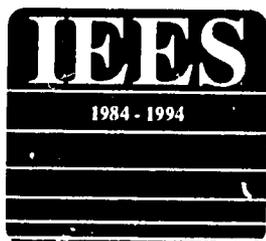

“IEES strategy for improving the performance of educational systems is based upon a systems approach to comprehensive Education and Human

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PLANS FOR PROJECT YEAR NINE

IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

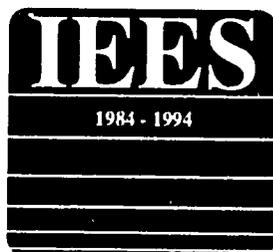
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PLANS FOR PROJECT YEAR NINE

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

This document describes the work of the eighth year of the Improving the Efficiency of Educational Systems (IEES) Project of the Office of Education, Bureau for Research and Development, United States Agency for International Development. The plans for this work were published in July 1991 in the document Plans for Project Year Eight and a report of the first six months was published in January 1992 as the Mid-Year Progress Summary for Project Year Eight. This document summarizes the accomplishments of the entire project year (July 1991–July 1992) and presents plans for IEES Project Year Nine (July 1992–July 1993).

IEES is a ten-year project (1984–1994) to assist developing nations in improving the performance of their educational systems. IEES assistance strategies are designed to strengthen (at all levels) government capacity to identify policy, practice, and budget options in order to improve efficiency.

The four major areas of IEES assistance are:

- Policy and Planning;
- Knowledge Development;
- Educational Management; and
- Dissemination and Networking.

During Project Year Eight, IEES convened major project stakeholders to review and assess what had been accomplished and to determine priorities for the remaining project years. Plans for Project Year Nine reflect these priorities and focuses on the diffusion and utilization of the knowledge created through project activities and the lessons learned from project experiences in working closely with educators in a wide variety of national contexts.

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

2.1 ACTIVITY ONE: POLICY AND PLANNING

IEES strategy for improving the performance of educational systems is based upon a systems approach to comprehensive Education and Human Resources (EHR) planning. IEES works with national educators to analyze and understand the current status of the education sector as a whole and 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 which are most likely to result in better student achievement in the classroom.

In countries where adequate baseline data on system performance have not been systematically collected or analyzed, sector assessments (called sector reviews in some countries) are conducted with IEES assistance in order to achieve an overview of priority needs and constraints in each subsector of both the formal and nonformal national education system. These collaborative 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. In some countries, the capacity to carry out these studies has been created so that IEES assistance is needed only on occasion, or not at all.

This process was initiated in Indonesia during this report period, IEES advisors now act as technical support for the Indonesian sector study teams composed of individual provincial representatives (the first IEES-assisted Indonesian 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. A Sector Assessment was conducted in Mozambique during Project Year Eight. Additional details of these recent sector study activities and other policy-related activities are provided in the country report section (Section 3.0) of this document.

2.1.1 Summary of Activities During Project Year Eight

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

2.1.1.1 Botswana

IEES has worked closely with the Planning Unit of the Ministry of Education and Culture (MOEC) in Botswana to prepare the Education and Manpower Development section of the Botswana National Development Plan Seven (1991–97). IEES assisted Planning Unit staff with the tasks of analysis of educational data, projections of enrollment and staffing needs, and document production. The Plan was submitted to the Botswana Parliament in July 1991. IEES 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.

2.1.1.2 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 3.5 of this document. During this report period, IEES emphasis was on four main areas: 1) curriculum development, 2) improving the quality of teacher education, 3) internal and external efficiency consequences of national educational reforms, and 4) 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. This activity continued in Project Year Eight with the review of Math and Science curricula and recommendations for change.

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 Project Year Eight this policy research effort continued and produced a number of studies for Indonesian educational planners. A wrap-up seminar will present all findings early in Project Year Nine.

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. IEES assisted with organizing a long-term planning conference in January 1992, and presented the results of this activity at that time.

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. These activities and their impact on policy and planning are further detailed in the Indonesia section of this report.

2.1.1.3 Mozambique

IEES conducted a Sector Review in December 1992. The purpose of this study was to investigate the opportunities for a long-term involvement by the Mission to support the development of education in Mozambique. Five prominent areas were identified for study: 1) Primary/Basic Education; 2) Education Planning and Finance; 3) Vocational/Technical and Out-of-School Training; 4) Higher Education; and 5) Mozambican Education. The Final report of the assessment which included translations into Portuguese of the Summary and Final chapter was published by the IEES Publications Unit in July 1992.

Principal Findings of the Mozambique Sector Review

Effects of the War. The war in Mozambique has had devastating effects on the education system. More than 3,100 primary schools have been destroyed, denying education to more than 800,000 students throughout the country. Along with widespread drought and an onerous foreign debt burden, the war has left Mozambique virtually destitute. At present, over 60% of national GDP is accounted for by foreign aid. Improvement in the education system must therefore depend to a very large extent on continued foreign assistance to the sector. The case for foreign assistance is thus compelling.

Access. Access to the education system is severely restricted at all levels. Barely one-third of the relevant age cohort is enrolled in primary schools. Enrollments in upper secondary and university education are very small. Aspirations of achieving universal primary education have been lowered. Even the current goal of 86% enrollment is unrealistic in all but the very long term. Expanding access to basic education is therefore essential to provide the country with an educated citizenry and workforce, to improve equity in the allocation of public resources, and to increase the pool of candidates qualified for secondary and higher education. As much as possible, the government must call upon community and private resources to help finance this expansion, in order to minimize its recurrent cost commitments.

Quality. Even with the severely restricted access, the quality of instruction is very low at all levels of the education system by any standard. Many primary schools lack even the most basic materials, including blackboards, and are entirely unusable when it rains. Some secondary schools lack furniture; students are obliged to sit on the floor. Most lack usable laboratories and

libraries. Equipment in vocational schools is often obsolete or out of commission due to lack of spare parts or consumable materials. The university has difficulty in recruiting qualified students and lacks essential equipment, current books and periodicals, and consumables for laboratories. Improvements in the quality of education are urgently needed at all levels. Donors are playing a large role in financing such improvements, but there is need for further donor assistance.

Teachers and Administrators. Teachers and administrators in the basic education system are often poorly qualified, and opportunities for in-service training are lacking. Most teachers in primary schools have completed only six years of schooling, plus one year of teacher training. Most administrators at school, district, and provincial levels have no specialized training for the posts they occupy. Upgrading the qualifications of teachers and administrators and preparing them to deal with expanded enrollments through increased efficiency and the use of new instructional technologies may be one way to avert an explicit choice between expanded access and improved instructional quality.

Teachers' Salaries. The Mozambican government has recently granted raises for all categories of teachers. In November 1991, teachers in the lowest salary category were paid slightly more than US\$30 per month; those in the highest category (nearly all in higher education) were paid about US\$200 per month. Salaries represent a very high proportion of public spending on education and straitened fiscal circumstances ensure that salaries will not increase much in the near future. At the same time, however, public sector salaries are so low that many urban teachers must supplement their incomes with second jobs. University lecturers with saleable skills (e.g., in economics) have simply left the teaching profession. Maintaining the integrity and viability of educational institutions and improving instructional quality while restraining the overall teachers' wage bill will, almost certainly, require the implementation of new instructional technologies that allow significantly larger class sizes, especially in urban schools.

Administrative Structures. The administrative structures of the education system are intact, though many incumbent administrators have received no specialized training for the positions they hold. Provincial and district education agencies remain operational, and provide instruments for the decentralization of resources and responsibilities with the end of the war. Current problems with communication, transportation, and banking systems present difficulties for educational administrators that training cannot solve, but improvements in these areas can also be expected when the war ends.

Policy Framework. The education policy framework is in most respects appropriate to the requirements of the education system; the very severe problems noted in this report are attributable primarily to the scarcity of resources and less to mistaken policies. The main exception in

and a corresponding increase in the share going to tertiary institutions. The establishment of a Council chaired by the Minister of Education may help to reverse this trend. A second exception is the maintenance of regulations on the establishment of private schools, which place needless obstacles in the way of expanded private participation in the education system.

Options for Donor Assistance in Mozambique. The main problems of the Mozambican education system are attributable to an absolute lack of resources. A priority for prospective donors to the sector should therefore be the identification of mechanisms to get resources into the system and into schools as directly and efficiently as possible. This may involve a direct insertion of funds into school-level activities, thus by-passing the centralized bureaucratic structure, or efforts to improve the efficiency of this structure, reforming its systems and building the capacity of its personnel.

Sustainability of the Mozambican Educational System. As a basic proposition, the provision of general budgetary support to the Mozambican government should look toward a time when the government will be able to assume responsibility for the additional expenditures that such support makes possible. If new resources are used to fund the production and distribution of textbooks, for example, the levels of production and distribution achieved with foreign assistance should be able to be sustained with domestic resources over time, in the expectation that external budget support will eventually be withdrawn. In the case of Mozambique, however, these reasonable expectations may not be justified over the foreseeable future. A very small productive base, the lasting effects of the war, and a massive debt mean that Mozambique will most likely remain dependent on large flows of concessional foreign assistance for many years.

This is true in the education sector as elsewhere in the economy. Donors already provide 41% of all educational expenditures in Mozambique, including 36% of recurrent expenditures. It is difficult to imagine how the government will be able to increase its own educational expenditures out of domestic resources to replace these quantities of foreign assistance in the short- or medium-term. New commitments of general budgetary support must therefore be effectively open-ended.

Absorptive Capacity. In spite of the tremendous needs of the education sector for additional resources, the capacity to absorb additional donor assistance appears to be low. Chronic shortages of qualified personnel throughout the Mozambican government continue to pose difficulties in managing and accounting for counterpart funds, which has created dissatisfaction on the part of some donors. Implementation rates on internal and external investment projects are relatively low, with disbursements occurring at about 60% of programmed levels. Problems in communications, distribution, and banking systems (caused in part by the war) mean that resources

including textbooks, instructional materials, and even teachers' salaries are often delayed or prevented from reaching local schools.

Providing additional budgetary support will not by itself resolve the administrative and financial problems of the education sector, or any other sector; indeed, it may make some of them worse. Agreement on conditionalities governing the disbursement and use of new resources would therefore be essential to the effectiveness of new donor resources in achieving policy objectives. Direct capacity-building efforts could help the Ministry improve its financial and administrative performance.

2.1.2 Plans for Project Year Nine

2.1.2.1 Botswana.

Policy and Planning activities for Project Year Nine 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 detailed in Section 3.1.1.2.
- A national seminar reviewing findings and policy implications of all IEES-sponsored research in Botswana will be held in October 1992.

Educational Policy and Planning Report. A volume on research for educational policy and planning, with a focus on the linkages between policy and research is being developed with Government of Botswana/USAID cost-sharing funds. This document is being compiled and edited by the IEES RTA. It is a collaborative effort in which sections are being written by individuals in the Ministry of Education (including the Deputy Permanent Secretary), the University of Botswana, the Botswana Educational Research Association, the National Institute for Research, and other researchers who have been involved in carrying out research in Botswana. This book 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 directions in research.

All chapters of this volume were received in June 1992, and the book will be published by Macmillan/Botswana in August 1992. Upon completion, the information in this publication will be presented at a policy seminar to Ministry and University of Botswana officials, Education Offi-

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

2.1.2.1 Indonesia

IEES will continue to assist Indonesia 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.

2.1.2.3 Nepal

A national seminar summarizing IEES assistance in developing an information system to strengthening educational policy making in Nepal is planned for January 1993. A final report on this multi-year effort will be published in February 1993.

Policy recommendations based upon the IEES-sponsored Grade Repetition and Student Attrition Research effort will be presented to policymakers in January 1993.

2.2 ACTIVITY TWO: KNOWLEDGE BUILDING

IEES Research Priorities

A primary emphasis of IEES 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.

IEES research is concentrated (although not exclusively) at the school level and community level. Research concentrates 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.

IEES 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.

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

- IEES research is concentrated on a relatively few topics and countries and involves on-site collaboration and supervision with local research teams.
- 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.
- 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.

2.2.1 Progress During Project Year Eight

2.2.1.1 Botswana

Teacher Incentives. A teacher incentives study, which focuses on identifying incentives (both monetary and non-monetary) for better teacher performance was initiated in Project Year Eight. Data collection and entry for the first phase of the study was carried out by SIAPAC, a local consulting firm, and coordinated by the IEES RTA, with USAID/Government of Botswana funds. A total of 428 primary teachers, 100 junior secondary teachers, 60 secondary teachers, 32 teacher training college instructors, and 35 vocational and technical education instructors were interviewed. In addition, a focus group instrument was administered at two primary schools, two junior secondary schools, and one senior secondary school.

interviewed. In addition, a focus group instrument was administered at two primary schools, two junior secondary schools, and one senior secondary school.

The second phase of the IEES study consists of interviews with key administrators on issues related to teacher incentives and a review of past and current policies relating to the recruitment and promotion of teachers. In order to contribute to the development of Botswana's institutional capacity to do research, it was intended that a Motswana carry out this part of the study. Two University of Botswana researchers and one graduate research assistant are now under contract with IEES to administer the interviews and carry out additional background research on MOE policy regarding headmaster recruitment, training, and promotion during the period June-August, 1992.

Educational Policy and Planning. A volume on research for educational policy and planning, with a focus on the linkages between policy and research is being developed with Government of Botswana/USAID cost-sharing funds. This document is being compiled and edited by the IEES RTA. It is a collaborative effort in which sections are being written by individuals in the Ministry of Education (including the Deputy Permanent Secretary), the University of Botswana, the Botswana Educational Research Association, the National Institute for Research, and other researchers who have been involved in carrying out research in Botswana. This book 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 directions in research.

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2.2.1.2 Haiti

All IEES assistance to Haiti ended after the destruction of the elected government, but a strong case can be made for pulling together the varied kinds of policy-relevant educational research and evaluation already conducted in Haiti under IEES auspices and for drawing the rich lessons of experience offered by the IIBE Project. That experience covers six years of extremely close work with indigenous private education institutions in the drive to improve instructional quality and administrative efficiency among primary schools serving disadvantaged strata of the

Haitian population. The lessons that can be drawn from this experience are important for continuing educational development efforts in Haiti, for other IEES participating countries, and for AID as a whole.

IEES has been involved in Haiti since 1984, when the first education sector assessment was conducted. The IIBE Project, designed with major technical assistance from IEES personnel and inaugurated in 1986 shortly after Jean-Claude Duvalier's departure, was a natural outgrowth of the understanding of the Haitian educational system gained during those first two years and of the strong relationships formed with some of the "underground" leaders of Haitian private education during the last days of the Duvalier regime. The Project was designed in a highly collaborative manner with Protestant and Catholic educators in the opposition movement and placed equally strong emphasis on instructional improvement and on the development of local institutions capable of ensuring continuity in this effort over the long haul.

Political and administrative events have led to a situation in which further Project funds cannot be used in Haiti. Should this situation change, however, IEES would consider further assistance to support the potentially rich research agenda described below.

| Product | Present Status |
|--|---|
| Monograph: School committees study | <ul style="list-style-type: none"> - data collected for 1987-1990 but not yet analyzed - additional data collection necessary for 1992-1993 |
| Monograph: Utilization of school textbooks study | <ul style="list-style-type: none"> - cost data available for the last six years - data collected and analyzed regarding availability of textbooks in Project classrooms and its impact on students performance for 1989-1990 - collection of additional data needed for 1991-1992 - survey remaining to be done regarding the actual utilization of textbooks in classrooms |
| Qualitative assessment of Project's intervention in the private sector | <ul style="list-style-type: none"> - two qualitative studies reports already done - progress reports and other status reports also available |
| Analysis of the institutional development of FONHEP | <ul style="list-style-type: none"> - some documents already produced: Charter, Contracts and Grants documents, Procedural Manual, Progress Reports, Annual Assessment Reports |
| Mathematics learning processes study | <ul style="list-style-type: none"> - quantitative performance data for both teachers and students already analyzed - qualitative data on teachers and students performances available but not yet analyzed - additional data on mathematics teaching strategy remain to be collected |
| Study on the relationship between French and Creole learning processes | <ul style="list-style-type: none"> - quantitative data already processed and analyzed - qualitative data existing for 1988-1991 but remained to be analyzed and reported |
| School time management study | <ul style="list-style-type: none"> - data not yet collected |

IIBE Pre-Primary Program

| Product | Present Status |
|--|---|
| 1. Education Management Information System | – started by international consultant but not completed |
| 2. Summative evaluation of PEP models: - evolution of PEP models over time - students attrition and repetition rate - comparative study of PEP models regarding students characteristics, parent involvement and teachers characteristics | – much data accumulated but not reported or analyzed |
| 3. Longitudinal study of PEP students performance (1988-1991) | – data partially analyzed and not yet reported |
| 4. Report on distance training experience | – in progress activity stopped at field testing stage |
| 5. Comparative Cost analysis of PEP models | – data ready, but not analyzed or reported |

IIBE Primary School Program In Progress Development Activities

| Product | Present Status |
|---|--|
| 1. Diagnosis of teacher skills in IIBE schools | – 1600 teacher test copies corrected – data compilation started, not yet finished |
| 2. Training manuals in pedagogical evaluation and test elaboration - training manuals in math, Creole and French | – modules are in various stages of development and experimentation process |
| 3. Report on the implementation of a comprehensive data base (EMIS) | – several databases in operation – tentative proposal for the implementation of an EMIS already initiated |
| 4. Computerization of a Test item bank | – items analysis in progress – overall computerized management remains to be done |

IIBE Primary School Program In Progress Summative Evaluation Activities

| Product | Present Status |
|--|---|
| 5. Monograph: <i>Teacher retention study</i> | – data collection and analysis in progress for 1986-90 – collection of additional data needed for 1991-92 |
| 6. Monograph: <i>School Directors training experience</i> | – qualitative data available but not analyzed – budget data already collected – results on directors performance on school administration for 1989-91 collected, but not yet reported |
| 7. Monograph: <i>IIBE teacher training experience: 1986-1991</i> | – partial texts and documents covering period 1986-1990 completed – data on teacher classroom performance for 1990-1991 remain to be reported |
| 8. Monograph: <i>Performance incentive study</i> | – data exist under various forms, need to be analyzed and reported |

2.2.1.3 Indonesia

IEES continued to support a wide range of studies in Indonesia to assist policy makers in both expanding access and improving the quality of education across the vast regions of the country.

The Indonesia School Principal: Broadening Responsibility

(Primary IEES researchers: William K. Cummings, Romli Suparman, and I.M. Thoyib)

This study examines the effectiveness of the current Indonesian system of basic education in promoting the national goals of unity, equality, excellence, relevance, and efficiency. The field work investigated how the management practices and resources of the schools in diverse settings varied. Two provinces with strong educational systems, Sumatera Barat and West Java, were chosen; both urban and rural schools that were generally believed to have good relations with their community but that varied in terms of core support (Education, Religious Affairs, private) were included in the study. In-depth interviews with key administrative officers in twenty schools were conducted, as well as interviews with twenty-five local officials in each province.

The findings include limitations of the present system and evidence in support of a new approach that encourages greater initiative from the community and principals. Suggestions for modification of the educational system are made based on these findings. The basic recommendation is that the responsibilities of the different partners in education should be more clearly delineated, with the government limiting its responsibilities to promoting national unity and the equal provision of education and the other partners assuming expanded responsibilities. Both documents and field work show that the most dynamic Indonesian schools are those where principals have taken charge, developing approaches that reach beyond the prescriptions of the government programs and the exclusive dependence on government supplied resources; effective management and resource utilization seems to be a much better explanation of superiority than resource availability.

Literature Review on Decentralization: Strengthening Local Education Capacity

(Primary IEES researchers: Juliet SF. Chieuw and Nadine Mandolang)

The intent of this effort was to selectively review available literature on practices and structures at the local level which strengthen local education capacity to achieve desired educational outcomes. This was not a comprehensive review of the literature, but rather was shaped by a set of common questions which are being asked by educational policy makers in Indonesia. These are questions of implementation, purpose, or effect. Strategies that strengthen local educational capacities at the school and local levels were reviewed, followed by strategies for local governance.

One of the most important lessons learned is that strengthening local capacity is a developmental process of experimenting, learning from errors, building experience, and developing local institutions that reflect the needs, goals and outcomes, and values of the local level. Strengthening capacities at the local level alone is not sufficient in and of itself to accomplish educational goals and outcomes desired at the national and local levels. Strengthening capacity at the national level to respond and provide appropriate support to local level initiatives are needed simultaneously. Building the capacity of donor organizations to assist in ways that are truly responsive to locally identified and defined needs, while building local technical capacity which support the strengthening of local educational capacity initiatives at the national level is another key to strengthening local capacity successfully. The diversity of social and economic development, cultural traditions, languages and leadership, and ability to communicate desired outcomes that exists across regions and localities in the same country require that the national and international level develop organizational processes that are sensitive and responsive to this complexity.

The following long term research activities were completed in Indonesia in Project Year Eight:

The Basic Education Quality Study

The purpose of the Basic Education Quality Study (BEQ) was to provide the Government of Indonesia (GOI) with the information necessary to design policies intended to improve the quality of schooling. The study was begun in 1986 and completed during this report period. The objectives of the study were as follows:

- to develop baseline data on variables measuring educational quality so as to permit data analysis on the quality of basic education;
- to identify in-school and out-of-school resources affecting the efficiency of GOI resource allocation policies;
- to identify the variables which significantly affect measured academic achievement in Indonesian, Mathematics, and Science; and
- to develop preliminary recommendations for primary schooling as an input into the long-term planning activities in Balitbang Dikbud.

The sampling design used in the study was proportionate stratified random sampling. Communities (defined as census blocks) in three provinces (Jawa Barat, Sulawesi Selatan, and NTB) were selected first and census blocks in larger subdistricts had a greater probability of being chosen. Within communities the school attended by most children was selected. Headmasters, teachers, and students and their families at each of the selected schools were surveyed. As a result of this plan data was collected at the following levels: the community, school, headmaster, teacher, student, and his family.

At the request of Balitbang Dikbud officials, priority in the analysis was given to developing publishable profiles of the communities, schools, headmasters, and students in the three provinces, and identification of the factors affecting student achievement.

Descriptive Findings

Community Profiles. Across provinces, about half the communities felt that they were of average wealth compared to neighboring communities. More of the communities in NTB than in other provinces felt that they were poor or much poorer than their neighbors. And, in fact, over 62% of the communities in NTB reported average earnings of Rp. 50,000 per month or less compared to 56% in Jawa Barat and 43% in Sulawesi Selatan. Almost all communities, regardless of province or wealth boasted mosques/churches, family planning clinics, and sport halls. Other institutions/services tended to be more available in some provinces than in others. Community health centers, banks, post offices, for instance, were more common in NTB and Sulawesi Selatan than in Jawa Barat.

Despite the evident poverty, community aspirations for children's education were high. Almost 50% of the NTB communities aspired for their children to attend higher education, almost twice the number as in Jawa Barat.

School Profiles. The average primary school, regardless of province, was unlikely to have either a library or a health unit. Official teacher and headmaster housing was more likely to be found in NTB and South Sulawesi than in Jawa Barat. Almost all schools (96%) had teachers who had graduated from primary teacher training schools. Most teachers operated self-contained classrooms and teacher turnover tended to be low; about one teacher per year dies, retires, or seeks other employment. Scheduled learning time varied little across provinces but markedly among grades. Children in grades 1 and 2 attended school as little as 26 hours per week or an average of 10 hours less than children in higher grades.

The picture of textbook availability was a mixed one. While fewer than eight% of the schools reported that they had no Grade 1 Indonesian or Math textbooks, only 32 and 42%, respectively, reported that they had sufficient numbers of books in these subject areas. Sulawesi Selatan reported the greatest problem with the availability of texts with 77% of the schools in the sample indicating that they had either no texts or insufficient numbers. The picture of Grade 6 textbook availability was not much brighter. Schools in Jawa Barat were slightly more likely to have Indonesian and Science texts than schools in the other two provinces.

Headmaster Profiles. The typical headmaster was a 46 year-old male SPG graduate with 16 years of teaching experience. Most headmasters indicated that they consulted with both their

teachers and sub-district leaders when problems arose in the school. Slightly over 60% of the headmasters reported that the "existing educational system is still good enough" and 81% that current support systems provide an insufficient base for school reform. Eighteen percent (26% in Sulawesi Selatan) agreed that teachers lack the ability to implement the desired reforms.

Teacher Profiles. The average primary teacher was a 34 year-old male SPG graduate. He was married and had taught 11 years with 6 years in the current school. More likely than not (59%), he had a second job. About 42% of the teachers sampled also had spouses who also worked outside the home.

About half the teachers said they used a mixture of Indonesian and the local language in the classroom and about half said they used only Indonesian. Fewer than five% claimed to use only the local language instruction.

