicators.)

IV. **OUTPUT**

11. *Student Attainment and Achievement*

This domain concerns the degree of achievement of primary school learning objectives in the cognitive and psychomotor realms and includes quantitative and qualitative assessments of those scholastic "outputs." The indicators that we have chosen in this area are (a) **percentage of students reaching the last grade of the cycle**; (b) **results of mastery exams**; and (c) **student grade-to-grade progression rates**.

12. *Student Attitudes and Aspirations*

This domain concerns the degree of acquisition of selected attitudes, or the degree of achievement of specified affective learning outcomes, by primary school students. Chosen indicators are (a) **percent of students taking admissions exam for next cycle** and (b) the general area of **student occupational choices** (specific indicator yet to be designated).

V. OUTCOME

13. *Later Academic Outcomes*

"Later academic outcomes" refers to the degree of success of primary school graduates in their further schooling, including admissions to higher level institutions of learning and completion of these subsequent cycles. The specific indicators chosen in this area are (a) **percent of graduates of the primary cycle entering the following cycle** and (b) **the number of graduates in scientific/technical fields**.

14. *Economic Outcomes*

The category "economic outcomes" refers to financial success in post-schooling employments and can include indicators like measures of the length of job search, stability of employment, and income of primary school completers or leavers. The specific indicators chosen are (a) **average earnings of graduates of cycle** and (b) **labor force status of graduates of cycle**.

15. *Social and Political Outcomes*

This domain covers other dimensions of social and political behavior that may be influenced by primary school attendance, including social mobility, political participation, number of children and their schooling, etc. The indicators chosen for this exercise are (a) the general area of **political participation of graduates of cycle** (particular indicator yet to be designated) and (b) an index (yet to be specified) of **social mobility of graduates of cycle**.

16. *(Feedback to Context)*

This category simply indicates that the outcomes of primary schooling have in turn an impact on the characteristics of the socio-economic context in which the school system operates.

Appendix A

LIST OF PROPOSED INDICATORS

I. *Socioeconomic & demographic backgrounds*

1. (Comm.) Newspaper circulation per 1000 population
2. (Educ.) Percentage of adults who have completed primary education
3. (Demog.) Total population
4. (Health) Life expectancy at birth
5. (Econ.) Purchasing Power Parity (or GNP) per capita

II. *Central/regional administrative support*

1. Percentage of public expenditure on education which is non-personnel
2. Number of copies of textbooks produced
3. Number of school inspection visits made

III. *School endowment*

1. Class-to-classroom ratio
2. Furniture provided or not
3. Availability of instructional materials

IV. *Local/community support*

1. Nature of school/community contacts
2. Percentage of school expenditures funded by non-central government sources
3. Parent-teacher associations; whether they are functioning or not

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V. *Teacher characteristics*

1. Number of teachers
2. Percentage of teachers who are female
3. Teacher training (by types/level of training)
4. Average teacher salary
5. Teacher attrition rate

VI. *Student characteristics*

1. Number of students enrolled
2. Percentage of students who are female
3. Indicator of students' health/nutritional status

VII. *School management*

1. Percentage of headmasters completing headmasters training
2. Number of school days per year
3. Number of hours of instruction per day [or week]
4. Percentage of school expenditure going for facilities/maintenance
5. Indicator of administrative efficiency

VIII. *Teaching Quality*

1. Frequency of testing and feedback to students
2. Teachers' time instructing
3. Use of instructional materials

IX. *Curriculum Quality*

1. Degree to which national curriculum is followed
2. Appropriateness of national curriculum

X. *Student participation*

1. Student absenteeism rate
2. Student time-off-task

XI. *Student attainment and achievement*

1. Percentage of students reaching last grade of cycle
2. Results of mastery exams
3. Student progression rates
4. Average student grade point average

XII. *Student attitudes and aspirations*

1. Percentage of students taking college admissions exam
2. Student occupational choices

XIII. *Later academic outcomes*

1. Percentage of graduates (from one cycle) entering next educational cycle
2. Number of graduates [or professionals] in scientific fields

XIV. *Economic outcomes*

1. Earnings [or income] by level of education
2. Labor force status, by level of education

XV. *Social and political outcomes*

1. Change in rates of political participation
2. Change in rates of social mobility

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