The teachers in the sample were tested in Indonesian, Mathematics and Science. Teachers from Jawa Barat and NTB scored significantly higher on Indonesian and Science than did teachers from Sulawesi Selatan. Teachers from Jawa Barat scored significantly higher than did the teachers from either of the other two provinces on Mathematics. As might be expected teachers from Sulawesi reported more difficulty in teaching the three subjects than did other teachers. However, the proportion of teachers who reported difficulty teaching were relatively high, regardless of either province or subject. Teachers pointed most frequently to the shortages of teaching materials as the cause of their difficulties.

Family Profiles. Ninety-one percent of the families in the sample were headed by the father and the average size of the household was six individuals. These findings were replicated in each province. The majority of the families reported that they spoke the local language in the home. Sulawesi Selatan was unusual in this regard. Twenty-one percent reported that they spoke Indonesian and 12% a mixture of local and Indonesian.

Student Profiles. The students in the sample were almost evenly split between males and females. Ninety percent of the students lived with their parents and another nine% lived with relatives. Most attended school in the morning. Only 12% attended school in the afternoon or rotated sessions.

Overall, 25% of students expect to finish primary school, 39% secondary school, and 35% expected to attend higher education. In general, student expectations were higher in Sulawesi Selatan than in the other two provinces. In terms of achievement, performance on all three tests was on the low side, but performance on Math was the lowest for all three provinces. Mean student

achievement in Jawa Barat in all three subjects was greater than in Sulawesi Selatan and achievement in Sulawesi Selatan was greater than in NTB.

This study investigated the quality of basic education in Indonesia in a rather comprehensive way. Employing analytical procedures, the study attempted to examine basic problems and issues related to basic education. The term quality in this study refers to the conception of efficiency of basic education which is assumed to be a "public good" since it naturally is needed by all members of society. Therefore, quality of basic education was examined in terms of effectiveness, equality, and equity of educational opportunity, and the internal efficiency of the education system.

Overall data from the census block questionnaire presents the picture of an overwhelmingly rural society, with families working the fields and receiving relatively few services. Even clean water is a problem for some and inadequate toilet conditions a problem for many. This is the context of Indonesian basic education, where schools are operated and where children learn. The geographic complexity of the Indonesian primary school system requires the comprehensive examination of many basic issues and problems related to improving educational quality. This means that policy makers examining issues in improving the quality of Indonesian basic education must go well beyond the existence of the educational system in the school classroom.

Educational Access. The participation rate of basic education in Indonesia is extraordinarily high. By 1987, the net enrollment ratio was reported as exceeding 96.5% for the 7 to 12 year-old group and 94% for the 6 to 12 year-old group of children. The provision of basic educational opportunity, however, has been concentrated on one dominant delivery system, the regular primary school, (*sekolah dasar* or SD). In Indonesia, the proportion of SD students is about 90%, although this varies from one province to another. The data show that the *Madrasah Ibtidaiyah* increasingly has played a role in absorbing 7 to 12 year-old children, up to 10% of enrollment.

However, the proportion of 6 to 12 year-old children who have not gained access to school appears to be substantial. The percentage of this age group is 8.3% in West Java, 6.0% in South Sulawesi, and 9.0% in West Nusa Tenggara (NTB). In the total population, the estimated number of children in this group would be 850 thousand in West Java, 200 thousand in South Sulawesi, and 90 thousand in West Nusa Tenggara. These are significant numbers. Therefore, increasing the enrollment ratio in the more populated provinces would be much more complex than doing so in the less populated ones. The more densely populated a province is, the larger the number of children aged 6 and 7 years to be absorbed will be, and the greater the amount of school facilities to be provided will be.

A significant change in the dominant age of the first grade cohort in Indonesia's primary education system was shown in this study. The change is from 7 to 6 year-old dominant groups of first graders. The data collected in 1987 and in 1990 show that the proportion of 6 year-old children enrolled in primary school has increased substantially, from 26.4% in 1987 to 40.5% in 1990.

Internal Efficiency. The high enrollment ratio would not necessarily reflect a real opportunity to learn, unless the education system itself is internally efficient. The time series data show that dropout and repetition rates have not declined significantly during the last ten years. The national dropout and repetition rates also have not declined during at least the last 10 years. The analysis of internal efficiency shows that the Input-Output Ratio of the primary school is substantially low, i.e., about 70%. This means that the index of school attrition was not less than 30%. The considerably high rate of repetition indicates that students who would be expected to complete schooling within 6 years, are actually requiring on average 8.58 years, or 1.5 times longer than the intended schedule.

Equity And Equality. Kindergarten attendance and rural-urban location appear to be indicators of the socio-economic status (SES) of a student's family. Both variables are related significantly to student learning. Most students from higher SES families attended pre-school programs and enrolled in private-urban schools. This would suggest that the quality of basic education, in terms of the level of quality of entering students, differs substantially due to differences in school location and parental socio-economic status. The percentage of females enrolled in primary schools is significantly and consistently lower than their male counterparts. This indicates that the opportunity for access to primary education still appears to be greater for male more than for female children.

It is generally concluded from the analysis that the services of higher quality basic education in Indonesia have tended to be biased toward students from urban families, wealthy families, male students (especially for school access), and the schools in Java.

Problems of Quality of Basic Education. This study found that basic education in Indonesia confronts profound problems in teacher quality. Teacher quality, as measured in terms of mastery of the subject areas, was observed to be extremely low. The teachers' average score on the Mathematics test was 34.3 out of 58 test items. The highest score was in Bahasa Indonesia, while the lowest average score was in Science. The teachers sampled from West Java performed better than did the teachers from the other two provinces. Those from South Sulawesi performed at the lowest level.

The second major problem was the insufficient provision of educational resources, and this varies a great deal among provinces. Schools in West Java generally are better equipped than those are in the other two provinces. There are more schools in West Java equipped with sufficient teacher rooms, libraries, laboratories, and cafeterias. The percentage of schools provided with sufficient numbers of textbooks was practically the same for each of the three provinces. However, there are more schools in West Java which have sufficient textbooks than there are in the other two provinces. The data indicate that the further the province is from Jakarta, the less likely it is to be equipped with adequate school facilities and textbooks.

The third major problem concerned school management quality. This study observes that the management of primary schools is characterized by modest internal control systems as well as external management relations. The internal control mechanisms, examined in this study were Principal activities in evaluating, observing, correcting, and improving the routine activities of a school system. Whereas the "external management relations" were comparative studies with other schools, attending outside meetings, and discussions of school planning with Sub-District Officers. Both managerial activities do not appear to be fully developed as yet in the Indonesian school system, as most schools reported that they have not engaged in these types of activities.

The Quality and Efficiency of Vocational-Technical Education

In 1987, Balitbang Dikbud (Office of Research and Development for Education and Culture) in conjunction with IEES conducted an Indonesia Education and Human Resources Sector Review. As a follow-up to the Sector Review, and primarily based on the recommendations it contained, Balitbang and IEES developed an implementation plan for future IEES activities. This study was one of those activities.

The Sector Review identified four components within the vocational-technical subsector for further study:

- the cost effectiveness of vocational-technical programs;
- the regional relevance of the curriculum;
- partnerships with industry and/or commerce; and
- the placement of graduates.

The core of this study to a large extent focuses on these concerns in the framework of a detailed assessment of the quality and efficiency of vocational-technical education in Indonesia.

In designing the project the NRT, rather than pursue separate research activities to study these components, chose to focus their efforts, with IEES assistance, on an integrated policy re-

search agenda. A benefit of this approach is that as a result of the study's extensive data requirements Balitbang have established a comprehensive data bank and system of linked data bases that focus primarily on vocational-technical education.

Due to increased demands for information on the vocational-technical subsector, the continual development of the document library and data bases within Balitbang has become an integral component of the project. Information stored there is from an impressive array of primary and secondary sources and includes vocational-technical education data (statistics, reports and literature) GOI and donor reviews, related loan reports, project evaluations, sector reviews, literature and research on the transition from education to employment, research and evaluation literature, and copies of all project reports to date.

Rationale for the Study. Vocational-technical education requires comparatively large government expenditures (for example, actual costs per graduate in public SMA was Rph. 454,700 compared to public STM at Rph. 809,396: Sector Review, 1986) and yet has been shown to have a significantly lower rate-of-return than general academic secondary education (19% as against 23%: McMahon, Millot and Eng, 1986; 11% against 17%: McMahon and Boediono, 1988). These studies have, however, used highly aggregated data and a clear need remains for a more comprehensive knowledge base of the wider vocational-technical arena. Particular concern is currently voiced regarding the efficiencies of the system and its components, the quality of vocational-technical schooling and the relationship between the production of skilled graduates and the demands of an increasingly sophisticated labor market.

During the Pelita IV period, enrollment in vocational-technical education expanded by almost 100% (550,000 to 1,080,000 students: Dikmenjur, 1989). In light of the current GOI thrust in this subsector (as per Repelita V, to increase enrollments by a further 350,000 (32%) without a corresponding increase in funding) it is realistic to determine that GOI will not in the foreseeable future reduce its commitment to vocational-technical education. A crucial policy thrust at this juncture must, therefore, be to improve the quality, effectiveness and efficiency of the existing, constantly expanding system.

A general "intent" of vocational education is that graduates' employment, productivity, and earnings contribute significantly to the economy while fulfilling critical manpower needs in the semiskilled, skilled and mid-level technical sectors. To date there is little substantiative data available that speaks to the school-labor market relationship in Indonesia, except in the form of nationally aggregated figures that are cited in GOI macroeconomic analyses. Little is known of actual graduate activity in the economy in regard to methods of gaining employment, employment

tracks (types and length of employment), post-secondary education and training, earnings, and actual on-the-job performance.

Longitudinal analyses, tracer studies, are proving to be a reliable means of obtaining this type of data (see for example, *Eight Years of Their Lives*, Schiefelbein and Farrell, 1982). It is through such a study in concert with school and employer surveys, that the policy making process in Indonesia can be more adequately informed concerning vocational-technical education's responsiveness to labor market demands.

The Primary Focus of the Study. It is important to note that a prime MOEC intent in providing vocational-technical education is to prepare graduates who are ready to be trained in specific skills. It is not their intent to provide a pre-trained work force (Rakemas, 1987).

By addressing the policy issues detailed later in the brief, it is intended that the study will be able to contribute to, and inform policy debate concerning vocational-technical education. Two areas will be addressed, each closely related to MOEC's mission for the subsector, namely, what factors affect quality education in vocational-technical schools, and to what extent is the subsector externally efficient. The study will then combine these concerns to assess the degree to which quality vocational-technical education relates to external efficiency.

Contribution of the Study. The research and analysis attributable to this study contributes to policy debate thus:

- it speaks to issues of access, in particular to the degree of equity in access to vocational-technical education;
- it investigates program and curriculum responsiveness to current and projected manpower needs;
- it contributes commentary and a series of recommendations regarding the financial and institutional implications of maintaining regionally responsive programs and curricula;
- it addresses the incidence and impact of factors that contribute to the quality and efficiency of vocational-technical education;
- it identifies successful programs, as measured by, among other things, graduate placement in work related to training, estimated unit and cycle costs, and the ratio of qualified placed graduates to enrollees;
- it follows graduates through the transition process from education to employment documenting patterns of post secondary education and training, employment acquisition and subsequent labor market experiences and economic activity; and
- it presents a cost-effectiveness analysis of the system in general, and of certain programs and school types if possible, and finally, it will investigate education-industry/commerce partnerships and school based production units as potential mechanisms for increased program/school/system quality, effectiveness and efficiency.

Policy Objectives of the Vocational-Technical Education and Training Subsector.

Within the context of Indonesia and Pancasila, vocational-technical education should provide access for students to receive the education and related skills training that will enable them to become economically productive in the workforce. It is the intention of GOI that vocational-technical education and skills training support national development in a cost-effective manner.

The broad intent of policy within the subsector is to:

- provide citizens access to vocational-technical education;
- provide education and skills training;
- provide the potential for graduates to find work;
- provide the potential for graduates to be economically productive, utilizing their acquired skills;
- support national development goals through the activities of graduates;
- ensure efficiency within the subsector; and,
- coordinate and collaborate with other government agencies, industry and commerce.

Related policy issues:

- To what extent does the vocational-technical education system provide access to citizens in an equitable manner?
- To what extent does the vocational-technical education system provide basic education and practical job skills to its students?
- To what extent do vocational-technical graduates proceed smoothly into employment?
- To what degree does the vocational-technical education system produce graduates who are economically productive utilizing their acquired skills?
- To what extent does the vocational-technical education system produce graduates whose activities contribute to national development goals?
- To what extent does the vocational-technical education system operate efficiently, optimizing the use of public funds?
- To what extent does the vocational-technical education system coordinate with government agencies and actors in the subsector, and with commerce and industry vocational education and training, and do those relationships result in effective and efficient outcomes?

The Transition From Education to Employment: The Quality and Efficiency of Vocational/Technical Education Status Report

During the Pelita IV period, enrollment in senior secondary vocational-technical education expanded by almost 100%, from 550,000 to 1,080,000 students (Dikmenjur, 1989). In light of the continual GOI enrollment drive in this subsector (Repelita V calls for an increase in enrollments

by a further 350,000, i.e., 32% without a corresponding increase in funding) it is realistic to determine that GOI does not in the foreseeable future intend to reduce its commitment to senior vocational-technical education. A crucial policy thrust at this juncture, therefore, must be to improve the quality, effectiveness and efficiency of the existing, expanding subsector.

The general "intent" of vocational-technical education in Indonesia is that graduates' employment, productivity, and earnings contribute significantly to the nation's economy while fulfilling critical manpower needs in the various semiskilled, skilled and mid-level technical subsectors. However, it is difficult to assess the success of past efforts toward meeting this goal as there is a shortage of substantive data available that addresses the school-labor market relationship in Indonesia.

As one considers the many aspects of the transition from education to employment (employment acquisition, types and length of employment, occupational mobility, entrepreneurial activity, post-secondary education and training, earnings, on-the-job performance, etc.) it is evident that comparatively little is known of secondary graduate activity in the economy.

As longitudinal analyses (tracer studies) have proved to be a reliable means of obtaining this type of data, Balitbang Dikbud have adopted such an approach in the EPP QEVT policy research activity. The principal components are:

- a critical review of the relevant policy issues in the subsector;
- a longitudinal study of the senior secondary graduates;
- a comprehensive senior secondary school quality survey;
- a school costs and funding study;
- a survey of graduate's employers; and,
- a special study of the characteristics of graduates that are entering predetermined "technology" related occupations or higher education tracks.

In addition, IEES will sponsor in IEES Project Year Nine a series of workshops to enhance the data analysis and research reporting skills of the Balitbang Dikbud staff associated with the QEVT study.

The Status of the Project

Activities completed:

1. A series of planning and regional training seminars and workshops resulted in the production of the three provincial mapping reports. These reports are a crucial reference source of QEVT data on the three project provinces.

2. A comprehensive vocational-technical education data bank has been established at Balitbang. Relevant data is continually collected and stored at this facility.
3. The QEVT research brief design was modified to reflect a focus on the policy concerns that were detailed in the QEVT Policy Issues paper that was presented at the 1989 Balitbang/ EPP/IEES conference at Cipanas. (These activities were completed with IEES assistance.)
4. A thorough and protracted series of in-house instrument design sessions resulted in the QEVT team pilot testing longitudinal and school quality study questionnaires in Bogor, West Java during September 1989. Instruments were then modified based on an analysis of pilot study data.
5. A sampling design was drafted in Albany during October 1989, and later modified by the QEVT team to reflect actual enrollments. (This activity was completed with IEES assistance.)
6. During January 1990, planning seminars and field staff training workshops were held in Cipanas and in each of the project's three provinces. QEVT research staff remained at the study sites to supervise the administration of the surveys. Field work was completed in February 1990. Data coding and entry were completed over the following two months.
7. The sample's Ebta and Ebtanas examination results were collected during September 1990 and subsequently entered into the QEVT data base.
8. The first QEVT Seminar was held during January 1991. Data from the initial analyses were presented to a number of GOI agencies and representatives from the three participating provinces.
9. The Cost and Funding study is currently underway.
10. The first longitudinal study follow-up and associated data entry activities are currently underway.

Other Remaining Activities:

- Employer survey, interviews and data entry. January to March 1992
- Final follow-up and data entry. June to August 1992.
- Second QEVT Seminar. August/September 1992.

IEES Research Design and Data Analysis Workshops. IEES research design and data analysis workshops were held in April and August 1990, and January 1991. Topics included longitudinal study design, instrument design, descriptive statistics, intermediate SPSS, and a preliminary analysis of the Student ID and School Survey data bases. A fourth workshop is scheduled for Project Year Nine.

QEVT Documents

Completed working papers

"A Policy Research Brief: An Initial Draft"

"A Policy Paper: A Guide for Repelita V"

"A Revised Research Brief"

"The Quality and Efficiency of Vocational/Technical Education: A Policy Issues Paper"

"A Manual for the Administration of a Longitudinal Survey: The 1990-92 QEVT Study"

Other documents completed

Longitudinal Study and Data Analysis, Workshop Manual I, 4/90

Research Design and Data Analysis, Workshop Manual II, 8/90

Research Design and Data Analysis, Workshop Manual III, 1/91

Results of a Preliminary Analysis of QEVT Data: A Seminar Report, 1/91

Working papers scheduled to be completed

"An Analysis of the Student ID and School Survey Data"

"Case Studies of the Cost and Funding of Vocational/Technical Schools"

"Longitudinal Study Report I (Study Year 1, 1990/91)"

"The Employment of Secondary School Graduates: An Analysis of Data Supplied by Employers"

"Longitudinal Study Report II (Study Year 2, 1991/92)"

"The QEVT: Study A Final Report"

Educational Indicators for Policy Purposes

A study on Educational Indicators was published in this report period. Indicators are defined as quantitative characteristics of the education system. Indicators are required in Balitbang Dikbud for general policy purposes, and, potentially, for purposes of resource allocation within the educational system.

Raw data are the numbers on statistical returns such as the annual educational questionnaires; in themselves, they are essentially useless for policy purposes. Conventional statistical data are the totals, averages, and ratios presented in, for example, the Statistik Persekolahan SD

1986/1987. Indicators, however, are derived statistics that are likely to be immediately, or nearly immediately, meaningful or informative for policy purposes.

Indicators, therefore, should permit immediate (or nearly immediate) inferences about the performance of the system from the point of view of objectives of the system. These objectives may be efficiency ones (getting the most from the system given resources used), either internal (achievement of educational objectives) or external (from a broader social perspective, getting the most from the system, e.g., the highest economic return on the resources used in education after graduates enter the labor force); quality ones (improving the educational value added by the education system, i.e., gains in achievement as a result of the educational process); or equity ones (measures of the fairness of the distribution of educational resources, opportunities, and/or outcomes across relevant categories such as province or region or district, income class, urban/rural, ethnic group, etc.).

Indicators may speak to such objectives directly, or indirectly in terms of the inputs to the educational process, the process itself, its outputs (either as conventionally defined or, less probably because they are much more difficult to measure, as conceptually defined), or the eventual societal outcomes of the process (such as changes in economic activity and earnings gains attributable to educational achievement).

The development of an indicator system has to interact with the data collection and management information systems. Modification to these systems should only be made relatively infrequently and after careful consideration, because in a very large system such as the education system in Indonesia, change is slow, costly, and can be disruptive. However, potentially one of the greatest benefits of developing an indicator system is that it can act as a corrective to the dynamics of the data collection system. Indicators do not exist, and are not developed, just for the sake of producing numbers. The whole idea behind indicators is that these numbers are wanted for a specific, policy-relevant purpose. Thus, in working from desired indicators to necessary data, and back from available data to possible indicators, the analyst is continuously encouraged to ask these questions:

- What policy purpose can this indicator serve?
- Why do we collect these data? What policy purpose can they be manipulated to serve?
- How can these data that exist be transformed and presented in a way that makes them relevant as an indicator to a policy issue?
- What quantitative data, either already available or feasible to obtain, can be transformed and presented in a way that would throw light on this policy issue?
- What indicator would throw light on this policy issue? Can it be derived from existing data? From data that could feasibly be collected?

- If data are needed that do not exist, is it feasible to collect them? At what cost? How soon could they be available? How accurate do they need to be? Is a census (annual questionnaire to all schools) the best way to collect them, or, considering cost, speed of availability, and accuracy, would a sample survey be better?

By continually asking such questions, and having them the subject of dialogue between those responsible for policy analysis and those responsible for data collection, the information system can be gradually made more useful for policy purposes, and data collection that has outlived its usefulness can be eliminated.

The current Statistik Persekolahan SD contains a wealth of data on primary education. The bulk of these data are presented as raw total numbers by Province, generally divided also by Public/Private, and often in addition by status of Public (Inpres or regular). Given the means by which these data are generated (a questionnaire to each school, summarized at Kecamatan, Kabupaten, and Kanwil levels), most of the indicators that will be suggested here could also be calculated by Kanwils for the Kabupaten subunits within them. Thus the indicators appropriate at the national level (showing information about distribution across Provinces, and thus permitting inferences about quality, equity, and efficiency at that level) can also be used at the Province level to permit inferences about quality, equity, and efficiency across Kabupaten within each Province, and even in principle for Kecamatan within Kabupaten. However, for the statistical procedures to permit the full benefit to be derived from the data collected on questionnaires to primary schools as that data flows up the system, it may be necessary to make some modifications to the current procedures of reporting the data.

Much data are already available to the Ministry. Currently, they are not routinely transformed into, and presented as, indicators, by province or socio-economic status, that would speak directly to policy issues of efficiency, equity, and quality. For primary and secondary schools, this can be done, relatively easily and quickly, at least for efficiency and equity, with only very minor changes to the current annual questionnaires and data processing procedures.

For quality issues, and for all higher education issues, the situation is different. With respect to quality, it is doubtful whether useful and reliable indicators can be produced without new data collection efforts, which almost certainly should take the form of an institutionalized, regular, annual sample survey of schools involving actual visits (and possibly achievement tests) and both "normal" and "special study" sections. Quality data of any practical use is extraordinarily hard to obtain; however, given the emphasis on quality improvements in education in Repelita V, if this is not to be interpreted purely as input increases, attempts will have to be made. This would seem to strongly support the initiation of the sample survey for primary and secondary schools.

Teacher Education Issues

Improving the Quality of Teacher Education. Improving teacher quality is crucial to achieving improvements in the efficiency of schools, since the efficiency concept embraces both cost concerns and educational effectiveness. This improvement is particularly critical at this time, given the pressures which push toward nine years of basic education will exert on the present teacher education capacity at the primary and junior secondary level. This expansion, accompanied by the implementation of a new curriculum, requires the retraining of teachers currently in service, as well as the recruitment, training, and retention of new teachers. While there is strong evidence to support the contention that improvements in the quality of teachers have a disproportionate effect upon school quality, and thus upon student achievement, investments in teacher quality are also very costly. Therefore, it is necessary to explore creative, more efficient strategies for utilizing the variety of existing institutions of higher education rather than massive investments in new ones. An approach which examines non-fiscal incentives for the recruitment and retention of teachers and which also explores institutional pluralism (for the involvement of both existing private and public teacher training facilities) is thus envisioned. Indonesian open university network, as well as its widespread private university system, offer potential means for relieving the already overburdened public sector of some portion of the task of training new teachers. An important aspect of assistance will be policy research, which explores a system of incentives to encourage the private universities to assume a larger share of the teacher training burden and which would encourage the individuals already in service to invest some level of their personal resources in the improvement of their professional capacity.

Primary and secondary teaching in Indonesia, as in many other countries, has shifted over time from an occupation of the elite to a route to upper mobility. A study by Tjiptosasmito and Cummings in 1981 found that the older teachers tended to come from higher socio-economic backgrounds as measured by paternal education and occupation than did the younger teachers. On average, both prospective primary teachers and secondary teachers had far fewer consumer items in their homes than did high school students who did not aspire to teaching. Further, the rankings on the consumer item scale suggested that the homes of prospective primary teachers were far more modest than those of prospective secondary teachers. The authors concluded that the majority of prospective teachers, particularly male teachers, "are the academically able children of rural homes and modest income urban homes where the parents lacked sufficient funds to support their children for a full University course." The young women willing to teach tended to come from higher socioeconomic homes than did young men, suggesting possible educational discrimination at higher levels, labor market discrimination, or the compatibility of teaching with cultural values or traditional child-raising activities.

On average, the study found that prospective teachers were somewhat more modest in assessing their own ability than were those who had no interest in joining the teaching force. This finding has more recently confirmed by forced choice between application for university or LPTK programs. LPTK applications now come from students who tend to be less certain of their academic competitiveness and who, therefore, choose to reduce risk of losing a tertiary seat by applying to teacher training institutions. The net affect of the forced choice, all else equal, has been to reduce the number of science students entering the LPTKs.

Recommendations. The recommendations resulting from that review in order of priority area are listed below. The recommendations related to inservice training are presented first because the magnitude of the proposed government upgrading effort demands priority be given to all initiatives related to it.

Inservice Training

1. Conduct a research review (and new exploratory research if necessary) into the learning needs and abilities of primary teachers (in different regions and at different levels – lower grades and upper grades) and principals, keeping in mind the unique set of skills required by those in remote (small schools areas). Use this as the basis for creating options in the D2/SD learning package and to reducing the difficulty and density of the curriculum.
2. Organize a task force to examine the ways in which existing teacher training and support groups (KKG) can be used as the basis for D2 level upgrading and to examine what, how much, and what aspects of the KKG program can be accepted for UT/D2 course credit. The same or a similar task force could formulate a sequence of competencies which should be covered by KKG activities in collaboration with UT.
3. Conduct a formative evaluation of the implementation of the D2/SD program, paying special attention to different forms of learning group organization, rate of student progress, problems and difficulties in following UT courses and ways in which D2 program activities relate to other inservice training programs and teacher time-on-task. This should be organized as soon as possible to allow for the collection of baseline data.
4. Examine the implications of offering the D2 program to SD teachers free of charge, including the negative impact it might have on their commitment to the course and on the morale and motivation for upgrading of the SMP teachers.
5. Conduct an assessment of the learning gains of students in classroom which ALPS (or CBSA) programs are being implemented in order to determine where in the ALPS network and under what circumstances children best learn how to solve problems and use/master progress skills.
6. Involve Balitbang staff and outer island educators (Kanwils, universities) in the formulation and testing of a variation of ALPS systems appropriate for small schools

settings; convey the new variations to UT and pre-service training programs so that they can be put into small school training packages.

7. Draw attention to the problems of under-qualification of SMP teachers and the weakness of incentive structures for their advancement to the D2 level. Clarification of the MOEC policy concerning the minimum qualification for teaching at that level.
8. Develop ways of making D2 level upgrading for SMP teachers more attractive, including providing course credits for appropriate PKG involvement, the use of local training centers/ mechanisms for tutorials, the establishment of a D2/UT library at the local study centers (to cut down on the costs of learning materials), the provision of a partial subsidy for D2 level training, and encouragement of student-formed or privately operated study groups.
9. Conduct pilot projects on different approaches to integrating the teacher upgrading (UT/D2) and in-service training (PKG).
10. Continue research already begun at the Open University to determine the effect of UT course participation on various SMP teacher competencies with purpose of identifying in which areas (subject matters, skills) the university is making/can make an important contribution and which areas need to be strengthened or given over to the inservice training systems.
11. Conduct a new evaluation of the effectiveness of the Sanggar PKG program.
12. Organize a task force to explore the similarities and differences in the programs of inservice training for primary and lower secondary school teachers and examine ways in which they might be related to one another as the two levels become more integrated under the 9-year basic education cycle.

Teacher Incentives

1. Develop a unitary strategy for the deployment of all basic education teachers.
2. Track the effects of the new teacher compensation plan over its first four years in order to determine: (i) who benefits, who loses, and why; (ii) the effect on instructional time of its incentives for upgrading and multi-jobbing; (iii) the equity and appropriateness of using the same credit weighting for teachers at the primary, secondary, and university level; and (iv) its effects (if any) on teacher willingness to teach in remote areas.
3. Study the incentive value of adding the structural position of mentor teacher to create greater career opportunities within the basic education field.
4. Clarify the role of the supervisor and consider alternative forms of non-monetary rewards for exceptional service of principals and supervisors.
5. Develop alternative definitions of rurality, construct alternative incentive packages for remote teaching, and test the fiscal implications of each incentive package.
6. Study the quality of private schools (at all levels of the system) relative to that of public institutions in order to provide a firmer basis for accreditation standards

than is currently available and to determine to what extent these institutions could become self-sufficient if the present considerable government subsidy were withdrawn.

Preservice Training

1. Study the future roles of the LPTKs. This study should include analyses of:
 - student flows, including drop outs and completion and characteristics of the students including their home areas and their aspirations;
 - cohorts of students as they go through the different programs and are placed after graduation, including the location of their placement;
 - the perception of the students concerning the effectiveness of their preparation;
 - the use of the branches with special attention to their uses as recruitment centers, centers of experimentation, observation and practice;
 - cost data;
 - faculty preparation and productivity with respect to students, classes, research activity, service activity, and direction of student observation and practice, arranged by level of faculty appointment;
 - plans for the changing of programs in accord with changing student flows, needs of communities served, and targets for faculty upgrading; and,
 - incentives used to upgrade faculty and to reward outstanding productivity.

Education, the Economy, and Development

Areas of external and internal efficiency which have been central elements of EPP/IEES assistance in Indonesia require ongoing support. Ongoing assistance has been provided in the development within Balitbang Dikbud of a capacity for policy research and strategic planning analysis. This effort has had highly-leveraged impact and the momentum for further impact remains very strong. More directly, it is this component which will provide the information on the cost consequences of any investment in curriculum reform and improvement in school quality, including the quality of teacher education, which is crucial to the policy decision process. Furthermore, it is policy research in the area of external efficiency that can provide feedback on the effectiveness of these policy adjustments for improving the linkage between school and the labor force.

IEES-assisted cost analysis research has provided data on actual expenditures by local schools, private expenditures by the parent, and how these differ from budgeted expenditure for each type of school in each of the three EPP pilot provinces. This work is central to the conduct of

cost-effectiveness analysis and thus is a means of improving the internal efficiency of the education system.

The external efficiency of the schools is also a very high priority issue in Indonesia. Strategic policy analyses have already been conducted using micro-data on individuals drawn from a stratified random sample with 225,000 respondents through the country. The results have now been replicated for 1982, 1986, and 1987, greatly increasing the confidence in the findings. These data also have now been broken down by province. A next step is the development of policy papers that can serve as the basis for the implementation of policy adjustment relative to improved efficiency at the provincial Kabupaten and even individual classroom level.

Macro-level external efficiency research is targeted as a priority area for the Ministry of Education and to USAID/Jakarta. Therefore, EPP/IEES continues to include this crucial overarching component within the overall design of the EPP/IEES/MOEC collaboration. Funding for this strategic component is provided largely through the EPP budget by the USAID Mission, joined with World Bank funds which are available to Balitbang Dikbud.

The first phase of this cost analysis research in the internal and external efficiency of education in Indonesia was completed in March 1990 by Walter McMahon. Three papers were completed. The first was a strategy paper on "Planning Human Resources Development in Indonesia" which develops the strategy, and the policy research needs and institutional capacities necessary to support the policy research thrust of the IEES/EPP project as it relates to Costs, Internal Efficiency, External Efficiency, and Financing of Education in Indonesia.

The second paper was "A Draft Terms of Reference on Education and the Economy for the 25-Year Plan" which included an outline of research to be undertaken. This paper concluded with some major kinds of evidence arising out of past empirical research in Indonesia that may be relevant to the discussion and refinement of 25-year goals.

The third paper "A Terms of Reference for Cooperative Activities Involving MOEC, the Ministry of Manpower, and BAPPENAS" was discussed at an interministerial steering committee meeting.

Long Range Planning – Indonesia Education 2000. The development of the long range educational plan was initiated by Pusat Informatika. Conceptual guidelines were set with the approval of the Steering Committee of EPP and necessary activities were scheduled. A preliminary draft of a long range plan for the education sector, "Long Range Planning - Indonesia Education 2000," focusing on issues like economic growth projections, manpower requirements, demo-

graphic trends, etc. to the year 2018 was prepared. That working document lays the foundation for the preparation of the Indonesian Education 25-Year Plan Background Papers.

An interministerial long range planning group was set up under the leadership of the Director of Pusat Informatika, at the request of the National Strategic Planning Commission (Hancam), charged with preparing the next 25-Year plan. To this end, EPP provided assistance to the Pusat Informatika in the development of a Long Planning Group (LRPG) early in Project Year Seven and will serve to lay the groundwork for this activity; setting the dimensions of the work and deciding on the allocation of resources required.

The process of developing the 25-year plan proceeded in two phases. The first phase included the following outcomes:

- formation of the LRPG and its management scheme;
- elaboration of a process for activities and events leading to the plan development;
- preparation of a design for the plan documents; and
- identification of logistical requirements and scheduling.

The second phase included the completion of the 25-Year Plan Background Papers and the 25-Year Planning Conference in January 1992.

Education, Economics and Social Development.

The Education Goals for the Second 25-Year Development Plan are new in relation to the first 25-Year Development goals in that they emphasize improved quality, equity, and efficiency.

They build upon the first 25 years by also providing for continuing expansion of access at all levels. This expansion of access requires education of good quality, that is equitable, and efficient. These goals of major improvements in quality, equity, and efficiency overlap in meaning. Mutually exclusive definitions of each are not possible. All of these concepts, however, relate to access.

Access, as the term is used here, refers to enrollments at each educational level. In 1991, the current net enrollment rate (the percent of children and youth from the relevant age cohort who are enrolled in school) for primary education is 91%; for junior secondary schools, 41%; and senior secondary schools, 22%; and for higher education, 6%. (The gross enrollment rate in higher education is much larger because of the over-age enrollments). Efficiency criteria in the form of rates of return at the junior secondary, senior secondary and higher education levels are likely to remain relatively high given the educated labor needs of the new technologies and the expansion

of demand at these levels. These rates of return warrant expansion of access even if quality levels remain the same.

These goals at the primary level include reaching a net enrollment rate of 100% by 1998, and reducing the 38% who currently do not begin 7th grade, which is higher in the rural areas.

At the junior secondary level, access goals include reaching a 100% net transition rate by 2003, which involves increasing the current net enrollment rate of 41% to 100% by 2008. At the senior secondary level the access goals are for an 80% net enrollment rate by 2003, where it would flatten out.

Finally in higher education, the net enrollment rate would rise to 25% in 2018 from the current 5.77% (which does not include the very large over age enrollments). This means about a 7% gross enrollment rate currently compared to 30% in Japan (held constant at that level since 1978), 37% in South Korea, 7% in Malaysia, about 15% or more in Taiwan and Hong Kong, and 16% in Thailand. Perhaps Malaysia and Thailand will be near a 25% net enrollment rate by 2018.

Primary Education

Access. An extension of opportunity to study that attains a 100% net enrollment rate in elementary school by 1998 (GBHN 1993 #6). There may be some double counting in the enrollment totals since some students are enrolled in more than one type of school. The steps that follow are necessary to reduce the dropout and repetition rates. The data refer to actual enrollments in 1992, not Repelita V targets.

Equity. Equalization of pupils per teacher, and free use of textbooks, especially in all low income and rural schools by 1998, at the relatively low cost of 74 bil. Rp. Elimination of dropouts in rural and in poor urban areas (GBHN, 1993, #6). The public financing of use of textbooks makes possible privatization of textbook production and delivery, with curriculum center approval of content to ensure quality and with private firms assisting in serving the needs. Textbook vouchers could be sent directly to local principals, include delivery of approved books, and require delivery to remote areas to be counter-signed by the principal before the textbook company can be reimbursed.

Quality. Improvements in the pre-service and in-service training of primary school teachers, including adequate pay incentives to attract and retain able, high quality teachers by 2008 (GBHN 1993, #5). Improved administration of the schools which requires that teachers have only one boss. This probably means they must be paid by MOEC rather than Home Affairs as per the public directive (PP6), and directly by check by 1998 to eliminate the diversion of funds and improve administration of the pay rolls. A unified financing system would increase the capacity of

the school administration to improve the primary schools. Improved IKIPs and improved science, math, and language teaching.

Junior Secondary Education

Access. 90% net enrollment rate by 1998, 100% transition rate by 2003, (Repelita VI), and 100% net enrollment rate by 2008.

Equity. Textbooks for all by 1998, during which time private textbook companies could gear up for production and delivery of textbooks approved by the curriculum centers to the local school where they would receive the vouchers for the textbooks enabling them to claim reimbursement. Free use of textbooks for all primary and junior secondary children from low income families, urban and rural, by 1998 (Repelita VI). Aid to underserved schools. This program, supported by the Government and the World Bank, is targeted at the moment to reach only the poorest 10% of the primary schools. It could be extended to the junior secondary level and eventually gradually be folded into a new National school-aid formula (resource allocation model) as the latter is developed.

Quality. Teacher pay incentives, to attract, retain, and provide incentives for better training. Teachers paid by check. Better math, physical, social, and life science teachers and language teachers through better in-service training and better IKIPs. National Implementation of the new National Curriculum, by 1988 (Repelita VI); improved quality of laboratory and classroom facilities, and other quality and effectiveness improvements discussed above.

Senior Secondary Education

Access. An 80% gross school enrollment rate by 2013. (Korea and Taiwan both went from 48% to 92% in 17 years.) If there should be more unemployment in this group it would lower the relative wage and increase export competitiveness, leading to faster growth of employer demand.

Equity. A financial resource allocation formula by 2003 that provides a guaranteed minimum expenditure per pupil and also stresses important aspects of efficiency (e.g., attendance, time-on-task). Textbooks for all in grades 10-12 by 2013, including free use of books by all lower income families, mandatory completion of grade 10 by 2013.

Quality. Improved language, mathematics, and science teaching that forms an intellectual attitude that appreciates science and an ability to participate in technological development (GBHN, 1993, #5). Better labs. Better teacher pay incentives for additional training, retention and recruitment, salaries paid by check for accountability; career paths for teachers.

Senior Secondary Vocational. Increased participation by private business and industry through shared instruction, apprenticeships, and internships appropriate to technological change and adaptation. The current 434,000 Rp. public cost per student, including 213,000 Rp. for equipment in STM's can be reduced as this type of vocational training is done more through vocational apprenticeships with private industrial firms using their equipment. The quality of instruction also can be improved through access to the newer, market-oriented technologies used in firms. Job-search time at completion can be reduced because many apprentices will be kept on by firms.

Higher Education

Access. Raising net enrollment rates from the current level to 25% by 2018. Expansion of the private universities and their systematic accreditation has a significant role in meeting this goal as well and is included in the enrollment totals. Decentralization and increased autonomy for the public institutions; accreditation of the private (and public) colleges (GBHN, 1993, #7). Increased efficiency via large reductions in the number of over-age students, in spite of a growing Masters and PhD enrollment, as the result of gross and net enrollment are shown.

Equity. Tuition waivers only for students from lower income families, based on financial need analysis. Establishment of a new National Financial Need Analysis System by contracts to private firms such as the American College Testing Program (ACT) or College Board (CEEB) that do this in the U.S. Strengthening of the Provincial Universities. Some two-year community colleges close to students' homes. Reform of admission standards to use honest ranks in the high school class and lesser weight on test scores (e.g., 20%) to improve both the prediction of success in college and in jobs later as well as access by residents of the Provinces who will return to aid economic development there.

Quality. Access to modern science and computer laboratories. Greater efficiency (e.g., finishing four year degrees in four years instead of 7), use of research and teaching assistants to facilitate the capacity of faculty to update their skills. Resource recovery through tuition that rises from the current ratio of about 15% costs in the public universities to 30% by 1998, rising gradually to cover 50% of direct costs by 2018. This can be used to provide better salary incentives to attract and retain higher quality faculty, to finance continuing expansion, and to encourage shorter degree programs. Improved education in the physical sciences, life sciences, social sciences, language, engineering, business, and agri-business areas and greater use of user-driven research financed by government and by industry at universities help faculty and students stay up-to-date in all fields (GBHN, 1993, #7). Greater industry participation in the finance of applied research at the universities (User-driven). Faculty incentives would be facilitated by separation of faculty pay scales from the civil service.

Non-formal Education. Non-school education for illiterates augmented by job training for those with limited skills who are now in the labor force to reduce unemployment and raise their productive ability.

Educational Management and Implementation of Goals. The specification of goals and targets represents a major step in the process of planning the educational future. Implementing the goals is an equally great challenge. Indonesia has many highly skilled educational administrators within an experienced educational bureaucracy. Nevertheless, the size and complexity of the suggested improvements in access, equity, quality and efficiency will place new and heavy demands on educational management and require that special attention be given to implementation planning.

The translation of goals into programs and projects which determines absorptive capacity involves definition of the responsibilities of each level of the educational bureaucracy. Which decisions should remain centralized, which should become decentralized and with which goals can the private sector best help (e.g., textbooks production, VOTEC internships, accreditation of private colleges, etc.)? Although there can be no easy answer to this question, the central level will need to be involved in the allocation of funds, and the management of large scale, complex operations such as purchase and distributions of equipment. Central authorities also may be expected to play a major role in defining the general direction for educational change, monitoring resource flows, ensuring adequate inputs, and as necessary, mobilizing national commitment.

However, the ability of central policy makers to affect directly what happens inside the schools can be greatly enhanced by effective local school and university management. Reliance on centralized management specifying quantities and program delivery may overestimate the capability of the central Government to control implementation efficiently and underestimate the need for local adaptation. For effective implementation, local level involvement may be needed in the more detailed proposing and planning for new programs and in the mobilization of teacher and parent participation. If decentralization in Indonesian Education proceeds as planned it may be assumed that increasingly the Kabupaten, Kecamatan, the individual school, and the University Rectors and Vice Rectors will accept more responsibility for management of resources to adapt to local needs. Successful management and implementation of the proposed reforms in Indonesia at a minimum call for additional responsibility and resources to be transferred to the school level, development of improved upward communication, and attempts at creation of participatory decision making processes involving, as appropriate, teachers, community members, and parents. The considerable uncertainty surrounding major educational changes and reforms requires administrative

flexibility and local administrators must not only be well trained but also assume responsibility while feeling able to take risks and make mistakes.

Education and the Economy

This volume develops ways of improving the efficiency of the education system, focusing on the scope of the contribution of education to economic development, and on the improvement in external efficiency as a key means of increasing that contribution.

The problem with external efficiency in Indonesia is the poor match between graduates and the changing needs of job markets, and includes either under- or over-investment in human resource development at each level; overall, this is a common problem in developing countries. But it is a problem that emerges as the successes of educational expansion and the role of education in aiding development begin to unfold.

These successes have been remarkable in Indonesia. They include a dramatic expansion of basic education, with essentially co-equal education of all males and females through 6th grade, 41% through 9th grade, and a 600% expansion in access to higher education in recent years for example. The senior secondary and college systems have begun to serve the needs of a growing economy, in engineering, agri-business, and commerce and business administration. These needs however now are changing rapidly and will continue to change since Indonesia has moved to an export oriented growth strategy, and since the demands of changing technology and management techniques require increasing numbers of well educated graduates who also can learn on the job and adapt to change.

This requires a new way of looking at the implications for the development of human resources through education. This volume seeks to do this, seeking to avoid an excessively technical level so that it is readily accessible to a wide audience of government officials, academics and others in the education system, and citizens in business and other communities who are well informed but who are not specialists. At the same time it seeks to maintain a high level of technical competence (some of the chapters are adaptations of articles that have been refereed by technical specialists and are being published in academic journals), and to be in tune with current worldwide research on the issues addressed.

That is not to say that there will be unanimous agreement among technical specialists, much less among persons who have vested interests in one or another part of the education system. There never is when new ideas raise questions about some aspects of older ideologies, or where a system such as education is involved that touches deeply the lives of so many people. But we have tried hard to be objective, as factually accurate and comprehensive as is possible given the

resources that are available, and to faithfully represent the mainstream position on technical issues in current research.

Developing Provincial-Level Sector Review Capacity

Sector Review Update. EPP conducted a series of workshops at six month intervals to continue the training of local officials in sector assessment methodology. The workshops focused on analysis of data collected by workshop participants since the first workshop held in 1990. Participants analyzed the provincial-level survey and interview data to describe the status of three subsectors: educational management, educational finance, and education and manpower.

The final outputs are 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 is 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 is a manual on methodologies taught during the workshops to support future updates conducted without the need for any substantial input of external consultants.

2.2.1.4 Nepal

Grade Repetition and Student Attrition Research. A major component of the IEES project is in providing technical assistance and targeted support funds for the conduct of educational research. IEES, in consultation with the MOEC leadership and the EMIS Steering Committee, has designed and initiated an action research study to investigate the 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 for improving student flow will rest on interventions undertaken at the community level. More information is needed on community-school dynamics if effective assistance is to be developed for communities to improve the efficiency of primary education.

As the research is built more on a case study approach, offering situation-specific profiles and solutions, statistical representation will not be attempted -- it is not considered appropriate for

this type of action research. The approach for this research has been chosen with the understanding that a traditional, statistically representative survey would not produce the type of results desired by the MOEC, namely, specific solutions and recommendations for action.

A nine-member, intergroup research team has been constituted with MOEC officials, faculty from Tribhuvan University, New Era staff, and Cynthia O'Brien and David Chapman, SUNY/A. New Era is a private, Kathmandu-based research organization which will assist with the study. RTA Howard Williams serves as Research Director.

The research will be conducted in four districts of Nepal: Dhankuta, Rasuwa, Kapilbastu, Dadeldhura. These districts offer basic representativeness of Nepal (Mountain, Hill, Terai; East, Central, West, and Far West). Five school/communities have been selected for each of the four districts, for a total of 20 schools/communities. In each district, one school/community site will be the district headquarters, and the other four will be rural.

Phase One data collection instruments were reviewed by the full research team and Joint Secretaries Manandhar and Giri. The instruments have also been field tested in Kaski, Gausuli/Chhaling (Bhaktapur), and Kathmandu, with subsequent revisions made. Cynthia O'Brien also provided an "external" review of the data instruments.

For each site, data are being collected re:

1. Basic community characteristics and "community perspective," through group discussion/interview with eight-plus community persons who are active in community development and/or educational support. These persons are identified through consultation with the headmaster and teachers. However, the community group should not include the headmaster or teachers.
2. School characteristics, through discussion/interview with school headmaster. The school registers are also being reviewed for attendance rates, and grade one ethnic, age, and sex representation.
3. Teacher's perspective, through interviews with two teachers with grade one assignments.
4. Students' experience (regular, drop-out, and repeater), through interviews with eight students. This group should be at least 40% female, and the proportional breakout among the three groups will be the distribution among these groups in the school.
5. Parent's perspective, through interviews with one parent of each student interviewed, with at least 40% female parents.

Interview teams for each district are comprised of three-person teams: two interviewers from New Era, one-two DEI representative(s), e.g., primary supervisor, and a member of the Research Team. The Research Team members remained with the field data collectors for at least one

full community data collection outside of the district headquarters, to address any methodological or procedural issues in the start up.

The interview data and the results of the content analysis will be used to develop a Community-School Profile of communities and schools. Primary differences among schools in the high and low groups will also be identified.

Based on an analysis of the interview data, follow-up focus group discussions will be conducted with community and school leaders in four-six communities and schools to identify 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 the early primary grades. The design additionally will offer a model for policy action research that the MOEC can use to investigate the impact of interventions aimed at solving other issues in educational quality and efficiency.

2.2.2 Plans for Project Year Nine

2.2.2.1 Botswana

The findings of all IEES-funded research will be reviewed at a national seminar in October 1992 in Gaborone. Reports of these research efforts have been published and widely disseminated in Botswana, as well as in Namibia and Zimbabwe.

2.2.2.2 Indonesia

Strengthening Local Education Capacity. The interest of Indonesian political leaders in identifying approaches to enhance the role of local leaders in shaping the nature of social services is widely evident. In the education field, this interest has been codified in government regulations.

The current discussions concerning implementing policies focus on such alternatives as decentralization/local autonomy and deconcentration, while remaining somewhat imprecise in defining what is intended by these concepts. These two political/bureaucratic approaches to decentralization can usefully be contrasted to the market approach which places greater reliance on client demand, sometimes referred to as privatization.

Research on the organizations delivering social services, on locally available capacity to manage and finance these social services, and on the relations between the local delivery units

both to clients and to higher levels in the political-bureaucratic system can make an important contribution to policy development. This research can help to clarify the types of decentralizing and deconcentrating reforms that best suit Indonesia, and may even point to new directions not currently under consideration.

In this outline, we propose an approach to research on educational decentralization in Indonesia. This approach involves cooperation between USAID through Project IEES and Balitbang, Ministry of Education and Culture, Indonesia. The research is divided into two phases, a policy analysis phase and an action phase.

There have been a number of interesting attempts to conceptualize the major types of decentralization stressing, for example, such options as devolution, deconcentration, and deregulation, but none of these is fully convincing. To simplify the presentation of this design, we will treat all of the current policy options as "decentralizing" options without prejudice to any particular subset.

Social services receive political, managerial, financial and other inputs from multiple societal levels, which in the case of Indonesian education can be referred to as follows: the National (N), the Provincial (P), the Regency or Kabupaten (R), the Kecamatan (K), the School and Local Cluster (S), and the Community (C). Decentralization can be thought of as a macro-organizational reform that shifts the principal locus of these inputs downward; of course, in this reform, there may also be an upward movement of some inputs to counterbalance the overall downward trend.

Factors Influencing Decentralization

Research in Indonesia suggests five sets of factors that are known to influence progress to decentralization, including the role of the local level in shaping education. The figure below provides a schematic linking of these five factors to the decentralization outcome.

| Factors | Levels |
|----------------------|---------------------------------|
| Rationale | N |
| Constitutional/Legal | P P R R R R R R |
| Political Linkages | K K K K K K K K K K |
| Managerial Resources | S S S S S S S S S S S S S |
| Financial Resources | C C C C C C C C C C C C C C C C |

To the extent these factors are favorable, decentralization in some form is likely. Unfortunately, to date there is no persuasive comparative theory that links specific categories of these factors to specific decentralizing options. Still theory suggests that it is important when considering the process of decentralization in a particular setting to look at each of these factors:

The Rationale. Common to all decentralizing arguments in contemporary Indonesia is a recognition that a new approach should strengthen national unity. Some proponents believe that an increased role for a local voice is essential in order to strengthen national unity, and others simply argue that a local voice is essential to improve the quality of social services, not to mention the acceleration of national and local development. Finally, some argue that decentralization and even privatization should be advanced in order to increase the efficiency of social services, especially in view of the slowing rate of growth of central government revenues.

Different groups take their distinctive positions with respect to the various rationales. It is important, when considering the prospective direction of decentralization, to appreciate that some regional areas have relatively sophisticated decentralizing rationales, often based on traditional patterns of social organization; an example would be West Sumatra's Minang Kaboh culture, which provides a clear prescription for local government. Where rationales are strongly subscribed to, local areas are more likely to press for decentralization.

The Constitutional/Legal Framework. A variety of laws and presidential degrees have been issued over the past three decades which are favorable to decentralization, but which differ in their emphasis. Some stress a deconcentration of authority within the central technical agencies while others stress a greater role for local government authorities. In some instances and for some sectors (including education), the current constitutional/legal provisions seem contradictory. In many instances, they allow for varied interpretations. Thus concerning basic education, both the Ministries of Education/Culture and Home Affairs view current laws as insuring a prominent role for their services. Clearly, additional legal work will be required as decentralization moves forward; in some instances, this will involve developing implementing regulations for existing laws, while in other instances it may require a simplification of current regulations to free local actors from various restrictions.

Political Linkages. A critical factor in the enhancement of local autonomy is the nature of political linkages between the local and central government, as well as within local settings. Local political development may be expressed through local councils which meet to discuss community affairs. Local areas differ in their degree of accessibility to central leaders, which is an important key to gaining central support for local projects. Some local areas are known for the strength of local leadership and for the extensiveness of local loyalty, while other areas are heavily dependent

on leadership supplied from outside. It can be argued that a decentralized form of management is likely to be self-serving unless it is made responsible to local citizen groups which have a vested interest in the quality and efficiency of local services.

Managerial Resources. One of the greatest limitations on decentralization is often said to be the lack of management talent at local levels. By most objective indicators, it is clear that the central level in Indonesia has a greater share of the nation's highly educated class, but that does not necessarily mean that local areas are short of talent. Indeed, long before the central government gained ascendancy, local leaders demonstrated considerable proficiency in managing local affairs. With over four decades of educational development since independence, a significant number of individuals have acquired academic qualifications and many of the this new generation of leaders have committed themselves to careers in local areas. It may be that there is far more talent at the local level than is generally believed. In field work conducted as background for this design, one local leader reported that 80% of the school heads in his district were able to exercise broad levels of authority over the management of their schools. With decentralization, it is certain that an extensive program of training will be required to prepare public servants for their new roles. It might be argued, in this training, that it will be as important to teach central bureaucrats to let go of authority as to urge local officials to become more assertive in their work.

Financial Resources. One of the outstanding anomalies of Indonesia is the high concentration of public revenues at the central level. Local governments enjoy little autonomy, in part, because they generate little revenue. It is often assumed that this centralization of revenues derives from special characteristics of the Indonesia resource base that are relatively unchangeable. In fact, a considerable share of central resources derive from taxes collected by local authorities which they are required to transfer to central authorities. For example, half of the fees collected at the local level for car licensing end up in the central treasury. Some local areas give up far more than they get back in transfers from the central government. Despite the regulations leading to a centralized flow of tax revenues, some local governments have found ways to collect substantial revenues; and it may be that there are yet other ways to be discovered. One of the most obvious ways to enhance local revenues is to alter current taxing laws which assign such a major portion to the center. Moreover, due to the limitations of the public sector's ability to meet demand, many private organizations have formed to supplement the public effort, typically drawing on new resources that are inaccessible to the public sector (due, for example, to regulations that restrict the public sector's behavior). In the educational sector, private schools are widely prevalent and these schools may provide useful insights on ways to promote decentralization.

Decentralization of education, just as much as the other social services, will be determined by the above five factors; hence this research seeks to gain deeper understanding of these factors.

Currently two different decentralizing alternatives are being debated for basic education: one which involves an enhanced role for local government authorities and a second which involves a deconcentration of authority within the Ministry of Education and Culture. While both of these alternatives have a certain level of constitutional and legal backing and political support, little serious work has been conducted on the implications of these approaches. The two alternatives involve different arrangements of resources between the national and local bureaucracies. The deconcentration option has some resemblance to the current approach of the Ministry of Religious Affairs to those schools under its control, and thus something can be learned of its prospects through looking at Religious Affairs' past experience. There is no recent precedent for the second political option.

Neither of these political alternatives is necessarily the most desirable outcome. Recent international research on political approaches to the delivery of educational services indicates that bureaucracies encounter difficulties in delivering education to peripheral areas, as the various regulations they devise to insure equal delivery to standard settings limit their ability to reach out or adjust to exceptional settings. Moreover, bureaucracies have a tendency to multiply functions and become excessively protective of their own interests over against those of their clients. Rewards tend to be structured to favor those who manage services relative to those who receive them.

It can be argued that the political approach to educational policy in Indonesia reached a delivery threshold in the early eighties, and has since begun to encounter some of the same problems experienced by educational systems in other parts of the world: excessive bureaucracy and frequent policy changes in such areas as curriculum and teacher qualifications leading to a widening gap between policy and implementation, a leveling of revenues, a decline in the ability to provide instructional materials.

Distinct from the political alternatives is what is now commonly referred to as the market alternative. Social service delivery is organized much as a private firm is organized: delivery provided by individual units that have major to exclusive responsibility for the management of their operations, these operations are priced according to actual costs, units are allowed to compete openly for resources (including students), and those units that do well in the competition grow in size and/or improve in quality, while those that cannot compete fail. The market principle is clearly evident in the vigorous religious and private sectors of Indonesian education, and these sectors may provide some hints for new approaches to educational decentralization. Comparisons

between the public and private sectors may reveal the strengths and weaknesses of each in terms of efficiency, quality, adaptation to local needs and other matters of common concern.

Research Objectives. It is uncertain what the outcome of the current Indonesian policy debate will be, but it is clear that the next several years represents a critical period. During this period, Indonesia will be selecting a new array of national and local leaders and will be debating the direction of its second 25 year plan, in which decentralization and privatization of education are certain to be important themes.

Empirical research can do much to sharpen this debate. While discussions at the national level on the rationale for decentralization and the trend of national politics are beyond the scope of such research, it is possible to focus on other issues, particularly on how the present system works (and does not work), on identifying available and potential resources (particularly those at the local level), and in considering the potential for change. This research should, insofar as possible, seek to enhance understanding of all five of the factors known to shape the direction of decentralization. Thus, in the program of research the objectives are:

1. To identify the legal/constitutional and political forces shaping education and the changes that will be required to facilitate decentralization.
2. To gain a comparative understanding of how schools under different auspices and with differing managerial and financial resources perform, as well as how they relate to their communities and to government agencies.
3. To determine the managerial and financial resources available at the provincial, kabupaten, and local levels to support education, as well as to understand how these resources can be mobilized to respond to decentralizing opportunities.
4. To clarify the current administrative procedures of the several government services involved in basic education (Education and Culture, Home Affairs, Religious Affairs). What do they do in such areas as curriculum, textbooks and instructional materials, personnel, buildings and facilities, finance? How do they compare in terms of efficiency and effectiveness in providing these services?
5. To examine and document the way the various levels involved in delivering basic education respond to decentralizing reforms, introduced as pilot projects.

2.2.2.3 Nepal

Grade Repetition and Student Attrition Research. An MOEC/IEES action research study, which began in Project Year Nine, is presently underway to investigate the 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.

Major events in the research study will take place according to the following schedule:

1. The first round of data collection will be concluded by June 30 (17 Jestha), 1992.
2. Basic community-school profiles (from first round data), by August 15 (31 Shrawan), 1992.
3. EMIS Seminar: interim results, plans for second round data collection, by August 20 (4 Bhadra), 1992.
4. Second round data collection (focus groups), by September 30 (14 Ashwin), 1992.
5. Results, conclusions, and recommendations, by January 20 (7 Magh), 1993.
6. EMIS Seminar: presentation of research results, solutions, and recommendations, by January 25 (12 Magh), 1993.
7. Publication of final report, by February (Falgun), 1993.

MOEC action planning may be conducted, based on results of the MOEC/IEES research on drop-outs and repetition. This action research study has been designed specifically for action planning, but will not result in actual plans in and of itself. For translation of results into feasible plans for the MOEC to favorably affect student participation and flow through the early grades of primary school, IEES will offer assistance for planning interventions for more effective enrolments and progression rates. It is envisioned that the action planning will be conducted at the Joint Secretary level, in consultation with the Secretary.

2.3 ACTIVITY THREE: EDUCATION MANAGEMENT

2.3.1 Activities in Project Year Eight and Plans for Project Year Nine

IEES has accomplished much towards promoting "data-based decision-making" as a key means to improve the efficiency of educational systems in developing nations. Such work as Education and Human Resources Sector Assessments, institution of policy research programs, training in data-based policy analysis at the ministerial level (the joint World Bank-IEES project in Togo) and provincial level (the work of the Education Policy and Planning Project in Indonesia), development of Education Management Information Systems (EMIS), Project Implementation Monitoring Systems (PIMS), and most recently, research and development on the design and use of educational indicator systems (the IEES Efficiency Indicators Activity) have attempted to provide useful policy and planning information to decisionmakers in collaborating countries.

In the final years of IEES, activities have moved beyond the national-level focus towards monitoring progress and performance of educational systems more effectively at the local level. Monitoring ensures that the inputs made into educational systems are attaining the desired goals. Current IEES writings and discussion on the topic of EMIS development, particularly the work of James Cobbe in Indonesia, suggest that recent work on educational indicators can provide a framework for the generation of qualitative and quantitative information useful for monitoring and evaluating educational systems at the local, as well as the at the national level.

IEES has produced much information about educational indicators and has achieved many accomplishments in this area in IEES-assisted countries. IEES is now planning to draw lessons from these perspectives, reinforcing mutually supportive linkages and focusing IEES efforts in the field to consolidate and complement work already underway and to realize the potential for dissemination, in the final years of the project.

One step in the direction of recording and synthesizing IEES experiences in EMIS and indicators related work was the IEES participation in the annual meetings of the Comparative & International Education Society (CIES) in Annapolis, Maryland in March 1992. The IEES panel was entitled "The Development and Use of Educational Data for Making Policy Decisions to Improve the Quality and Efficiency of Education" and included presentations by Shirley Burchfield (RTA, Botswana) and Howard Williams (RTA, Nepal), along with Kent Noel (Chief-of-Party of JSEI Project, Botswana) and Josh Muskin and Dwight Holmes from FSU. These papers have been expanded and published in the IEES monograph, *Developing Educational Information Systems and*

the Pursuit of Efficiency in Education: Eight Years of IEES Project Experience (Holmes & Williams, eds., 1992). An overview of these papers follows.

An EMIS is expected to provide regular, timely, and accurate information on project or program status and implementation for management monitoring, decisions, and actions. This type of system requires a fairly deep level of trained personnel and technology and a commitment to assign those resources to the task of developing and maintaining the EMIS. Indicator sets can provide a more comprehensive picture of the system, including trends, problem areas, and opportunities. Indicator sets also can highlight the need for action research or case studies to fill qualitative gaps in national information systems.

IEES Project assistance in information systems development has been undertaken in several countries, most notably in Indonesia, Botswana, Haiti, Guinea, and Nepal. The information systems which are being developed in these countries vary in their context, purpose, scope, methodology, and selection of indicators and data. Consequently, the cases presented in this monograph offer a range of experiences, rather than implementation of a single model in multiple sites.

The first paper, by Easton, Holmes, Williams, and duPlessis, was published as the IEES monograph noted above. It sets the theoretical background and framework for IEES Project work in the area of efficiency indicators. The prototype education system model described in this paper was used as the starting point in designing appropriate indicator systems in Nepal and Botswana. A brief review of the literature in educational indicators in both the international and U.S. domestic arenas is included, along with conceptual exploration of key terms such as educational efficiency, educational quality, and indicators. Potential uses of "indicator systems," along with several caveats, are outlined, and a series of follow-up studies is proposed.

In the second paper, the evolution of the "efficiency concept," as operationalized by the IEES Project, is analyzed. The work described in the first paper is placed in historical context within the IEES Project along with other, parallel activities which have been undertaken. The elaboration and promotion of the concept of "educational efficiency" has been fundamental to major IEES initiatives, such as the extensive use of Sector Assessments, academic work – particularly the monographs by Chapman & Windham (1986) and Windham (1988), IEES implementation activities such as policy analysis training, and the development of EMIS and national education indicator sets.

This description of IEES efficiency-oriented project activities indicates an apparent evolutionary quality to the program. This evolution has been largely dependent on country contexts, the initiative of participating individuals, and emergent opportunities. The theme of efficiency

runs throughout. Great care is given to coherency and integrity of the activities in order to build upon these experiences. The need for an ancillary theme for efficiency initiatives is noted; if the efficiency concept is to provide useful guidance for data-based policy and program decisions, then those decisions need to be continually linked to improvements at the level of educational delivery.

In the case of Botswana, computer-based EMIS have been developed in several Ministry of Education departments, including Planning, Bursaries, Teaching Service, Primary, Secondary, and Non-formal Education. Burchfield describes the need for coordination of these databases, and the strategy used for unifying the constituent databases into a system-wide database, allowing for overall system monitoring and efficiency analysis.

In consultation with the departmental database managers and senior education officials, it was agreed that a model of educational efficiency indicators would best suit the need for a system-wide database. Burchfield describes the processes of indicator selection, data collection and analysis, and the technical, methodological, and organizational issues involved. Burchfield's presentation also includes a listing of the efficiency indicators and the system computer screens to illustrate how this system has been computerized.

The Williams paper is a reflective description of educational information system development in Nepal. The educational information system is comprised of a Statistical Information System (SIS), action research, educational indicators, and evaluation standards. In developing this system, an Organization Development (OD) approach has been used in order to assess what educational information and systems would be of most value and use to the Ministry of Education under current circumstances.

Each of the components of the information system is recognizable by its own conceptual base, methodology, and techniques. Yet no single component is a wholly complete, stand-alone operation, aside from the basic SIS already established by the Ministry. Instead, the consultative, interactive relationship used in the OD approach has produced a configuration of information functions and activities which appear to be most valuable and useful.

In his paper, Noel presents an adaption of an indicator model for use in curriculum development and institutionalization in Botswana. He argues that curriculum development should be considered as a critical subsystem, with the attendant considerations normally given to the sector as a whole, such as power sharing, communication and consultation, lines of authority for decision-making, production and delivery, management and supervision. Consequently, subsystems, such

as curriculum development, warrant full performance information systems, such as the EMIS and indicator systems now being developed for the national education system.

Based on six-years of experience with national curriculum development, this paper proposes a schematic outline of policy and management information issues to be addressed, including information clientele, EMIS components, data requirements, and suggested indicators. This model follows the framework used for the national system in Botswana, but necessarily reflects the particular characteristics of curriculum development.

Finally, in the case of Guinea, presented by Muskin, system indicators and an EMIS are being developed in conjunction with "conditionalities" for sectoral assistance. The Government of Guinea, and the participating donor agencies, The World Bank, United States Agency for International Development (USAID), and the French Government's Fond d'Aide de Cooperation (FAC) have developed an educational sector reform program to improve quality, access, and management. The "conditionalities" serve as interim implementation targets, which must be met for continued funding of the reform.

This paper expresses concern that the conditionalities, and their system indicators, could become ultimate goals for organizational performance, rather than serving as guideposts for the vision and achievement of reform, which is to deliver a higher quality education to more Guinean children. To mitigate against the organizational tendency of servicing the indicators instead of system clients, Muskin proposes a consultative approach to developing an EMIS which improves the chances that the EMIS will better represent reform goals of service delivery, rather than being a reporting system for periodic funding.

IEES/IIEP Collaboration. In addition to the IEES panel at the CIES conference and the compilation of those papers into the IEES monograph, the collaborative writing project with UNESCO's International Institute for Educational Planning (IIEP) is nearing finalization of its volume entitled *Information Systems in Educational Planning: Constraints and Opportunities*. This volume, edited by David Chapman (IEES) and Lars Mahlck (IIEP), contains both issue papers (e.g., Kemmerer's chapter on "Incentives for Improving Information Use," and Windham's "Strategies for Decentralizing Data Use") as well as country studies (including "The Use of EMIS in Education and Training in the Private Sector of Haiti," by Tony Cresswell, Karen Tietjen, Vanya Berrouet and Antoine Levy). The next step in this IEES/IIEP collaborative effort is now for IIEP to develop an international training workshop on the topic of using national data to improve educational efficiency, and to conduct research focusing on ways in which ministries of education can use their improved information systems to actually affect educational practice at the school and classroom level.

There have also been other efforts to encourage the review of EMIS progress and to plan for summative project activities in the IEES collaborating countries. The EMIS/Indicators Working Group, a group of IEES faculty and staff, (namely, the IEES Country Coordinators, Jerry Messec, Peter Easton, James Cobbe, and Michael Basile) meets regularly at FSU to develop ways and means to support activities in the field to provide:

- Support for documentation of EMIS work done previously and now operational;
- Conceptual guidance in the uses of indicators for managing EMIS; and
- Ongoing support for improvements in EMIS implementation country-by-country.

In order to encourage and support activities that follow along the above lines, the Working Group has developed the following suggestions for documentation and activities that are now being reviewed and/or undertaken in each country.

2.3.2 Documentation of EMIS Activities in IEES Collaborating Countries

Development and implementation of Education Management Information Systems has been central to IEES activities in collaborating countries. As a result, most IEES investment has been directed toward improving the capacity to collect and use data in each participating country. Experiences have naturally differed from country to country, with each country having taken its own directions depending in part on local circumstance and in part on the expertise, equipment, and other support brought to bear by the Project in the development and use of EMIS. Consequently, country experiences have varied in the respective emphases put on EMIS as a whole and on its components to meet the information needs of policymakers and planners.

Considering this variability, and in order to take full advantage of the extensive EMIS work done in each country, an effort was launched to paint a larger picture of the EMIS experience within each country as well as across countries. As a first step in this endeavor, it was decided to ask for the assistance of the RTAs in summarizing the EMIS-related experience in each of the IEES countries, from project inception through the present. The report produced by each country could be shared with other countries and could also be used as a basis for subsequent discussion at a series of workshops planned for the further development of monitoring systems in the near future. The following is a summary of the EMIS report submitted by the Indonesia RTA Simon Ju (who served as Chief of Party for the IEES-managed Education Policy and Planning [EPF] Project).

2.3.2.1 A Summary of IEES/EPP EMIS Experience in Indonesia

The development of an Educational Management Information System under the EPP project was launched in 1985 with the following two general objectives:

1. To establish a viable management information system in the Center for Informatics for the Ministry's policy and planning activities; and
2. To test different planning and information systems at the provincial level.

In line with these general objectives, the following goals were accomplished:

1. Establishment of an educational database at Pusat Informatika to serve as the main source of data for educational policy making and analysis;
2. Development of advanced computer applications to meet information requirements for policy and planning activities;
3. Conduct of key policy studies for top decision-makers;
4. Establishment of a data bank at Pusat Informatika serving clients (policy analysts, planners, researchers and other related administrators) with quantitative and qualitative information relevant to their needs;
5. Transfer of necessary technology to the Ministry and selected provincial sites; and
6. Training of personnel to secure sufficient technical resources at the Ministry and provincial levels.

All computer facilities are utilized both by various units within the Ministry and by related outside agencies. Below is a list of current applications and the major users:

| APPLICATION | USER |
|-------------------------------------|---|
| Educational policy formulation..... | Pusat Informatika and other related units |
| Long and medium term planning | All education communities |
| Annual budget planning | All units in the MOEC |
| Manpower development..... | Pusat Informatika, Bappenas, Ministry of Manpower |
| Teacher supply/demand | Pusat Informatika and Bureau of Personnel |
| School Mapping | Pusat Informatika and all 27 provincial offices |
| Indicator systems..... | Pusat Informatika, Bappenas, Office of Basic Education |
| Education statistics..... | Pusat Informatika and all 27 provinces |
| Special studies | Pusat Informatika |
| | - Basic Education Quality Study |
| | - Vocational Education Quality and Efficiency Study |
| | - Demography |
| | - Education and Social Development |

The development of the EMIS has helped Pusat Informatika to consummate its role as policy developer in Indonesia. Its database has served as one of the main sources of educational data

and its institutional capacity for analysis has enabled it to participate in several policy applications. Pusat Informatika played a major role in the preparation of the Second 25-Year National Development Plan, the Five Year National Development Plan and the Annual Budget. It has also made important inputs into top level policy making institutes such as Bappenas (the National Planning Board) and Hankam (National Defense and Resilience Council). In future years, the Pusat hopes to further improve its level of analytical capacity. Advanced technical training in the areas of modeling, simulation, information synthesizing and presentation is needed at this time.

At the provincial level, the development of EMIS has also proceeded with success and promise for the future. Through the EPP Project, information technology was introduced to the provinces for the first time. At the beginning, three provinces (West Java, South Sulawesi and West Nusa Tenggara) were designated as pilot sites. An EMIS task force was established at each site and given intensive basic training in various computer applications. Encouraged by positive outcomes, the project's Steering Committee decided to expand the decentralization of EMIS to all 27 provinces with an interim step of increasing the pilot sites to five provinces. Thus, in 1988 two more provinces, East Java and West Sumatra, were added to the original three pilot sites. These five provinces were also designated as regional training sites to assist neighboring provinces in their respective regions. The Steering Committee also decided to experiment with EMIS on the district level, therefore, one district in each pilot project area was chosen and has participated in the project activities, with the exception of West Java where two districts were chosen.

The use of EMIS varies between the provinces. Some provinces use it very effectively both for planning and management purposes. The following are some of the major applications at the provincial level:

- Compilation of annual education statistics;
- Individual record system for teachers and administrators;
- Budget preparation and analysis;
- Projections of annual student enrollment;
- Student flow and cohort analysis;
- Project monitoring;
- School mapping; and
- Indicator systems (primary level)

Overall, the EMIS has greatly improved management of data at the provincial level. Each of these provincial offices is now serving as the center of managing its own data. Inspired by the sense of ownership afforded to them, the provincial district offices have all made significant im-

improvements in data accuracy. These improvements have contributed to subsequent progress in data communication between the provinces and the Ministry. Relationships with other government agencies such as Dinas and Bappeda have also become more cooperative due to the sharing of educational data. In addition, involvement in the data collection process has led some provinces to take the initiative in starting up new activities with EMIS in planning, management, research, and training. Information generated by the EMIS has provided the provincial administrators and planners with new perspectives on their duties and a new interest in becoming actively involved in the creation of a complex and varied knowledge base for use in their school districts.

In order to assure that the emergence of research and data management capacity at the local level continues, assistance to the local level offices must remain a priority. Despite the substantial progress that has been made, the needs for the EMIS at the provincial level are many. More training in technical and management areas is essential. As skills and knowledge in these areas improve, more computers will be required. Technical assistance will also be necessary to improve the quality of the EMIS. Building this capacity at the local level has demonstrated that EMIS can be an effective catalyst for improvement in data management issues throughout the educational system. As this strategy continues, the EMIS will continue to improve its ability to inform policy-making on a variety of issues important to the Indonesian educational system.

Extensive progress has been made with the EMIS in Indonesia. The IEES central office uses these reports for documentation purposes as well as for planning future EMIS activities. The reports are also shared with other RTAs in an effort to compare and contrast procedures for implementation and development of educational information systems.

2.3.3 Workshops on Monitoring Performance of Educational Systems in Developing Countries

Another concern that emerged from the November 1991 IEES International Conference which was supported by the EMIS/Indicators Working Group was the call for a series of local seminars and workshops on data use. IEES will support the effort to engage key local actors, those directly involved in the management, reporting, and use of data for decisionmaking, to reflect on and analyze progress so far. The potential for capturing experience and for sharing it systematically exists in all participating countries and could positively affect conditions for sustaining the momentum for data-based policymaking.

Botswana. The "Data Users Group" of Botswana is one example of a means for dealing with issues of EMIS implementation already in operation. A workshop reviewing EMIS perform-

ance is scheduled for Project Year Nine. The workshop format is suggested as one means (among others that may also be considered) for mobilizing the right resources on an initial basis. The objectives of the workshops are to:

- Share experiences on monitoring of educational systems in participating countries through papers commissioned to be done by key actors.
- Identify constraints in the development and use of EMIS and propose strategies for overcoming them.
- Develop strategies and activities for enhancing use of EMIS and indicator systems in monitoring educational systems.
- Facilitate the development of educational monitoring systems that are country specific and provide information for policy making and planning.

2.3.3.1. Organization

The organization of the EMIS workshops is left open to the countries themselves, at the initiative of the IEES RTA. Such organization will include venue, number of participants, topics for discussion, and a proposed budget for the workshop.

2.3.3.2 Participants

Participants of the workshops will be educators involved in the use of all aspects of EMIS. Selection of participants will be left to countries. Consultants can be included depending on the need for their participation. It is expected that some members of the IEES indicators group may wish to participate from time to time in selected workshops.

2.3.3.3 Financing

Cost of the workshops will be provided from central funding of IEES. This will include funds for commissioned papers to be used in workshops and for consultants whose services may be required.

2.3.3.4 Frequency

It is expected that this activity will be on-going for those countries that still have project life. Given that the RTAs in Botswana and Indonesia will each be leaving by mid-autumn of 1992, it may be that these workshops would be appropriate continuing activities to take place after the departure of the full-time RTA, with participation of host country personnel, central IEES staff, and perhaps consultants with relevant experience. Prior to the end of the Project, international workshops will also be organized to draw together experiences from the different countries. Given the need to continually review effectiveness of monitoring systems, it is anticipated that in-country and international workshops will be organized on a regular basis to encourage the development of

momentum. It is hoped that such workshops can be sustained well after the life of the project by individual countries.

2.3.3.5 Commissioned Papers

As part of the documentation of EMIS activities, funds are available for commissioning papers on different aspects of EMIS in participating countries. The papers will be an in-depth analysis of selected topics. The main purpose of such papers would be to provide information for discussion at the workshops. The selection of topics of interest and writers of the papers is left to the countries. Funding for the activity will be provided from IEES central funding on application and review of proposed paper abstracts.

Initial review and discussion of EMIS progress and development has led to the development of six new possible directions for IEES indicators work. The following issues may be addressed in future months through in-country workshops and/or commissioned papers.

- **The importance of qualitative studies.** Indicator systems and EMIS habitually incorporate purely quantitative data. Yet these do not by themselves add up to a conclusion; they may require considerable interpretation and contextualization. Qualitative studies can furnish some of these elements, as well as function as a vehicle and stimulus for the sort of interpretative debate necessary to draw policy implications from data.
- **The importance of broad participation in indicator system/EMIS design and of training to build capacity for data analysis.** Because of differences in organizational structures, educational goals, and societal context across countries, indicator systems must be country-specific. Therefore, participation of host-country counterparts is crucial in their development, as well as in their implementation.
- **The advisability of developing capacity for sample surveys and studies within EMIS/indicator systems.** Experience suggests that the "yield" of EMISs and indicator systems for policy making can be considerably increased by instituting a complementary data collection modality consisting of more detailed studies or surveys carried out in a sample of units, either directly by central-employed staff or in collaboration with field personnel.
- **The importance of dovetailing national, regional, and local EMIS efforts.** Indicator systems and EMISs implemented solely at the national level often encounter serious problems of data reliability and coverage. This is partly because local and regional staff are not very motivated to expend effort collecting data and passing it up the pipeline for other people to put to uses that field personnel themselves have reason to fear or do not understand. Decentralization of EMIS and indicator systems is thus a potentially important and generally overlooked policy objective.
- **The concern for better understanding of some of the organizational, cultural, socio-political and economic factors that determine how the notion of "data" is defined and how, by whom and to what ends educational data are used.** IEES has evolved

from a fairly simple initial model and understanding of data use and educational decision making. Current activities in this area and the planned activities for the last two years of the project should enable IEES to draw some valuable lessons of experience concerning the contextual constraints on data-based decision making and to devise well-advised, perhaps contextually-specific ways in which it can (or cannot) be promoted.

- **The value of cross-national comparisons.** Some of the early IEES material on indicator systems stressed the goal of using this work to make cross-national comparisons of educational efficiency among collaborating countries and to help determine the impact of the IEES project. While these objectives are not to be dismissed, those involved in the Efficiency Indicators Activity have given more emphasis to the importance of cross-national comparisons of methods and procedures; i.e., how EMIS and indicator systems have been instituted and how innovations like those suggested above have been carried out.

2.3.4 Components of the Project Implementation Monitoring System (PIMS)

The IEES Project Implementation Monitoring System (PIMS) implemented during this report period provides a framework for tracking impacts on educational effectiveness and efficiency that are related to project inputs. At the time of this report, complete reports had been received from Indonesia and Nepal. These reports were then compiled, distributed, and used to inform project planning for the remainder of Project Year Eight and for Project Year Nine.

PIMS is based on the IEES monograph, *Indicators of Educational Effectiveness and Efficiency* (1990), and focuses on the qualitative aspect of IEES's indicator tracking system. It 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 and is not designed to measure efficiency per se. The end products of the PIMS are 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**, 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; and
- **Outputs** include effects on student attainment and achievement, attitudes and behaviors, and equity.

While the IEES monograph (1990) discusses external, post-schooling indicators of effect, the PIMS focuses internally on those changes made at the student, teacher, school, and system levels.

2.3.4.1 Project Inputs

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

Policy and Planning. The major Policy and Planning inputs are made in two categories: 1) Sector Assessments and Updates; and 2) initial negotiations and decisions on the nature and extent of IEES assistance over the life of the project.

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 sub-sector 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.

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.

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.

Knowledge Building. IEES knowledge building inputs have two focuses:

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.
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.

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. **Education Management Information Systems (EMIS) Training.** Capacity building involves training in a variety of formats, from participant overseas training to specialized skill building workshops.
2. **Software Applications.** Adaptations of off-the-shelf software applications are part of EMIS development.
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.
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.

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:

- *Production and Distribution.* Reports and research results are published and circulated.
- *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.

2.3.4.2 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, 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 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.**

2.3.4.2 Outputs

Outputs are defined as impacts on attainment, achievement, attitude/behavior, and access/equality. 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. **Ministry Level.** Impacts on internal educational efficiency and learning achievement entail either resource allocation changes or regulatory changes which do not require 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.
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.
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.
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.

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 a 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 progress reports sent to R&D/Ed.

2.3.5 PIMS Activity in Project Year Eight and Plans for Project Year Nine

Country Coordinators distributed the written materials necessary for implementing PIMS to Chiefs-of-Party/RTAs in November 1991. The initial briefing and first interview between the

country coordinator and the RTA were completed in December and summary reports submitted from the country coordinators to the Deputy Director in January 1992. The Botswana report was completed in June 1992. Completed project-wide summaries, including cost data, were submitted to the Dissemination Specialist in February 1992, with updates due semi-annually thereafter.

The utility of the PIMS can best be seen in reference to specific project inputs and outputs from Project Year Eight. In Indonesia, the PIMS has proved helpful in delineating the many impacts that decentralization of the EMIS has had on all levels of the educational system. The input of technical assistance for the development of EMIS at the regional offices has led to 1) an improvement in relationships between the regional education offices and other government units, 2) an improvement in the data received by Pusat Informatika, 3) a viable EMIS capacity at several provincial offices, and 4) an anticipated improvement in student achievement due to a more efficient allocation of resources based on improved, more accurate and more reliable data. In Nepal, PIMS has helped track the effects of knowledge-building inputs, such as the design of a plan to study the community-school dimensions of effective enrollment, retention and progression. This research plan helped to achieve a high priority status for the topic at the Ministry of Education and Culture and, consequently, resulted in the development of a program by the Ministry that will support efforts for improved equity, attitude, achievement, and attainment at the community and school levels.

Having had one year of experience with PIMS, IEES is now better able to plan for use of the PIMS during the remaining project years. IEES realizes that the various strands of "data-based decisionmaking" activities need to be pulled together into a more comprehensive agenda which could be informed by further indicators work. Consequently, PIMS will monitor future activities on the integration of EMIS into an indicator-guided system for improving policy-analysis. PIMS information will continue to be collected semi-annually and dispersed to the Project CTO and to IEES Chief of Party's/RTA's for use in monitoring the effects of project inputs in each country situation.

2.4 ACTIVITY FOUR: DISSEMINATION AND NETWORKING

IEES dissemination and networking activities support the diffusion and utilization of the knowledge created through the multi-country, multi-year collaborative work of the project. Research results, useful lessons learned from project experiences, and successful prototypes and innovations developed with counterparts are disseminated through international and domestic channels. As IEES has progressed in its assistance to developing countries since 1984, the volume, range and frequency of such activities have steadily increased. IEES now collaborates with a wide range of agencies in order to effectively diffuse the important knowledge gained and to promote its utilization.

2.4.1 Activities During Project Year Eight

During this report period, IEES sponsored an International Conference in Alexandria, Virginia, in order to examine the research, lessons learned and innovations now collected as a result of project activities and to consult with project stakeholders in order to set directions for the critical networking and dissemination activities of the remaining project years. This conference thus functioned as the first stage in planning for the important networking and dissemination efforts during the final project years. Following the conference, this planning process has continued at central project offices and, through electronic media and RTA work, in collaborating countries.

The Third IEES International Conference. The IEES International Conference was held in Alexandria, Virginia, November 2-4, 1991. The theme of the conference was "Improving Educational Efficiency: What Has Been Achieved? What Has Been Learned? What Remains to be Done?" As the theme suggests, the conference reviewed both the processes of implementing IEES strategies for assisting developing nations with strengthening their educational systems and the products; i.e., what has been achieved from the implementation of these strategies. The following schedule of conference activities indicates the range of these discussions:

Saturday, November 2

Opening Address: The IEES Strategy for Educational Assistance: What Has Worked?

Indonesia: What Has Been Achieved?

Haiti: What Has Been Achieved?

Botswana: What Has Been Achieved?

Nepal: What Has Been Achieved?

Sunday, November 3

Policy to Practice: Operationalizing System Change

Longterm Planning for System Improvements

Education for Democracy: Planning Educational Systems for Democratic Participation

Planning Educational Assistance in the Sahel

What Do We Need to Know? The IEES Research Agenda

What Goes On in the Classroom? Observing Teachers, Students and the Curriculum

How Can IEES Best Capture, Generalize, and Diffuse its Experiences? (task groups)

Monday, November 4

A Framework for Analyzing System Efficiency

Reaction Panel: Analyzing System Efficiency

Planning and Implementing Education Management Information Systems

Reaction Panel: Developing Effectiveness Indicators

What About External Efficiency? Vocational/Technical Education in Indonesia

How Can IEES Best Capture, Generalize, and Diffuse its Experiences? (task groups reports)

Summation: What Has Been Achieved? What Remains to be Done?

Conference outcomes. The conference was planned to be widely consultative and brought together international educators closely associated with IEES activities, project central staff, field staff and consultants from many U.S. institutions, USAID Mission and AID/W staff, as well as representatives of other assistance agencies. From the work of this group emerged a consensus regarding a number of important project activities:

Priority for Capturing Project Experiences. The ten-year, multi-country, multi-stakeholder IEES project constitutes a unique natural experiment for a number of interrelated assumptions and strategies for assisting developing countries in strengthening educational systems. This experiment presents an opportunity for a careful analysis of the assumptions, the strategies, and the implementation experiences in order to generalize what has been learned. IEES should plan to undertake this task in order to allow sufficient time for thoughtful reflection, wide discussion, and appropriate production and dissemination activities.

Targeted Conferences on Subsets of Activities. As IEES approaches the end of project life, many subsets of central and country activities are coming to completion. This increasingly wide and complex range of IEES activities and the rapidly accumulating body of knowledge being produced cannot be adequately presented or considered at one large conference. IEES central strategies and activities deserve to be thoughtfully considered and summarized in smaller conferences or seminars which can be targeted on only one subset of project activities. The rich body of knowledge derived from the IEES advocacy of data-based decisionmaking certainly deserves such consideration. Such topic-focused conferences could be organized within geographic regions or held centrally in Washington.

Analysis of IEES Data-based Decisionmaking Experiences. The IEES advocacy of data-based decisionmaking for improving the effectiveness of educational systems has resulted in

many implementation activities in collaborating countries and in important central office activities, such as training materials and materials produced in collaboration with other agencies. Because of the relevance of these activities to central project strategy and because of the range and complexity of the work accomplished in this area, there is an evident need now to attempt both an organized collection of all "data-based" activities and an analysis of what has been achieved and learned. As part of this effort, IEES should undertake to develop profiles of data use in those countries which it has been assisting.

The IEES Systems Approach to Improving Educational Systems in Developing Countries. A number of conference presentations stressed the importance of the IEES systems approach to sector assessment, planning and monitoring, and instructional system design as a key factor when analyzing the project's record of effective assistance. There is, however, much misunderstanding of the approach and project documentation in this area—both of the approach as process and of its implementation as product—is diffuse and spread across many scattered documents. There is a need to present this IEES approach clearly and concisely and to provide documentation on its implementation and effectiveness. IEES will, therefore, undertake this task in Project Year Nine.

2.4.1.1 Dissemination of IEES Prototype Technologies and Methods

IEES has developed and tested a number of prototype tools for improving educational efficiency. These are disseminated to collaborating countries by IEES and to a wider range of LDCs via other R&D/Ed centrally-funded projects. IEES emphasizes that economies of scale may be obtained by broader production and dissemination of materials via other projects, but that the costs of developing and producing prototype technologies remain fixed. These development costs require in fact a far greater investment of resources than the costs of dissemination. IEES makes every effort, therefore, to ensure the widest dissemination of products which have been determined to justify this investment.

Prototype tools which have been developed through IEES Project activities and which are now widely disseminated include:

- *Indicators of Educational Effectiveness and Efficiency.* Defines efficiency concepts and terms and presents a prototype model for construction of a system for collecting indicators of educational efficiency.
- *Evaluation of Efficiency in Educational Development Activities.* Presents criteria, standards, and indicators for evaluating programs, as well as steps for conducting evaluations.
- *Education and Human Resources Sector Assessment Manual.* Defines the sector assessment approach and provides a model for the assessment process.

- *Educational Policy Analysis Training Manual*. Provides case study method training for mid-level educators in analyzing data and preparing policy position papers for top decisionmakers to effect efficiency improvements.
- *Microcomputer Applications for Education Planning and Management*. Provides basic training in use of microcomputers for the framework of an integrated education management information system.

During this report period, IEES disseminated the important monograph, *Collaborative Design of Educational Indicator Systems*, which was earlier circulated in iterative drafts for comments. This monograph describes the IEES conceptual analysis of educational indicator systems, IEES prototype models of indicator systems based on both quantitative and qualitative data, and the process now underway for host country elaboration and modification of the model. The paper also discusses the potential for utilizing the indicator system both for incountry educational planning and staff training purposes. The demand for this document has been great; even in its earlier draft form. Because the paper combines both a clear conceptual framework and discussions of implementation experiences in several countries, it is being requested by a wide variety of agencies and individuals. The final monograph, disseminated in this report period, is now being reprinted to meet this demand.

Also during this period, IEES published a collection of studies based on experience in implementing indicator systems in collaborating countries. The content of this document, *Developing Educational Information Systems and the Pursuit of Efficiency in Education : Eight years of Project Experience*, is discussed in Section 2.3.

A two-year collaboration activity with UNESCO's International Institute for Educational Planning (IIEP) concluded during this period and a volume summarizing field experiences in developing information systems, *Information Systems in Educational Planning: Constraints and Opportunities*, was published.

Also during this period, IEES developed an outline of an important new monograph, *The Systems Approach: IEES Strategy for Improving Educational Systems in Developing Countries*. This monograph was suggested by the interest of the participants at the IEES International Conference in November 1991 in the IEES systems approach and its implementation in collaborating countries. The monograph will present the systems strategies IEES has followed in undertaking sector assessments, planning and monitoring project activities, and designing and implementing instructional systems. It will also contain reports of project experiences in these activities in collaborating countries. Robert Morgan and Jerry Messec will serve as editors of this monograph which will be completed during Project Year Nine.

2.4.1.2 Additional IEES Conferences in Project Year Eight

Conference on the Indonesian Second 25-Year Development Plan. The Center for Informatics, Office of Research and Development within the Indonesian Ministry of Education and Culture, assisted by the Educational Policy and Planning (EPP) Project and the IEES Project, organized a conference in Capanas, West Java, January 21-23, 1992, to consider the findings of key policy studies as inputs to the Second 25-Year Development Plan and the Sixth 5-Year Development Plan. These studies, which examine the economic and social impacts of education investments in Indonesia, were published by the EPP and IEES Projects and widely disseminated for subsequent discussion at the IEES/EPP Asian Regional Conference in Yogyakarta, Indonesia, June 29 – July 2, 1992.

The United States Coalition for Education for All Conference: Learning for All: Bridging Domestic and International Education. IEES supported the International Conference of the United States Coalition for Education for All, October 30-31, 1991, by supporting the participation of international educators long associated with IEES. The United States Coalition for Education for All (USCEFA) is comprised of a diverse group of international, domestic, government and non-government groups, associations, and individual educators. The Coalition was created as an outgrowth of the World Conference on Education for All, which was sponsored by the World Bank, UNESCO, UNICEF, UNDP, USAID and 22 other co-sponsors.

Nearly 300 leaders in education business, and media from more than 28 countries attended the USCEFA conference to find ways to share solutions drawn from educational experience around the world as well as from the latest research and development initiatives. More than 100 speakers and panelists presented models and experiences and worked together to find ways to build stronger partnerships to improve education.

To promote the sharing of global and local experiences, USCEFA chose three key themes of "Designing Education for the 21st Century," "Mobilizing Media in Support of Education," and "Programming for Early Childhood Development." Domestic and international educators were brought together – many for the first time – to address their common concerns. This established a basis for further communication and cooperation among key U.S. organizations and their international counterparts. The conference attracted the support of many influential leaders, including James P. Grant, executive director, United Nations Children's Fund; Albert Shanker, president, American Federation of Teachers; David Kearns, deputy Secretary, U.S. Department of Education; and education leaders from countries as diverse as Russia, Korea, Colombia and Namibia. Ongoing networking activities were planned, including a newsletter, follow-up seminars, and teleconferencing.

One of the most important outcomes was the person-to-person exchanges of experience that occurred during the conference. International program planners learned from U.S. community action experiences in Austin, Texas, for example, and about teleconferencing in Fairfax, Virginia. Domestic practitioners gained insights from interactive radio experiences in Honduras and child development programs in Thailand. Mixing and matching domestic specialists with their international counterparts, the panels and plenaries provided contrasts in infrastructures and inputs and similarities in common emphasis on community organization and self-help. IEES has disseminated USCEFA information through its publications and networks.

Education Information Systems for Effective Schools: An Asian Regional Conference. The Government of Indonesia-USAID project, Education Policy and Planning (EPP), and the IEES Project collaborated in planning a conference June 29 – July 2, 1992 in Yogyakarta, Indonesia, to examine the accomplishments and lessons learned by the EPP Project since 1985. IEES provided assistance for Asian educators from Japan, Korea, Nepal, and the Philippines to attend this important meeting.

The overarching theme of the conference was "Education Information Systems for Effective Schools." The goal of the EPP Project has been to assist the Center for Informatics, Office of Research and Development, Indonesian Ministry of Education and Culture, in developing the capacity to effectively collect and analyze relevant and timely data about the Indonesian educational system in order to strengthen the educational decisionmaking process. An important assumption of the project is that better information, competently analyzed and effectively presented, will result in better decisionmaking and thus lead to the changes in both policy and practice which are needed to provide more effective schools in Indonesia. As part of this capacity-building work, EPP has carried out an important series of policy studies in order to provide answers to policy questions now facing Indonesian education decisionmakers:

- Education, Economics and Social Development
- Education and the Economy
- Providing Basic Education Services
- The Quality of Basic Education
- The Quality and Efficiency of Vocational-Technical Education
- Improving the Quality of Teacher Education
- Building Provincial-Level Capacity for Educational Sector Review and Analysis
- Strengthening Local Education Capacity
- Planning Effective Education Management Information Systems

2.3.2 Plans for Project Year Nine

IEES dissemination and networking activities in Project Year Nine will focus on diffusion and utilization of the products and lessons learned from project work in collaborating countries. A number of seminars and workshops have been planned with host country decisionmakers to sum up project experiences and work has begun on final documentation of what has been achieved.

2.3.2.1 Seminars and Workshops

Schooling Effectiveness: Cross-National Findings. IEES will join with the AID/R&D/Ed Project BRIDGES to examine what has been learned about school effectiveness at this conference which will bring U.S. and international educational researchers together in Cambridge, Massachusetts, September 10–12, 1992. IEES will publish the conference papers as a joint BRIDGES/IEES document. The papers to be presented are listed below:

The Meaning of Schooling Effectiveness, William Cummings, Coordinator

John Schwille, "Building Bridges Between the Literature and Research on Schooling Effectiveness: Moving Forward and Looking Back"

Andrea B. Rugh, "Culture, Schooling Effectiveness and Change: Examples from Pakistan"

William Cummings, "Reflections on Effectiveness in Education"

School Leadership and Management, John Schwille, Coordinator

Donald Warwick, "School Organization in Pakistan: Administration, Management, or Leadership?"

G. B. Gunawardena, "School Management in Sri Lanka"

William Cummings, "The Indonesian School Principal: Broadening Responsibility"

John Schwille and others, "The Variable Role of the State Revisited: Management for School Effectiveness in Thailand and Burundi"

Teaching Practices, Bruce Fuller, Coordinator

Patricia D. Perry, David Chapman, and C. Wesley Snyder, "Quality of Teacher Worklife and Classroom Practices in Botswana"

Bruce Fuller and Haiyan Hua, "Classroom Practices and Student Achievement in Botswana"

Maria Teresa Tatto, N.G. Kularatna, and others, "The Sources of School Effectiveness in Sri Lanka: The Impact of the Contexts of Schooling on Teaching Practice and Pupil Achievement"

Haroon Jatoi, "Gender of Teachers and Teaching Practices in Pakistani Schools"

Teacher Training, Donald Warwick, Coordinator

Donald Warwick and Fernando Reimers, "Teacher Training in Pakistan: Value Added or Money Wasted?"

Maria Teresa Tatto, N.G. Kularatna, and Annie Woo, "The Influence of Teacher and Pupil Backgrounds on Teacher Education Impact in Sri Lanka"

Donald Warwick, Teresa Tatto, and N.G. Kularatna, "Teacher Training in Sri Lanka and Pakistan: A Preliminary Note"

Influences on Academic Achievement, Stephen Raudenbush, Coordinator

Stephen Raudenbush, "Primary School Effects in Thailand: Some Basic Results and Conclusions"

Fernando Reimers, "Influences on Student Achievement in Pakistan"

Levi M. Nyagura and Abby Riddell, "Primary School Achievement in English and Mathematics in Zimbabwe: A Multilevel Analysis" (see also Fay Chung, "Recent Developments in Research into School Effectiveness in Zimbabwe")

Khalid al-Baz and others, "School Management and Student Achievement: Results from a National Sample Survey Study on School Effectiveness in Egypt"

Multigrade Teaching, Fernando Reimers, Coordinator

S. Dunham Rowley, "Multigrade Classrooms in Pakistan: How Teacher Conditions and Practices Affect Student Achievement"

Andrea Rugh, "Multi-grade Classes and Visibility: Implementing Change in the Northwest Frontier of Pakistan"

H. Dean Nielsen, "Research on Multigrade Teaching in Belize"

Fernando Reimers, "The Role of Multigrade Education in Honduras"

Policy Seminar on Teacher Education in Indonesia. IEES will present the findings of its policy research on teacher education in October 1992. All policy research documents in this area will be completed by this time and will be presented to Balitbang Dikbud, Directors General, and stakeholders from other government agencies for discussion. The issues which will be highlighted relate to policies on financing the upgrading of the majority of current primary school teachers in Indonesia. Recommendations for systems of cost recovery and subsidization which are more rational and equitable will be made.

Policy Seminar on the Quality and Efficiency of Vocational Technical Education in Indonesia. IEES will present the final documentation and recommendations of its longitudinal study on Vocational Technical Education in Indonesia at this seminar in October 1992. These studies will be published and disseminated in final form during Project Year Nine.

Policy Research Seminar in Botswana. A national seminar will be held in Botswana in October 1992 in order to review the entire range of IEES-sponsored policy research in that coun-

try and to summarize the findings and recommendations for policy change. This meeting will provide the opportunity to disseminate these important research findings to the larger educational community in Botswana and to examine critical issues for improving the national educational system.

Policy Research Seminar in Nepal. A national seminar will be scheduled in Nepal at the conclusion of the current IEES-sponsored research on dropouts and repetition in early grades.

Seminar on Educational Decentralization in Indonesia. A seminar will be scheduled to present the findings and recommendations of the IEES research on decentralization at lower administrative levels.

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

3.1 BENIN

3.1.1 Summary of Activities in Project Year Eight

In 1990, USAID initiated a Children's Learning and Equity Foundations (CLEF) strategy in Benin to support the education sector reform program of the newly elected government. The support package contains both project and non-project support components. The USAID/Benin Mission contacted IEES in February 1992 to request technical assistance in the early planning and programming of its support of the Ministry of Education's reform program. In particular, the Mission asked IEES to fund two short-term consultants, identified by the Mission, to help the Ministry prepare action plans for its Fundamental Quality Level (FQL) and School Mapping initiatives. These plans – along with several others for which consultant support was provided through an IQC with another contractor – were required to support the early efforts of the Government's education reform and to satisfy the USAID tranche release criteria.

IEES provided additional support to the Mission by sending a consultant, Joshua Muskin, of LSI, to undertake the following tasks: (i) discuss with USAID and the Ministry long-term options for technical assistance; and (ii) work directly with the Ministry of Education in organizing and incorporating a comprehensive approach to the action planning task. It should be noted that IEES was able to field the first two consultants to Benin within a month of the Mission's initial request.

The technical assistance activities involved primarily provided advice to several of the 14 ad hoc committees convened by the Minister of Education. The purpose of these committees was to prepare detailed action plans for the development of the different sectors of the national education reform, a requirement for both USAID and World Bank financial support.

In April, Francine Agueh spent three weeks in Benin working directly with the Ad Hoc Committee for FQL. Her principal activities were to:

- define the information needs associated with the development of an action plan to establish an initial set of criteria for FQL schools and broader basic school statistics;
- organize initial activities for gathering data to be used in defining FQL schools and in evaluating the overall performance of the GOB school system;
- contribute to the development of a costed action plan for gathering the necessary data for defining FQL schools and for meeting the Government's overall EMIS requirements; and
- prepare a report to USAID for evaluating GOB efforts to develop FQL and broader school indicators, with recommendations for processing and analyzing the related data, resulting from Tasks I and II.

Agueh also worked with some of the other ad hoc committees – Teacher Training, Curriculum Reform, Textbooks and Didactic Materials, and School Map – to help them initiate their planning tasks.

Muskin arrived at the beginning of April for 1-1/2 weeks. His work with the ad hoc committees primarily involved a series of seminars and documentation designed (i) to introduce the concept of an action plan and (ii) to train the committee chairpersons (and a few of the different committees) in the operational steps of an action plan. Muskin worked directly with the Evaluation Ad Hoc Committee to initiate their work.

Muskin also helped develop the technical consultant program of the CLEF. This included both short-term and long-term components. In the former case, he created the scopes of work for the six Creative Associates consultants, in addition to the scopes for the two IEES consultants. He addressed the long-term program design by preparing a plan for the technical assistance requirements of the USAID program. This proposal involved both a short-term, less than one year, option and a long-term option, with two resident technical advisors.

Joe DeStefano arrived in Benin for two weeks at the end of April. He worked with the School Map Ad Hoc Committee in analyzing the GOB distribution of schools and establishing new criteria, as appropriate, for revising and expanding the current school map and school census activity.

3.1.2 Plans for Project Year Nine

No plans for IEES involvement in Benin beyond the three short-term consultants have been made. An illustrative technical assistance plan has been provided to the Mission. The Mission is presently considering how to formulate its technical assistance program to meet the more immediate and longer term technical assistance needs of the CLEF Project. Dialogue between the USAID and IEES on a more formal role for IEES will continue upon the initiation of the Mission. A brief trip by Muskin to Cotonou in June involved cursory discussions with the Mission of the technical assistance plan he submitted after his April consultancy.

3.2 BOTSWANA

3.2.1 Summary of Activities During Project Year Eight

3.2.1.1 Central IEES Activities

During Project Year Eight, which began in July 1991, IEES assistance in Botswana continued to focus on four areas:

- technical assistance to the Planning Unit;
- database development and information coordination;
- training; and
- research.

Technical assistance to the planning unit. The National Development Plan 7 (1991-97), which the IEES RTA assisted in developing, was approved by Parliament during this report period and has been disseminated. The Government of Botswana is undergoing a major reorganization, based on the recommendations of an Office of Budget and Management report completed in early 1992. Among the changes that will take place are: 1) the creation of a new Planning and Research Unit; 2) relocation of the Research and Testing Unit from the Curriculum Development and Evaluation Department into an autonomous division answering directly to the Permanent Secretary; and 3) relocation of the Brigades (which was formerly autonomous) into the Department of Vocational and Technical Education. The IEES RTA, Shirley Burchfield, was asked by the Permanent Secretary to serve on the MOE reorganization committee. She has been primarily involved with the sub-committee responsible for design and staffing of the new Planning and Research Division. This Division will consist of five components: 1) Educational Projects, Monitoring and Evaluation; 2) Educational Planning; 3) Educational Information and Statistics; 4) Educational Research; and 5) Division Management. Burchfield's preliminary research for this activity began in April. The committee began intensive work during the second week of May 1992. Other assistance activities in the Planning Unit have included:

- continuing updates of the Planning Unit's databases on schools, teachers, enrollments, etc; and
- responding to ad hoc requests for information from the MOE Permanent Secretary and Ministry of Finance staff.

Database development and information coordination. An efficiency indicators system has been developed and implemented, based on the model developed by the Florida State University staff (Peter Easton and Dwight Holmes). The services of a consultant, Tim Goddard, a

former Peace Corps volunteer who helped initiate the Primary Department databases, were employed to assist with programming. The system was developed, the first year's data were collected and entered, and initial revisions to the programs were made by IEES RTA Burchfield. A Ministry of Education Annual Report on this activity was written by Burchfield and disseminated early in 1992.

The EMIS system has received much attention from government decisionmakers and has been used as a model for the development of other government systems. The MOE Department of Brigades, for example, was provided copies of the software programs to use as the basis for creating their own information databases. Additionally, during February 1992, the IEES RTA was requested by the Permanent Secretary to coordinate meetings for a week-long visit of representatives from the Zimbabwe Ministry of Education and Culture (the Undersecretary for Finance and the Education Officer for Research and Evaluation), who were seeking assistance in establishing an Educational Management Information System in their Ministry. The Zimbabwean officials identified the EMIS Efficiency Indicators System as potentially very useful in their ministry and were provided copies of the software programs and databases to use as a model for creating their own system.

In April, Goddard returned to Botswana to work with RTA Burchfield to carry out further revisions to the information system model. His scope of work consisted of the following tasks:

1. Assist with any major revisions to the programs (such as adding explanatory notes to the database and to the printouts);
2. Develop menu-driven data update programs for each database comprising the Botswana EMIS in order to eliminate the need for further training;
3. Develop print programs that print all screens; and
4. Develop program documentation, including a user's manual that provides detailed instructions for using and maintaining the EMIS.

The first 10 days of the consultancy were conducted in Botswana in cooperation with the IEES RTA. Goddard completed the remaining activities in June 1992.

The Database Managers Group (DMG), initiated by the IEES RTA, has continued to meet regularly to exchange information, discuss issues related to the development of individual databases, and establish common procedures to be used by all departments/units regarding coding, selection of software and dissemination of results.

Training. Planning Unit staff are being trained in using the efficiency indicators system and have begun to use the data on a regular basis to meet frequent demands for information. In addition, Planning Unit staff are currently being trained in dBASE III and Lotus 1-2-3.

Research. A study was carried out by the IEES RTA which investigates the role of junior secondary headmasters in improving school quality and efficiency. The study focused on the headmasters' role in instructional supervision, in managing school-community relationships and in maintaining school-Ministry communications. Data have been collected and analyzed and a report was written by Chapman and Burchfield.

Teacher Incentives. A teacher incentives study, which focuses on identifying incentives (both monetary and non-monetary) for better teacher performance was initiated in Project Year Eight. Data collection and entry for the first phase of the study was carried out by SIAPAC, a local consulting firm, and coordinated by the IEES RTA, with USAID/Government of Botswana funds. A total of 428 primary teachers, 100 junior secondary teachers, 60 secondary teachers, 32 teacher training college instructors, and 35 vocational and technical education instructors were interviewed. In addition, a focus group instrument was administered at two primary schools, two junior secondary schools, and one senior secondary school. The second phase of the IEES study consists of interviews with key administrators on issues related to teacher incentives and a review of past and current policies relating to the recruitment and promotion of teachers. In order to contribute to the development of Botswana's institutional capacity to do research, it was intended that a Motswana carry out this part of the study. Two University of Botswana researchers and one graduate research assistant are now under contract with IEES to administer the interviews and carry out additional background research on MOE policy regarding headmaster recruitment, training, and promotion during the period June-August, 1992.

Educational Policy and Planning. A volume on research for educational policy and planning, with a focus on the linkages between policy and research is being developed with Government of Botswana/USAID cost-sharing funds. This document is being compiled and edited by the IEES RTA. It is a collaborative effort in which sections are being written by individuals in the Ministry of Education (including the Deputy Permanent Secretary), the University of Botswana, the Botswana Educational Research Association, the National Institute for Research, and other researchers who have been involved in carrying out research in Botswana. This book 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 directions in research. It is expected that all chapters of this volume will be received by June 1, 1992, and that the book will be published by Macmillan/Botswana in August. Upon completion, the information in this publication will be presented at a policy seminar to Ministry and University of Botswana officials, Education Officers, and school administrators. Two thousand copies of the book will be produced and disseminated to all schools, Teacher Training Colleges, and Colleges of Education, as well as to MOE and University of Botswana departments.

3.2.1.1 The Junior Secondary Education Improvement Project

The Junior Secondary Education Improvement Project (JSEIP) was completed on December 31, 1991, after six years of activities in instructional design and curriculum development,

educational evaluation and planning, and teacher education. One advisor, Richard Mullaney, was extended through April 30, 1992, to complete teacher training workshops at the request of the ministry. Readers should refer to the IEES Mid-year Progress Summary for Year Eight and the JSEIP Final Report (January 1992) for a complete description of activities and achievements of this IEES "buy-in" project.

JSEIP was active in Botswana's educational development during the years 1985 – 1991. Its contribution has been multifaceted, in concordance with the changes which occurred within the Ministry during that time. It provided funds to construct buildings, such as those which house the Department of Curriculum Development and Evaluation and teacher education centers, and funds to equip those facilities. It has provided equipment and materials to meet the growing demands for locally-developed curriculum and teaching materials. Finally, it has helped the Ministry develop and institutionalize the systematic processes required to improve the educational system and to achieve its goals for the newly-reformed junior secondary program. The latter contribution is one of the most important. It has occurred through the provision of numerous long-term advisors and short-term consultants who have worked closely with their counterparts and other colleagues in a variety of areas within the Ministry. Those areas include curriculum development and testing, in- and pre-service teacher training, headmaster training, media production, educational research, curriculum resources, community consultation, and organizational and institutional development.

To the extent that JSEIP contributed to institutional changes within the ministry, it was through facilitating that change by helping to identify and communicate problems to the ministry, proposing solutions to those problems, and helping the ministry implement the solutions which it found most promising. Through this process, the following project objectives have been accomplished.

- Curriculum has been revised to include objectives, learning strategies, achievement measures, and instructional materials for the Nine Year Basic Education Program, especially in English, art, social studies, and design and technology. Support has been provided to all other subject areas.
- Training and support have been provided to improve organizational information and staff skills to manage the junior secondary system.
- The Department of Curriculum Development and Evaluation has been strengthened through training and support in continuous assessment and criterion-referenced testing procedures.
- Pre-service teacher education has been strengthened through support of curriculum development, assessment, and practice teaching initiatives and the establishment of a Design and Technology Department within Molepolole College of Education.

- In-service teacher education has been strengthened through the training of in-service officers and headmasters, through the provision of materials to help them understand their jobs more thoroughly, and through the provision of training in teacher "coaching" and action research techniques.

A building for Curriculum Development and Evaluation personnel has been constructed to include a production facility and Curriculum Resource Centre which are functioning effectively.

Counterparts are in place to officially take over the roles of their JSEIP advisors at the end of the project in the areas of Curriculum Development (Evaluation, Planning, Design and Technology, Art, Resource Centre, Media Production) and In-service Teacher Training.

3.2.1.3 Seven Years of IEES Collaboration in Botswana

October 31, 1992, will mark the end of seven years of IEES resident technical advisor presence in Botswana. In these final months, a number of activities and publications are scheduled to document and summarize the IEES contributions to Botswana's efforts to develop and promote data-based decision-making in the policy and planning arenas, as well as to capture and document a description of the research data which has been made available along with the record of the analysis which has been carried out thus far.

The Ministry of Education has worked with IEES to establish an EMIS which will serve its information needs for the years to come. Clearly, a milestone has been reached with its decision to create an Educational Information and Statistics unit within the new Division of Planning and Research. The decision to sustain the enterprise, and the commitment to improving the efficiency of Botswana's education system has been made. The necessary hardware and software are in place, as well as routines for collecting and reporting data. The lingering problem for this area is instability among ministry staff responsible for the system. Critical hurdles still lie ahead as the ministry continues to face the challenge of mustering the human resources necessary to institutionalize the EMIS, and make it an organic part of the decision-making structure of the MOE.

It is anticipated that IEES can play a useful role towards this end through the 1994 conclusion of the project. Assistance might consist of locally-conducted training in computer softwares, short-term technical assistance aimed at further capacity building within the new, reorganized MOE, or perhaps activities to further develop and enrich the documentation of Botswana's EMIS implementation.

In October 1992, Burchfield will complete three year of IEES duty as Resident Technical Advisor in Botswana. She was preceded by Ash Hartwell, who served for four years as JSEIP chief-of-party, as well as IEES advisor. With a relatively low profile – one RTA at a time, limited and targeted consultancies, in-country training for MOE staff, and a research program focusing

on pedagogy in the classroom – IEES has had considerable impact within the MOE. Its impact has been wholly consistent with its purpose of improving the policy and planning functions of the MOE through developing local capacity to maintain and upgrade an Educational Management Information System, and planning and conducting high quality, relevant policy research.

3.2.1.4 IEES Research in Botswana

A number of studies have been carried out under the IEES research program. Originally this research was under the auspices of JSEIP, and was later transferred to IEES supervision. The various protocols which have been designed and administered are listed in the table below. Together, they represent one of the richest classroom level data sets currently available in Sub-Saharan Africa. The focus has been analyzing these various data on classrooms, teachers, students, and headmasters, to seek insight into the nature of classroom dynamics in Botswana's junior secondary schools, within the context of the changes taking place in the educational arena as well as in the society as a whole.

Analysis of these data sets is still in process. The table lists publications to date, and those scheduled for 1992. The Policy Research Seminar, to be held in Gaborone in October 1992, has been scheduled as an opportunity to summarize the findings thus far and discuss the implications of questions raised by the findings as they pertain to educational policy. It will also serve as the opportunity for members of Botswana's larger educational community to familiarize themselves with the various types of data which are available.

**SUMMARY OF IEES & JSEIP-SPONSORED RESEARCH
IN BOTSWANA ON PEDAGOGY IN THE CLASSROOM¹**

| PROTOCOL | RESEARCHERS | DESCRIPTION | OUTPUTS | |
|-----------------------------|-------------------------|---|---|--|
| | | | PRODUCT | TARGETDATE |
| Classroom observation | Chapman, Snyder, Fuller | 3 data sets (88, 89, 90); observations of teaching styles (types/complexity of questions, lecture), time allocation in class (use of books and other materials, time on-task vs. organizing or other activities, etc.) | IEES research report "Teacher rituals, organized sacrifice: The classroom institution in southern Africa" (Fuller, Snyder, Chapman & Hua) | Printed October, 1991 |
| | | | IEES research report "Is teacher training associated with teachers' classroom behavior: A study of junior secondary school teachers" (Chapman & Snyder) | Printed December, 1990 (in one report) |
| | | | "Classroom affect and complexity: Ecological perspective of Botswana junior secondary schools" (Fuller, Snyder & Chapman) | |
| Teacher questionnaire | | 2 data sets (89, 90); questions cover teachers' self assessment of their skills, abilities, success/approval; competence in teaching & subject matter, efficacy; behaviors (seeking advice, giving tests & homework, meeting w/students) etc. | "Teacher productivity in sticky institutions: Curricular and gender variations" (Fuller & Snyder in Chapman & Walberg) | 1992 |
| | | | Teacher efficacy and instructional practices in Botswana" (Chapman & Snyder) | 1992 |
| Quality of teacher worklife | | 3 data sets (88, 89, 90); questions re: satisfaction, happiness, complexity, challenge, stress, monotony, responsibility; relation of methods, policy/programs, etc. to one's teaching, etc. | IEES research report "Quality of teacher worklife and classroom practices in Botswana" (Perry, Chapman & Snyder) | September 1992 |
| Student achievement | | IEA tests and Grobe "ABC" (Assessment of Basic Curriculum) Test developed under IEES for Botswana | | |

| PROTOCOL | RESEARCHERS | DESCRIPTION | OUTPUTS | |
|-----------------------------------|---|---|---|----------------------------|
| | | | PRODUCT | TARGETDATE |
| Headmaster study | Chapman & Burchfield | Interviews w/headmasters re: their beliefs re: impact of their activities in supervision, management, and school-community communications on student achievement; and correlation of those beliefs with their views of dynamics of the school | IEES Report (Chapman & Burchfield) "Headmasters' beliefs about their role in improving student performance" | Printed January 1992 |
| | | | Burchfield chapter in forthcoming book (Macmillan/Botswana) funded by GOB; discusses implications of headmaster research findings for Botswana educational policy will also be printed as IEES report | August 1992; |
| Teacher incentives | Chapman, Snyder, Burchfield (earlier, Kemmerer) | Study relation of six factors (remuneration, training, community support/ recognition/approval, instructional materials, supervision, career opportunities) to 1) career satisfaction, and 2) pedagogical behavior | IEES Report "Teacher incentives in the third world" | Printed December 1991 |
| | Burchfield, SIAPAC contract [funded by mission, not IEES] | Follow-up to first study; 500+ interviews | Analysis and report to be readied by Burchfield, et al. for policy research seminar in Botswana, October 1992 | Report due October 1, 1992 |
| | Burchfield, Chapman; Mautle & Weeks (Univ. of Botswana) | Follow-up to first study; looks at administrator perspective on teacher incentives and performance | | |
| Curriculum/ classroom ethnography | Snyder, Prophet, Rowell, Ramatsui, Fuller | Ethnographic analyses and questionnaires, to consider educational context in light of system growth and instructional/substantive change | <i>Curriculum in the classroom: Context of change in Botswana's junior secondary school instructional programme</i> , Snyder & Ramatsui (eds.) Macmillan/Botswana, 1990 | Book published 1990 |
| | | | "Affective context of schools as potential indicator of receptivity to instructional change and teacher worklife in Botswana," Snyder in Chapman & Carrier | 1990 |

| PROTOCOL | RESEARCHERS | DESCRIPTION | OUTPUTS | |
|--|-------------|-------------|---|------------|
| | | | PRODUCT | TARGETDATE |
| Curriculum/ classroom ethnography (continued) | | | "The curriculum observed," Prophet & Rowell | 1988 |
| | | | "Curriculum-in-action: Classroom observations in Botswana junior secondary schools 1987-1988," Prophet & Rowell | 1988 |
| | | | "English in the junior secondary school: Case study of a curriculum interpretation," Prophet | 1991 |

1. *There is not a one-to-one correspondence between the research protocols, on the one hand, and "outputs," on the other. There are various research instruments which were administered in Botswana, some or all of which may be utilized in specific analysis and reports.*

3.2.2 Plans for Project Year Nine

The contract of the Botswana RTA (Burchfield) expires at the end of October 1992.

Planned activities through October 1992 are listed below:

1. The RTA will continue technical assistance to the Planning Unit, while also serving on the MOE reorganization committee and participating in the design of the new Research and Planning Division.
2. EMIS database development and coordination will continue. Final changes to the EMIS Indicators of Efficiency System will be made and a user's manual will be completed.
3. MOE Planning staff will be trained in using the EMIS system, utilizing the newly-developed manuals.
4. Tim Goddard will be contracted to write a user's manual for the Bursaries data base software, which he developed earlier under other auspices, allowing the staff in that department to update and revise their system.
5. Two seminars will be scheduled in September/October 1992. The first will be a Policy Research seminar, at which David Chapman and Shirley Burchfield will outline findings of IEES-supported research undertaken in Botswana. They will facilitate discussion among participants from the ministry and university concerning the questions raised by the findings, and the findings' relevance to planners and policy-makers in Botswana. Officials will be made acquainted with each of the various data sets which are now available, so that they may continue with their own research and analysis of this very rich data set.
6. A second seminar will be held to allow the members of the MOE's Data Managers Group to present the ministry's EMIS system (in each of its facets, from their own

perspective) to a larger audience of ministry and university decision-makers, and to receive feedback in turn. Dwight Holmes, from the Florida State University EMIS/indicators group, will participate in this seminar and give a presentation on the experiences in EMIS development in other IEES countries.

7. A publication describing current research capability and presenting recent research findings in the education sector in Botswana will be published (using cost-sharing/IEES funds).
8. Remaining data for the teacher incentives study will be collected and analysis will be carried out prior to the Policy Research seminar.
9. Assistance will be provided to the Permanent Secretary in developing a Ministry-wide annual reporting system.
10. A document describing the existing databases within the various Ministries will be completed and disseminated.
11. Dwight Holmes will participate in discussions with the RTA and concerned officials of the MOE and USAID/Botswana to set an agenda for IEES activities to take place in the remaining twenty months of the project, to be consistent with the focus on EMIS-development and policy research, and in light of the soon-to-be-accomplished reorganization of the ministry and creation of a new Planning and Research Division. Ways of integrating IEES objectives with those of the Basic Education Consolidation (BEC) Project – the follow-up to JSEIP – will also be explored.

3.3 GUINEA

3.3.1 Summary of Activities During Project Year Eight

The Delivery Order authorizing IEES to work in Guinea became active in August 1991. In September 1991, FSU placed a Principal Technical Advisor, John Dubey, in Conakry to head the technical assistance program within the Guinean Government's Education Sector Adjustment Program (PASE). Dubey was accompanied by Serge Delorme, a consultant, to work within the Administrative and Financial Affairs Division (DAAF) of the Ministry of Education. Delorme was subsequently assigned as a permanent Resident Technical Advisor, in January 1992, hired under the second Project Delivery Order.

Project start-up has suffered from both normal obstacles and a few extraordinary problems. The more routine difficulties included:

1. Delays in purchasing and delivering to Conakry basic hardware for proper office operations (now corrected);
2. Difficult communication (phone and fax) between Conakry and Tallahassee (a situation that persists);
3. Delays in the proper establishment of residence, with furniture and personal effects, for the technical assistants (now arranged for Delorme); and
4. Immediate "crisis" demands placed on the technical assistants, preventing them from properly organizing their work program, their offices, and their home situation.

A few extraordinary situations arose, from which the repercussions continue to cause difficulties and require attention:

1. The first Delivery Order was not ready until about three months later than expected, affecting not only the ability of the IEES advisors to support the PASE, but also the Project's relationship with the other major donors, particularly the French technical assistance program;
2. Irrespective of FSU's late arrival, the identification of a complementary role for IEES to the French has been confused by an apparent lack of coordination or agreement by the major donors and the Government on this issue, a matter that is complicated further by the FAC and USAID programs' fundamentally different philosophies of technical assistance; and
3. The Project PTA was transferred back to Tallahassee in mid-November, leaving Delorme alone in Conakry to operate the Project and to advance his heavy technical assistance agenda within the DAAFs. This situation was alleviated partly at the start of January with the arrival for 3-1/2 months of Ibrahima Bah-Lalya as Interim PTA. Bah-Lalya's departure in mid-April left the Project without a PTA

again until the arrival to Conakry of Andre Courtemanche as PTA-Designate the second week of June.

Despite the considerable hurdles faced by the Project in Year Eight, much was accomplished. This includes both the pre-project stage, prior to the initiation of the Delivery Order and the operational phase:

1. A complete program of technical assistance for IEES to the Programme d'Ajustement Sectoriel en Education (PASE), working in the domain of finance and administration. This involved principally (i) the preparation of a procurement list for the establishment of a fully functioning Project office; and (ii) the identification of a consultants roster for the two years of the Project, including the preparation of complete Scopes of Work and the beginnings of a data bank of potential candidates.
2. In Fall 1991, IEES collaborated with the DAAF-MEN/SEEPU in a successful annual Ministry of Education budget preparation and proposal process, with MEN presenting the only budget entirely accepted by the Ministry of Finance.
3. IEES participated in the preparation of the PASE documents for the first tranche review of the World Bank, originally scheduled for November, but finally conducted in February, with an additional two-month period required to provide further documentation as specified by the Bank.
4. In November 1991, IEES engaged a Guinean computer expert, Jacob Benjamin, seconded to the DAAF on a part-time basis from the Ministry of Finance, to provide technical assistance in the computerization of the MEN budget.
5. In January 1992, IEES recruited and hired office support staff, including two drivers (Ibrahima Barry and Mamadou Cellou Camara), a secretary/receptionist (Haby B. Bangoura), an administrative assistant (Mohmoud Maz Diallo), and a custodian (Lamarana Barry).
6. Equipped, furnished and organized, with the cooperation of the PASE Director, a USAID/FSU Project office, with fax machine, two laptop and two 486 personal computers, with tape back-up, laser printer and power supply protector. Orders for a photocopy machine and another UPS and laser printer will be made to complete the office equipment. All equipment except the photocopier will have been purchased in the U.S.
7. In February 1992, IEES recruited a new PTA, Andre Courtemanche, who will begin as a consultant fulfilling the complete functions of a PTA, for a two to three month period starting early June. Assuming consensus approval of his performance by the MEN, USAID and FSU, he will subsequently be hired on as permanent PTA.
8. In April 1992, Serge Delorme and his family were installed, with personal effects and furnishings, in a home in Conakry.
9. IEES collaborated with the PASE and DAAF to prepare the documentation for the USAID June tranche review.

10. IEES provided normal, routine technical support of the PASE reform, including (i) representation of the finance and administration sector at the regular donor and reform directorat meetings, and (ii) support of the daily operations of the DAAF through collaboration and training.

The USAID/FSU Project also benefited from the contributions of the first group of consultants:

1. John McLanahan, made a second trip to Conakry (the first had been in early November to help Muskin organize the transfer of Dubey to Tallahassee) to work with Bah on setting up the Project office. During his two weeks stay, he and Bah-Lalya set up a Project bank account, purchased two Project vehicles, agreed to a suitable office arrangement with the PASE Director, established local hire contracts and performed other tasks associated with Project administration.
2. Ibrahima Bah-Lalya was engaged as Interim Principal Technical Advisor, upon the joint request of the MEN and USAID for three months starting in early January. He served three basic functions: (i) establish and manage a fully functioning Project office, in particular hiring staff, organizing the equipment and space, and enacting office guidelines and procedures; (ii) serve as an advisor to the PASE Director in the administration and financial areas of the reform; and (iii) organize and draft (with support from Delorme and the Guineans responsible for this area) the documentation required by USAID for the release of the second funding tranche.
3. Karen Tietjen conducted a four-week consultancy in February to prepare a Monitoring and Evaluation plan for the PASE reform program. This task had to be modified upon her arrival as it was learned that there was overlap with the FAC technical assistance Monitoring and Evaluation agenda and she encountered little evidence of a willingness to collaborate in this effort. Instead, it was agreed with USAID that Tietjen would put forward a plan for an evaluation of the USAID involvement in the PASE reform.
4. Muskin paid a courtesy visit (not paid for out of Project funds) to Conakry in February to (i) propose Courtemanche to USAID and the MEN as Project PTA; (ii) to see the Project in its fully operational mode; (iii) to discuss the matter of donor collaboration with USAID; and (iv) to hear how the Project was proceeding after its change of leadership from all the different parties directly involved – the MEN, USAID and the Project staff, Delorme and Bah-Lalya.
5. Tietjen returned to Guinea for about six weeks starting in mid-April to present and analyze the existing situation of girls' and rural primary schooling in Guinean and to prepare and initiate a Gender and Rural Equity Study plan, completing the previous work in this area of Passy Kourouma, a local consultant, and Lynell Long, of USAID/WID. This plan was a requirement for the USAID June tranche review.
6. Joseph DeStefano arrived to Conakry in early May to conduct a four-week consultancy covering three tasks: (i) review and make final adjustments of the USAID tranche review documentation; (ii) join the Director of the DAAF-MEPU* in preparing and delivering a second round of trainings in financial administration for

the regional prefectorate offices (SAAFs) of the MEPU; and (iii) prepare a draft set of guidelines and instructions for a SAAF operations manual. DeStefano was unable to complete the tasks two and three as he had to be evacuated suddenly for medical reasons.

*In February, the Ministry of Education separated into two completely autonomous ministries: the Ministry of Higher and Technical Education; and the Ministry of Pre-University Education. Madame Aïcha Bah was elevated from her position of Secretary of State for Pre-University Education to Minister of Pre-University Education.

7. Daniel Bilodeau arrived to Conakry at the end of May for two months to work in the DAAF to analyze and revise, as appropriate, the computerization of the MEPU budget. His functions also include training DAAF staff in both the programming and operation of the computerized budgeting system, including one-on-one training, seminars and the preparation of appropriate instructional and operational documentation.
8. A data bank of consultants has been created, essentially by relying largely on three strategies: (i) a newspaper advertisement campaign conducted in July and August; (ii) letter and phone contact with colleagues at universities and international organizations in the U.S., Canada and France; and (iii) advertising through international consultant bulletins.

These consultancies cover all but one of the activities planned for the first six months of 1992 in the IEES Mid-Year Progress Summary. The exception is the substitution of the Bilodeau consultancy for a consultancy in property control and materials management.

Despite the difficulties faced by the Project, the Project staff and consultants made clear contributions and progress in advancing the PASE reform. This can be attributed primarily to the dedicated, competent efforts of the field staff.

The problems that the Project continues to face should not, however, be ignored. The Project's field and coordination staff will undertake a discussion of these matters in early June to identify protocol and procedures to avoid those same, and related, problems in the future.

1. The Project has suffered from almost complete equipment failures, of varying complexity.
 - A virus completely destroyed the hard disk of all but one of the Project's computers. Control of computer usage has been difficult, particularly with the assignment by the FAC of one of their consultants to work with the DAAF, carrying diskettes back and forth from the FAC's computers to the USAID/FSU Project computers. With no computer servicing capacity identified in Conakry, one of the 486 based computers was returned to Tallahassee for repairs.
 - The fax machine blew a fuse and delivery of the proper replacement fuse to the Project office has been complicated by communication obstacles between Tallahassee and Conakry.

3.4 HAITI

3.4.1 Summary of Activities During Project Year Eight

This marked the sixth and final year of the Incentives for Improving Basic Education (IIBE) Project, operated by FSU in Haiti under contract to USAID. Discussions between FSU and USAID/Haiti had begun for planning a possible two-year extension of the Project, but these were halted at the end of September 1991, in response to the coup d'état resulting in the expulsion of President Jean-Bertrand Aristide and the return to Haiti of military rule. As of May 31, 1992, the IIBE Project was allowed to elapse.

As of May 1992, the Fondation Haïtienne de l'Enseignement Privé (FONHEP) received a commitment from USAID/Haiti for continued funding. FONHEP is bravely continuing its normal operations of organizing and supporting the private education sector of Haiti as best it can. It is also absorbing some of the IIBE staff (particularly the Center for Technical Services and some support personnel) in order to maintain many of the training and curriculum development activities of the FSU Project.

The major victim of the Project's sudden interruption in September was the substantial research agenda being conducted through IIBE. With the continuing tentativeness in defining a refurbished agenda for USAID in Haiti, the Project has been unable to undertake a strategy for completing its several research initiatives, although ongoing dialogue between FSU and AID/Washington and USAID/Haiti has not ignored this need.

The efforts of IIBE up to the time of the coup d'état were concentrated in six basic activities:

1. Monitoring the continuous performance of schools with respect to administrative and pedagogical behaviors, with respect to instructional interventions designed and implemented by the Project. Activities and analysis halted by Project's suspension. (Karen Tietjen, with IIBE's Centre de Services Techniques [CST] team);
2. Analyze data from cost and school surveys for the pre-school component (PEP) and work with PEP on compiling and presenting the results of parent interviews. Analysis and subsequent collaboration with PEP were halted by the Project's suspension. (Mary Pigozzi, Marc Johnson and Serge Madhere);
3. Gather and analyze data from the school finance study, investigating both school-related finance issues – income, expenditures and management – and household finances and expenditures for schooling. The raw data has been delivered to the U.S.-based consultants, but final analysis and reporting was interrupted by the Project's suspension. (Karen Tietjen, Simon Fass, Carole Roy);

4. Prepare for IIBE Project Evaluation, which was to have commenced in October 1991 (due to the September 30 coup d'etat and the resulting suspension of activities, evaluation plans were canceled), and initiate protocol for the dissemination of research findings. A final document was submitted. (Alastair Rodd);
5. Conduct a program and geographic inventory of PVO activities with respect to early childhood support activities. (Lisa Wishman); and
6. Conduct a comprehensive diagnosis of skills in French, Mathematics, Creole and teaching abilities among 2,000 teachers participating in August-September in-service training programs. A final document is pending, due to the Project's suspension. (Haitian team of consultants led by Aline Bory-Adams.)

Several "extraordinary" Project activities occurred during this cycle:

1. Mathematics and preschool modules of the distance training pilot project were initiated. French and Creole modules are being readied for distribution when the present difficulties cease;
2. Ministry of National Education (MEN) adopted a national primary school curriculum which was jointly developed with Project staff and resources. Additionally, the MEN (under the deposed Aristide administration) was to have considered official certification of the Project teacher training program to convey Government-approved diplomas to participants;
3. A pre-award audit of FONHEP was completed. With some program exceptions, FONHEP was recognized to have the financial and management capability to continue on as a PVO;
4. A two-year Project review, for 1988-1990 was prepared and published;
5. *A Research and Evaluation Program, Overview and Update* and a *Rapport d'Evaluation-Recherche, Resultats Preliminaires*, were prepared and published; and
6. FONHEP and the Ministry of Education were to have been the recipients of a Fifth World Bank loan. Unfortunately, the contract was to have commenced on October 1, but as a response to the illegal overthrow of the Aristide government, the Bank abrogated the contract.

The Project also continued to support FONHEP in routine ways, continuing the process of institutional development and providing more general technical reinforcement. IEES staff at FSU continued to purchase all supplies for the Project up to the time of the Project suspension. The operation of the CST and FONHEP also remained an IIBE/IEES function. With the suspension, USAID/DC and USAID/Haiti almost immediately ordered IEES not to undertake any new or unnecessary financial obligations related to the Project. This included essentially all equipment and materials procurements and any consultancy efforts, even those that involved the continuation of on-going program initiatives. Soon after, USAID instructed IEES to terminate or let elapse any contractual obligations that it could. A commitment to those contracts that were in force was

guaranteed. Additionally, on-going IIBE activities in Haiti performed by local staff were allowed to continue. The two resident technical advisors, Charlie Tesar and Aline Bory-Adams were repatriated to the United States, where they operated from the IEES offices at FSU.

As of May 31, 1992, the termination date of the original contract, the Chief of Party, Tesar, and all Tallahassee-based staff are no longer covered by the Project budget. IIBE personnel in Port-au-Prince were also terminated in accordance with the employment laws of the Government of Haiti. USAID has arranged with FONHEP to engage all of the CST technical experts along with several of the IIBE support staff.

3.4.2 Plans for Project Year Nine

As of now, the IIBE Project is over. Even if the current governmental crisis is resolved to the satisfaction of the Organization of American States and the U.S. Government resumes full development activities, it seems unlikely that IIBE will be resurrected. Efforts continue, however, to negotiate with USAID to fund the wrap-up of all research and development efforts for which further research is unnecessary. This would involve major efforts:

1. A summative evaluation of the PEP (pre-primary) education curriculum models, including a comparison of effects on student characteristics and subsequent primary school performance, parents' involvement, teacher behavior, and program costs;
2. Data compilation and analysis from subject skills testing of teachers in IIBE schools;
3. Pilot testing, revision and publication of training manuals developed in pedagogical evaluation test elaboration of Math, French and Creole curricula;
4. Completion of a computerized system for analyzing test items that have already been developed;
5. Collection of additional data and completion of data analysis from a teacher retention study, with the development of a monograph;
6. Analysis of existing data for the preparation of a monograph on school directors training experience;
7. Completion of reporting on IIBE teacher training experience for the life of the Project, to be compiled in a monograph;
8. Analysis of existing data from the teachers' performance incentive study, to be prepared as a monograph;
9. Complete data collection and undertake analysis to prepare a monograph on school committees;
10. Complete data collection and develop analysis for a monograph on the utilization of school textbooks in the classroom;

11. Preparation of a summative report on the overall experience of the Project's intervention of the private primary school sector and the institutional development of FONHEP;
12. Collection of final data and analysis of quantitative and qualitative data for the preparation of a monograph on mathematics learning processes; and
13. Analysis of qualitative data to combine with quantitative data to prepare a monograph on the relationship between French and Creole learning processes.

It is unlikely that all of these will be approved, but it is hoped that at least some will. The abandonment of these would constitute a significant loss to the IEES research and evaluation agenda.

3.5 INDONESIA

3.5.1 Summary of Activities During Project Year Eight

Project Year Eight activities continued the overarching objective of the 1990-92 IEES/Indonesia Country Implementation Plan to assist in improving the capacity of the MOEC, specifically Balitbang Dikbud, for policy planning, research and analysis. Consistent with this overall goal, during this past period IEES collaboratively designed activities to assist Indonesia to prepare for the critical move from six to nine years of compulsory basic education, as well as for contributing to the education component of the upcoming twenty-five year development plan. This report is presented in two sections in order to better reflect the activities that are primarily centrally-funded through IEES and those that were implemented and funded under the bilateral Education Policy and Planning (EPP) Project. However, it is important to point out that from the outset IEES and EPP activities have been designed to be highly integrated and mutually supportive. It is, therefore, often difficult to neatly disaggregate them conceptually and fiscally.

3.5.1.1 IEES Activities

Policy and Planning

Curriculum Reform During Project Year Eight. The major activity in the category has been assistance to the MOEC with curricular reform, specifically of the Science and Math curricula. This work continues the thrust begun earlier with the Policy Reform Study conducted by an IEES team in Spring 1990.

This activity was undertaken in July and August 1991 by B. Balzano, a Math and Science curriculum specialist. Balzano worked with a team from the Curriculum and Educational Facilities Development Center (CEFDC), Balitbang Dikbud. Balzano and the CEFDC team accomplished the following:

- reviewed and analyzed the 1994 curriculum masterplan;
- examined fundamental issues related to the nine-year basic education and secondary education plan, especially the Math and Science curricula, and made recommendations for further development of these curricula;
- examined issues concerning assessment and development of Math and Science curricula for primary and secondary education in accordance with the demands of national development; and
- formulated strategies of curricular reform and reform implementation particular to Science and Math.

In addition, Balzano met with members from each of the curriculum teams for Biology, Chemistry, Physics and Math to discuss specific concerns for each of the above curriculum areas.

In January and February 1992, Balzano carried out the second phase of the curriculum study. Together with the counterparts groups referred to above, she prepared and reviewed the final draft of the Science and Mathematics Base Course Outline. She also developed monitoring and evaluation schedules for the 1994 Basic Course Outline in Science, analyzing the data obtained from monitoring and evaluation, and using the results of this analyses as feedback and amendments for the Basic Course Outline. Balzano also participated in discussions with the curriculum development team in Jakarta, as well as in the provinces. It is highly likely that Balzano will be requested to return to Indonesia during Project Year Nine to continue her assistance to the MOEC in this important reform work.

Research and Knowledge Building

Under this conceptual category IEES conducted two major activities during Project Year Nine: Design of Strengthening Local Education Capacity (SLEC) Research; and completion of the Quality of Basic Education (QBE) Study. The QBE study has been an ongoing study and was completed for presentation of results at the June 1992, EPP Regional Conference in Yogyakarta, the SLEC study will be continued with an emphasis on issues of decentralization.

Decentralization/Strengthening Local Education Capacity. This IEES research activity is designed to provide support to the GOI's initiative to decentralize educational decisionmaking by 1) building on the SLEC Research sponsored by IEES during its first five-year phase, and 2) by contributing to an already existing decentralization project currently in operation. William Cummings initiated this activity during a visit in January-February 1992. On the basis of this first stage, he recommended that the SLEC research focus on the search for effective ways to encourage community support for local schools. The study will first attempt to determine the current situation with respect to existing capacity at the local level to undertake decentralization. It will then identify ways that local communities can encourage and enhance school quality, equity of access, and student retention. This first visit by Cummings, who is well experienced in Indonesian education, resulted in a perceptive ethnographic study of secondary school principals and a first draft of the decentralization research design.

A second visit by Cummings in June 1992, further refined the research design and, working with Jack Bock, gained tentative acceptance and support for this two-year research effort by the senior personnel of Balitbang Dikbud.

A two-year study, beginning in September 1992, is proposed which would involve 300 SD and 300 SMP, along with a sample of education policy makers at the national and provincial levels. An outline of the decentralization research design has been developed and is discussed in detail (along with budget and timeline) in the Plans For Project Year Nine section.

Quality of Basic Education (QBE). This activity was designed and initiated as an EPP Special Study in 1986. It was supported from the EPP budget until 1990 when IEES agreed to provide some additional modest support for continued analysis. In Project Year Eight, Balitbang Dikbud requested that IEES provide some further assistance which was deemed necessary to produce a final analytical product (published and presented at the EPP Regional Conference in Yogyakarta in June 1992). In line with this, IEES provided a data analyst, Michael Green, to assist an ongoing team effort in Balitbang, headed by Ace Suryadi. The team produced a draft document May which was reviewed and edited by Jerry Messec and his staff at FSU. The conclusions and recommendations of this long-term effort were reported at the June EPP Conference by the Balitbang research team.

In-Country Education Management

During Project Year Eight, IEES continued to assist the MOEC to improve the policy research, analysis and planning component of the MOEC through a series of workshops and monitoring activities which were initiated during Project Year Seven.

Provincial Sector Review Workshops. F. Kemmerer and A. Cresswell conducted two workshops at six month intervals (with intervening monitoring visits) to complete the first phase of the capacity development of provincial education officials in sector assessment methodology. These workshops focused on analysis of data collected by workshop participants since the first workshop (held during IEES Project Year Seven). Participants analyzed 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 of this assistance 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 only at a rather superficial national level. There are two final products. There are provincial-level sector assessment updates 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 is manuals on methodologies taught during the workshops and which will serve to support future updates. The outcome of the third, and final, workshop in February was the production of an analytical assessment report of education in each of the sample provinces. This final workshop conducted a critical

evaluation of these reports, and on the basis of them, planning was initiated for an expansion of locally conducted sector assessments to at least six more provinces. The planned expansion will be discussed in greater detail under "Plans For Project Year Nine."

Quality and Efficiency of Vocational-Technical Education (QEV) Data Analysis Workshop IV. A fourth, and final, data analysis workshop was conducted during the second half of Project Year Eight. This workshop series was designed to assist in developing the capacity among Balitbang Dikbud staff to conduct large-scale data analyses. It was fortuitous that the data from the QEV tracer study (and employer survey) were available and could be utilized for the purpose of "reality-based" training. This final workshop built upon the three prior workshops and was focused specifically on assisting Pusat Informatika's capacity to design an analysis model.

3.5.1.2 EPP Activities

In Project Year Eight, the EPP bilateral project continued to support three categories of activities. The first is the continuing support for the development of an integrated Educational Management Information System for the MOEC. The second category has been comprised of three special studies 1) the Improvement of Teacher Education; 2) the study of the Quality and Efficiency of Vocational Technical Education; and 3) Low Cost Learning Materials. The third major category included three major studies designed to assist Balitbang Dikbud in preparation of Indonesia's upcoming 25 Year Plan: 1) Cost Analysis, Financing, and Educational Efficiency; 2) Education and Social Change: Improving the Effectiveness of Indonesian Schools; and 3) Education and the Labor Market in Indonesia.

EMIS

Throughout the life of the EPP project, EMIS has provided the central focus around which the other planned activities were designed to coalesce. During this reporting period, EPP made further progress toward the goal of expanding the EMIS across all ministry-level Directorates General, expanding it to all twenty-seven provinces. Most importantly, significant progress was made in extending the system downward to include the Kabupaten level in a number of pilot provinces. The EPP project will end in September 1992, and remaining activities will focus on consolidating results, analyzing lessons learned and documenting the process and outcomes through a series of written products.

EPP Special Studies

Improving the Quality of Teacher Education. During Project Year Eight, D. Nielson and J. Cobbe examined the implementation and financing of the D-2 Inservice training program, focusing on problems of implementation of several delivery systems in rural and remote areas. The

planned outcome of this activity is to formulate alternative delivery approaches to improving the quality of teaching in these areas. This study is critical to the need for expansion of D-2 trained teachers as Indonesia moves from six to nine years of basic education. The products of this activity are expected to be: 1) the development of a plan for conducting cost/benefit analysis of these alternative teacher training programs; and 2) the use of the field study findings to generate multi-grade teaching module contents for use of remote schools. A wrap-up workshop is planned for the final months of EPP.

Quality and Efficiency of Vocational-Technical Education (QEVT). The principal components of the EPP QEVT study are a tracer study of the senior secondary graduates (75% vocational/technical, 25% general secondary), a senior secondary school quality survey, and a survey of employers of secondary and tertiary graduates. The tracer study's baseline data collection and the school survey were completed in early 1990, and the first tracer follow-up was conducted between February and June, 1991. The employer survey was completed during November and December of this project year. Also in support of QEVT, a fourth data analysis workshop (described above) was conducted during this year. During his visit in January-February 1992, J. Strudwick: 1) worked on finalizing the tracer study's second follow-up questionnaire; 2) completed preparation of the mail-out materials, codebooks, and data entry procedures; and 3) produced a revised and final schedule for the completion of the QEVT study.

A preliminary set of findings will be presented at the IEES/EPP Asia Regional Conference in June/July and the final research report will be available in August 1992.

Low-Cost Learning Materials (LCLM). P. Spector, R. Reilly, and J. Strudwick made three trips to Indonesia during Project Year Eight and conducted 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 built upon their initial studies conducted during Year Seven which recommended 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 trips by Reilly, Spector and Strudwick, which included a pilot study in South Sulawesi, demonstrated the feasibility and value of low cost learning materials production and distribution. During the second trip by Strudwick, the framework for data collection instruments was developed and interviewer training sessions scheduled. In January 1982, Spector presented the Phase I report on Low-Cost Learning Materials to USAID/Jakarta and Balitbang Dikbud. Strudwick completed the preliminary analysis of the LCLM data from South Sulawesi. Those analyses served to provide EPP and USAID with an indication of the rate and degree of household expenditures on

learning materials and overall private costs related to primary schooling. A final, more complete, analysis will be included in the EPP LCLM project report that will be completed prior to September 30, 1992. There is, at this stage, no intention to complete the initially-planned second phase of the LCLM activity.

EPP: Indonesian 25 Year National Development Plan

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. During Project Year Eight McMahon's work was directed largely, although not exclusively, toward planning 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.

By the end of IEES Project Year 8, three of the volumes will have been completed.

Volume 1: Education, Economics, and Social Development in Indonesia 12/91

25 Year Educational Goals for Economic Development in Indonesia: Executive Summary
The Basis for Expansion of Education: Efficient Contributions to Growth and Equity
Structural Change and Investment in Education
A Global Analysis of Education, Social, and economic Change in Industrializing Societies
Technology and Human Capital Formation: Implications for Indonesia's 25 Year Education Goals
Developing Effective Educational Systems
Education, Demographics, the Labor Market, and Development: Indonesia and the Process of
Transition
Indonesia-ASEAN-Pacific Rim Comparisons
Appendix (data)

Volume 2: Education and the Economy

Introduction: System Improvements and external Efficiency in Education
Universal Basic Education: An Overall Strategy of Investment Priorities for Growth
Market Signals and Labor Market Analysis: A New View of Manpower Demand and Supplies
Program Strategies for Planning Human Resource Development in Indonesia
Investment Criteria and Financing Education for Economic Development
The Economics of School Expansion: Why Governments and Families Invest (Social Demand)
Facilitating Job Placement of College Students
The Transition from Tertiary Education to Employment

Volume 3: Improving the Quality and Internal Efficiency of Education

Introduction and Overview

Efficiency-Based Management Information Systems

Sources for Improvement in Quality and Efficiency

Methods of Computation of Efficiency Measures

Vocational and Technical Education in Development

Managing and Implementing Educational Goals

Improving the Quality of Higher Education Through Increased Internal Efficiency

Improving the Educational Quality of Primary Schools in Indonesia

Summary of Conclusions

W. McMahon, D. Adams and J. Cobbe prepared Volume I of the background papers on the 25 Year National Development Plan. J. Messec assisted in the editing and production of the volume for the planning conference. These studies served as background to policy discussions at the 25 Year National Development Planning Conference held in Indonesia in January 20-23, 1992.

Cost Analysis, Financing, and Educational Efficiency. This long-term activity has been examining 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 has completed two tasks during the upcoming project year. He has developed and analyzed cost data to determine the rate of return to education and the extent of fit between education and employment. This information served as the basis for his second task of developing a computerized school aid formula to guide the GOI's financing of schools.

Cultural & Social Changes In Education. The Long-Range Planning Process: Taking into Consideration the Socio-Cultural Issues. This activity has supported IEES/EPP assistance to Balitbang Dikbud in preparing the education component of the 25 Year Plan. During Project Year Eight, D. Adams conducted a review of current progress on the 25-year education plan and made recommendations on strategies for coping with uncertainties and obstacles to implementation. This assessment drew upon the experience of other nations with long range planning as well as upon the results of EPP studies completed in prior project years. Adams collaborated in the preparation of the volume of policy discussion papers mentioned above. This work culminated in the Twenty-five Year National Planning Conference held in Cipanas in January 1992, and included planners from many Human Resource related Ministries and from all levels of the education system, from National, through Provincial and Kabupaten. Adams has completed a draft of the final report and recommendations of the conference.

Education And The Labor Market. Previous work undertaken for IEES/EPP by Cobbe, McMahon, and others has achieved significant improvements in the capacity of Balitbang Dikbud to monitor the progress of the Indonesian education system, to compare its achievements with those of other ASEAN and East Asian nations, and specifically to derive regular indicators of its external efficiency in so far as those employed for wages are concerned. However, there remain several problems with respect to ensuring rapid and appropriate feedback from economic conditions to policy formation with education. In this activity Cobbe addresses three of these, namely 1) the impact of formal education on economic performance for those who do not obtain wage employment; 2) the process by which new data on the educated in the economy feeds back into policy formation; and 3) the extent to which training issues, as opposed to regular formal schooling falling under the control of the MOEC, should be taken into account by Balitbang Dikbud.

Currently no information is available on the proportions of school-leavers at each level entering employment in the categories other than employee; the variations in these proportions by province, industry, occupation, gender, age, and rural/urban; or trends over time in these proportions. This activity was conducted by Cobbe, with the aid of a research assistant at FSU, to analyze available data tapes to provide a descriptive analysis dealing with the missing information. This analysis was completed in Tallahassee during January-April, 1992, and a preliminary draft report was written prior to Cobbe's departure for Indonesia for the second stage in April. Based upon this analysis, stage two of this activity proposed ongoing activities to Balitbang Dikbud to incorporate continuous monitoring of that experience into its routine analysis; to initiate actions appropriate policy adjustments to improve the performance of the education system in this regard. During Cobbe's trip in April-May, he identified research to be undertaken by Balitbang to address issues concerning the training needs of those not in wage employment, the extent to which current formal schooling facilitates or hinders meeting such training needs, and how Balitbang might go about analyzing the situation with a view to improving the performance of the formal schooling system.

Education and Policy Planning Project (EPP): Overview of IEES Project Year Eight

| Activity | Date | Personnel | Impact |
|--|-------------|--|---|
| <i>Teacher Education</i> | | | |
| 1. Workshops and consultations for the D-2 in-service training program for primary school teachers | 11/91-12/91 | D. Nielsen J. Cobbe B. Miller S. Anzalone | Development of a plan for carrying out cost/benefit analysis of teacher training programs |

| Activity | Date | Personnel | Impact |
|---|---------------|--|---|
| 2. Workshops and consultations for the D-2 program delivery systems for teachers in remote areas. | 11/91–12/91 | D. Nielsen J. Cobbe B. Miller S. Anzalone | Field study results from which multigrade teaching module contents can be generated for remote schools. |
| 3. Study on financing D-2 in-service training. | 4/13–4/23/92 | D. Nielsen A. Pramualratana | Collection of teacher interview data allows assessment of private demand for the D-2 program and forms input for program evaluation and adjustment. |
| 4. Teacher Education Sub-project policy workshop | 9/14–9/22/92 | D. Nielsen | Implications of recent research will be discussed with a view toward policy changes in the areas of financing and upgrading teacher education and rationalization of cost recovery and subsidization systems. |
| <i>Educational Efficiency and Market Signals</i> | | | |
| 1. "Education and Growth in Indonesia" survey article completed. | 7/1–8/14/91 | W. McMahon | These studies represent the input of policy studies in educational efficiency to the national planning process. |
| 2. "Resource Allocation and Educational Management Strategy" article completed. | 7/1–8/14/91 | W. McMahon | |
| 3. "Education and the Economy" article completed. | 7/1–8/14/91 | W. McMahon | |
| 4. Table of Contents for volumes I-IV completed | 7/1–8/14/91 | W. McMahon | Volume I was completed in time to serve as policy discussion papers for the 25 Year Planning Conference |
| 5. Summary of two meetings on SUSENAS and SAKERNAS educational surveys written and submitted. | 7/1–8/14/91 | W. McMahon | These meetings refined questions relevant to future surveys. |
| 6. Presentation on survey data use at inter ministerial conference. | 12/1–2/16/91 | W. McMahon | Upgraded quality of survey data use among GOI ministries. |
| 7. Education, Economic and Social Development study completed. | 12/1–2/16/91 | W. McMahon | Policy study input to the national planning process. |
| <i>25 Year Plan</i> | | | |
| 1. Secured GOI approval of the refined version of the 25 Year Education Goals. | 12/1–12/16/91 | W. McMahon | These studies will serve as background to policy discussions at the 25 Year Planning Conference. |

| Activity | Date | Personnel | Impact |
|---|---------------|------------------------|--|
| 2. Prepared Volume I of background papers on the 25 Year Plan for publication and distribution. | 12/1-12/16/91 | W. McMahon | |
| 3. "Technology and Education" Discussion Paper No. 4 completed. | 7/1-8/14/91 | W. McMahon D. Adams | Policy study input to the conference. |
| 4. Assist in preparation for the 25 Year Conference and work on "Developing Effective Educational Systems" draft. | 1/10-2/2/92 | D. Adams | Input for revisions by the Long Range Planning Team. Cross-regional and cross-ministerial exchange of views on current educational problems and future directions of Indonesian education. |
| 5. Temu Karya Conference paper presented: "Education, Demography, and the Labor Force." | 1/18-2/8/92 | J. Cobbe | Broad-based recommendations for educational policy directions given predicted demographic and labor force vectors. |
| 6. Preparation for and participation in the 25 Year Educational Plan Conference. | 5/31-7/4/92 | D. Adams | Local and international scholars and planners discussed management and implementation of the 25 Year Educational Plan. Special focus on new policy options for basic education. Preliminary work on a model that helps to predict implementation difficulties. |
| <i>Costs, Financing, and Efficiency of Education</i> | | | |
| 1. Completed Volume III on Internal Efficiency and pursued basic research on financial education. | 6/9-7/6/92 | W. McMahon | In process. |
| <i>Quality and Efficiency of Voc/Tech Education</i> | | | |
| 1. Critical review of QEVT study team progress. | 5/17-6/12/91 | J. Strudwick | Preliminary draft of final follow-up questionnaire. |
| 2. Assisted Balitbang in preparing first year QEVT research report. | 5/17-6/12/91 | J. Strudwick | Improved Balitbang's capability to analyze data and produce reports independently. |
| 3. Assisted Balitbang in organizing QEVT data sets. | 5/17-6/12/91 | J. Strudwick | |
| 4. Assisted Balitbang in QEVT questionnaire preparation, in the 2nd Follow-Up, and in the Employer Survey. | 1/16-2/27/92 | J. Strudwick | Finalized tracer study's follow-up questionnaire; prepared mail-out procedure, code books, and data entry procedures. |

| Activity | Date | Personnel | Impact |
|--|------------------------------|------------------------------|--|
| 5. Reviewed Tracer Study analysis; completed Interim Research Report for the EPP conference; attended conference; prepared a task-sharing schedule for completion of the Tracer Study. | 6/13-7/3/92 6/8-7/1/92 | J. Strudwick A. Cresswell | The Research Team has upgraded its analytical and computer skills considerably as a result of participation in this project. |
| 6. Data analysis workshop on the QESE study. | 9/16-9/28/92 | J. Strudwick A. Cresswell | |
| 7. A final EPP study report was prepared for seminar presentation and the framework for the IEES sponsored final study report was completed. A final report was submitted to USAID. | 9/16-9/28/92 | J. Strudwick A. Cresswell | |
| <i>Development of Low Cost Learning Materials</i> | | | |
| 1. LCLM tryout in S. Sulawesi. | 6/18-7/25/91 7/10-7/25/91 | R. Reilly P. Spector | Demonstrated feasibility of learning materials production and distribution. |
| 2. Consultation with senior Balitbang counterpart. | 8/2-8/24/91 | J. Strudwick | Framework for data collection instruments agreed upon; interviewer learning |
| 3. LCLM Phase 3: Studied feasibility of publication and distribution of LCLM materials in Nusa Tenggara Barat. Submitted summary outline of all LCLM activities to the mission. | 1/11-2/5/92 | P. Spector | Capacity of N.T.B. to print and distribute LCLM materials is insufficient at this time. Publication and distribution capacity in North Sumatra, S. Sulawesi, and E. Java is ample. |
| <i>Long Range Planning Conference</i> | | | |
| 1. Helped finalize publication of QEVT Study and Teacher Education Study. | 6/19-7/11/92 | J. Messec | Cross-regional and intra-ministerial consensus building on education portion of the 25 Year Development Plan. |
| 2. Assisted MOEC with editing and production of conference discussion paper. | 6/19-7/11/92 | J. Messec | Discussion papers served as a basis for building consensual input to National Development Plan. |
| 3. EPP Conference; served as IEES coordinator for international guests and assisted the conference planning committee as requested. | 6/28-7/3/9 | J. Messec | |
| <i>EPP Dissemination</i> | | | |
| 1. Assisted EPP staff, USAID, the Mission, and MOEC in planning and producing EPP documents. | 11/30-12/18/91 | J. Messec | Production of EPP product documentation for dissemination of project experiences. |
| 2. Assisted EPP staff with planning final EPP conference. | 11/30-12/18/91 | J. Messec | Plans for EPP/IEES Regional Education Conference. |

| Activity | Date | Personnel | Impact |
|---|--------------|-------------|---|
| <i>EMIS Capacity Building</i> 1. Ongoing assistance to Balitbang Dikbud | | S. Ju | Development of sustained capacity to analyze educational data for Ministry use. |
| IEES Central Activities | | | |
| <i>Policy and Planning</i> | | | |
| 1. Curriculum reform assistance in science and math | 7/5-8/15/91 | B. Balzano | Policy recommendations for curricular reform |
| 2. Monitor and evaluate science and math Basic Course Outline | 2/1-2/29/92 | B. Balzano | Reviewed final draft of the science and math Basic Course Outline. Developed monitoring and evaluation schedules for 1994 Basic Course Outline in science. Analyzed evaluation data and used results to amend Course Outline. |
| 3. Initiated discussion and design of the final Indonesian IEES Country Implementation Plan. | 6/22-7/21/92 | J. Bock | |
| 4. Evaluated the progress made during the past Indonesian IEES Country Implementation Plan. | 6/22-7/21/92 | J. Bock | |
| <i>Knowledge Building</i> | | | |
| 1. Quality of Basic Education data analysis | 2/10-2/24/92 | M. Green | This study analyzed learning efficiency and educational resources in the primary education system in order to establish higher student achievement. Dr. Green engaged in staff training in data analysis and assisted in formulating policy recommendations concerning the provision and use of learning and educational resources. |
| 2. Produce a summary of cross-sectoral experience with decentralization and carry out a feasibility study of educational decentralization | 1-2/92 | W. Cummings | Proposed a series of studies to collect basic data and sharpen the statement of decentralization issues. Proposed a second set of studies which would examine the system's capacity for change. |

| Activity | Date | Personnel | Impact |
|--|--------------|-----------------------------|---|
| 3. Worked on the implementation of the 9th year Annual Plan for AID/IEES/Indonesia; completed an outline of Indonesian educational decentralization. | 6/22-6/27/92 | W. Cummings | Tentative research design for CIP 92-94 |
| 4. Literature review on decentralization: SLEC II. | 6/1-7/1/92 | J. Chiew | |
| <i>In-Country Educational Management</i> | | | |
| 1. Second Sector Assessment Workshop | 7/29-8/9/91 | F. Kemmerer A. Cresswell | Improved capacity to update educational and human resource sector assessments at the provincial level. |
| 2. Data Analysis Workshop No. 4. | 8/2-8/24/91 | J. Strudwick | Improved Pusat Informatika's ability to design an analysis model and to produce their own analysis and research reports. |
| 3. PIMS | 1-4-92 | S. Ju | Report of IEES project input/outcomes |
| 4. Third Sector Assessment Workshop | 2/10-2/20/92 | F. Kemmerer A. Cresswell | Building capacity to assess educational system performance at provincial level. Participants were able to successfully apply assessment methodology to their policy reviews of the primary and junior secondary subsectors. |
| 5. Completed analysis of trends in wage employment by education over time. | 6/17-6/27/92 | J. Cobbe | |
| 6. Assisted an economic analysis of the D-2 upgrading program. | 6/17-6/27/92 | J. Cobbe D. Nielsen | |
| 7. Assisted with completion of Vo-Tech cost study. | 6/17-6/27/92 | J. Cobbe J. Strudwick | |

3.5.2 Plans For Project Year Nine

With EPP ending on September 30, 1992, the plans for Project Year Nine will focus primarily upon the remaining two years of IEES in Indonesia, and will summarize those few remaining EPP activities to be concluded by September 30. The coordination and facilitation of IEES activities will be far more difficult in these final two years as a consequence of the departure of the EPP Chief of Party Simon Ju, who has also served as the Resident Technical Advisor for IEES. We

will attempt to overcome this loss in several ways: first, we will propose retaining at least one of the EPP support staff (who would be paid out of the IEES budget), the office space at Balitbang as well as the office equipment; second, we will attempt to conduct the planned activities for this period utilizing primarily only those consultants who have worked extensively in Indonesia on IEES and EPP activities continuously over the past several years.

The planned activities for Project Year Nine will, as in the past, be discussed under the three IEES conceptual categories of 1) policy and planning; 2) knowledge building; and 3) education management. The activities described below have been discussed with, and tentatively agreed to, the USAID/Jakarta EHRDO, the responsible MOEC officials and the IEES CTO in USAID/R&D Ed. Final discussion will take place in Washington in early September between Moegiadi, Jim Hoxeng and Jack Bock, after which a final IEES/Indonesia Country Implementation Plan will be submitted with time-line, proposed consultants, scopes of work and budget.

3.5.2.1 IEES Activities

Planning And Policy

Curriculum Reform. During this project year IEES will conclude assistance to Balitbang Dikbud's curriculum reform effort. In discussions with Pak Moegiadi, Secretary of Balitbang Dikbud, it was decided that IEES would provide two more person months of assistance in the area of curriculum reform. Specifically, IEES will support two trips of one month each for a science education specialist to assist in the development of: a) math and science curricula for Primary and Secondary education, consistent with the national needs of preparing for "industrial take-off"; b) strategies of curriculum reform and implementation particular to science; c) science curriculum networks in the provinces; and d) an integrated evaluation and monitoring system for science curriculum.

Project Coordination. As mentioned above, IEES has discussed with Balitbang Dikbud the desirability of retaining a full-time presence at some level even after the departure of the EPP Chief of Party. The initial plan has been discussed with Balitbang and tentatively agreed upon in Indonesia, and the details were further discussed during Moegiadi's visit to Washington in September. This proposal would involve IEES continuing under its budget the services of current EPP Administrative Assistant, Ibu Rini. Balitbang would continue to provide the office suite, vacated by EPP and the office equipment (computers, typewriters and Fax machine). This plan would provide for at least minimal coordination and facilitation of IEES activities during the final two years of IEES in Indonesia. Ibu Rini, having worked at Administrative Assistant to Simon Ju, who served the dual role of EPP COP and IEES RTA, would be a valuable asset in that regard.

Research and Knowledge Building

All of the knowledge Building and Education Management activities planned for Project Year Nine are intended to support the two major, and interrelated, thrusts in Indonesian education: 1) the development of the capacity for regional policy development (which is consistent with the national goal of decentralization); and 2) preparation for "industrial takeoff" through the decreed move from six to nine years of compulsory basic education.

Decentralization — Strengthening Local Education Capacity. Included in this Project Year Nine Plan is a condensation of the decentralization research design. The final design will be decided upon after discussion between Pak Moegiadi, William Cummings, the proposed activity leader, Jack Bock and Jim Hoxeng during Moegiadi's September visit.

Introduction. The interest of Indonesian political leaders in identifying approaches to enhance the role of local leaders in shaping the nature of human services is widely evident. In the education field, this concern has been codified in the new Education Law (UU No. 2, 1989). Research on the organizations delivering social services, on locally available capacity to manage and finance these social services, and of the relations between the local delivery units both to clients and to higher levels in the political-bureaucratic system can make an important contribution to policy development. This research can help to clarify the types of decentralizing and deconcentrating reforms that best suit Indonesia, and may even point to some new directions not currently under consideration.

In this Knowledge Building activity we propose an approach to research on educational decentralization in Indonesia which involves cooperation between USAID, IEES and Balitbang Dikbud. The research is divided into two phases, a policy analysis phase and an action phase.

Research Objectives. It is uncertain what the outcome of the current Indonesian policy debate over decentralization will be, but it is clear that the next several years represents a critical period. During this period, Indonesia will be selecting a new array of national and local leaders and will be debating direction of its second 25-Year Plan, in which decentralization and privatization of education are certain to be important themes.

Empirical research can do much to sharpen this debate. While discussions at the national level on the rationale for decentralization and the trend of national politics are

beyond the scope of this research, it is possible to focus on other issues, particularly on how the present system works (and does not work), on identifying available and potential resources (particularly those at the local level), and in considering the potential for change. This research shall, insofar as possible, seek to enhance understanding of the factors known to shape the direction of decentralization. Thus, in this proposed research activity the objectives are:

1. To identify the legal/constitutional and political forces shaping education and the changes that will be required to facilitate decentralization.
2. To gain a comparative understanding of how schools under different auspices and with differing managerial and financial resources perform, as well as how they relate to their communities and to government agencies.
3. To determine the managerial and financial resources available at the provincial, kabupaten, and local levels to support education, as well as to understand how these resources can be mobilized to respond to decentralizing opportunities.
4. To clarify the current administrative procedures of the several government services involved in basic education (Education and Culture, Home Affairs, Religious Affairs). What do they do in such areas as curriculum, textbooks and instructional materials, personnel, buildings and facilities, finance? How do they compare in terms of efficiency and effectiveness in providing these services?
5. To examine and document the way the various levels involved in delivering basic education respond to decentralizing reforms, introduced as pilot projects.

Research Strategy. This research design proposes two groups of studies to address these objectives. The first group consists of exploratory studies to sharpen the statement of issues and to collect important basic data, to be carried out during the first phase of the proposed program to extent over the remaining two years of IEES and beginning in September, 1992. (Only this first phase is proposed for IEES funding support). The second set of studies, to be carried out in the second phase (continuing for approximately three years after the completion of Phase 1) would probe more deeply into the factors that shape the present system's capacity for change. It is hoped that Phase 2 can be supported through collaboration with other forthcoming projects (such as PRESS or Quality). Further design detail including a budget for Phase 1 to be supported by collaboration between IEES and Balitbang will be included in the IEES/Indonesia Country Implementation Plan.

It is possible to identify several organizational levels influencing the delivery of basic education: the National, the Provincial, the District or Kabupaten, the sub-district or Kecamatan, the School and Local Cluster, and the Community.

The main concern of this research activity will be on the school and cluster level; however, several small sub-studies focusing primarily at higher levels in the system are proposed, so as to gain a better understanding of the range of resources available for education and the types of regulations and other factors that influence the provision of these resources to the school level.

The research sites for the proposed study have not been finalized, but it is anticipated that sites will be selected from East Java, West Java, West Sumatra, South Sumatra, North Sulawesi, and NTB to maximize variation, overlap with other development projects such as Co-planner, and to make use of field teams. The second phase of this research is expected to provide innovative decentralization approaches to these other projects, which have a focus on local level networking.

Quality and Efficiency of Vocational/Technical Education. This activity was designed and initiated under IEES funding and then continued and expanded with EPP support. However, with EPP winding down on September 30 it will be necessary to make a decision about the continuation of the Vo-tech research study. The major remaining component of this activity is the completion of the tracer study. At this point we have only a twenty month follow-on and it is considered highly desirable to continue the tracer study through three years. Therefore, contingent on both the satisfactory conclusion of the EPP funded QEVE study and the submission of a satisfactory final research report to FSU, it is proposed that IEES funding be used to support a one year extension of the tracer study component of the QEVE project.

MOEC satisfaction with the QESE research activity, the seminar and research reports produced to date, and the capacity building component of this project are demonstrated by their declared willingness and intent to fund many of the locally-based extended project activities from the FY 93-94 DIP budget. Also, the World Bank has expressed a strong interest in using the outcomes of this research as a major contribution to the Indonesian component of the World Bank Secondary Education Policy Paper.

A detailed SOW and budget for this activity will be included in the IEES/Indonesia Country Implementation Plan.

Transition to Nine Years of Basic Education. An additional Knowledge Building activity which is currently being considered for the final two years of IEES, but has not yet been agreed upon by all stakeholders, is the issue of transition from six to nine years of basic education. All indications are that despite the GOI pronouncement of a compulsory nine years of basic education, the transition has been fraught with difficulties, and there is to date little understanding of the na-

ture of the problems. The transition rate was targeted at 80% by 1994, but instead has dropped from 60% to around 40% in West Java. There is some evidence that parents do not believe that the cost of the additional three years of junior secondary schooling is offset by enhanced job opportunities for their children, but there is no dependable evidence as yet.

This activity will be discussed with Pak Moegiadi during his September visit and a final decision will be made as to whether this research activity will be included in the forthcoming IEES/Indonesian CIP.

In-country Educational Management

Provincial-level Sector Assessment. Consistent with the overall thrust of IEES in Indonesia over the next two years, the proposal to extend the provincial-level sector assessments to at least six additional provinces (and, hopefully, even down to some kabupatens, is aimed at assisting the MOEC in improving the capacity for regional policy development. The intention is to extend the regional sector review process both horizontally across additional provinces and vertically down through a number of sample kabupatens and, even keccematans. The cost of this extension would be supported by MOEC FY 93-94 DIP funds, and would be conducted by the Indonesian personnel who have been trained during the three Sector Assessment Workshops described in Section I. IEES is being requested to provide only two persons months of technical assistance (two trips of one month each) to monitor and assist in the analysis. F. Kemmerer, who has been task leader on this activity, has tentatively agreed to conduct this technical assistance, subject to working out the scheduling problems.

Indicators of Educational Efficiency. Jim Cobbe's contributions over the past two project years has brought this activity very close to completion. However, Balitbang Dikbud has indicated a desire to continue this activity through one more project year with two additional trips of one month each by Dr. Cobbe. Up to this point the work on efficiency indicators has focused primarily upon quantitative information for use at the central level of the education system in Indonesia. The additional work which is requested would concentrate principally upon in-school qualitative measures which could be utilized by regional-level policy makers as Indonesia moves toward greater deconcentration of the educational system. The extension of this activity would also permit us to move toward greater integration of the efficiency indicators into the emerging Educational Management Information System. The intention is to complete this activity by the end of Project Year Nine.

3.5.2.2 EPP Activities

The Education Policy and Planning Project (EPP) will conclude on September 30, 1992, after eight years of successful, and highly leveraged, assistance to the MOEC in its effort to improve the capacity of Balitbang Dikbud for policy research analysis and planning. The contributions and products of EPP were presented at the regional IEES/EPP Conference in Yogyakarta in June. At this stage, there are only three planned activities which remain to be concluded:

Quality and Efficiency of Vocational-Technical Education. J. Strudwick and A. Cresswell are planning a concluding QEVT Workshop in August. The purpose of this workshop is to produce a final report and to make policy recommendations for vo-tec policy in Indonesia. However, the preparatory work by Strudwick and Cresswell in the U.S. depends upon their having access to the most recent tracer study data. The Indonesian counterparts at Balitbang have not yet provided that data and it is now doubtful whether it will arrive in time. Strudwick has assured us that the final report will be forthcoming, but in order to meet the deadline might have to be submitted minus the tracer study data. Since we believe that this data is crucial to the policy makers who will be making decisions about vo-tech policy in Indonesia, we plan on requesting a "no-cost time extension" so that this important component of the study is not lost. If this is not feasible IEES is prepared to fund the necessary extension, but this would sharply limit the availability of funds for other planned IEES activities.

Improving the Quality of Teacher Education. This activity has been conducted by D. Nielson, task leader, with assistance by J. Cobbe, a senior economist at FSU. The findings to date of this EPP Special Study were presented by the Indonesian research team members at the Regional Conference in June. A final wrap up workshop is scheduled for August–September, 1992. The purpose of this workshop is, as in the vo-tec study, to produce, as a team, a final report and a set of priorities and recommendations to the MOEC, and specific to those responsible for reform of the teacher education system. Nielson has also had problems with scheduling this workshop (largely of a personal nature, involving his mother's death and problems resulting from Hurricane Andrew). Here again it may be necessary to make a decision to 1) request a "no cost time extension," provide the necessary funds from the IEES budget after the close of EPP on September 30, agree to accept an abbreviated final report. Nielson still has hopes of being able to work within the tight timeframe.

Cost Analysis, Financing and Educational Efficiency. Here again the findings and products of this extensive EPP set of studies were showcased at the EPP Regional Conference in June. W. McMahon has one trip remaining which is scheduled to be completed prior to the closure of EPP on September 30.

The purposes of this trip are consistent with the overall thrust of this activity over the past seven years. Specifically, this final trip is for the purpose of completing the basic research on financing education in Indonesia and the completion of Volume IV, the policy working paper, *A Comprehensive System for Financing Education*. McMahon will also assist Boediono, head of Pusat Informatika, with the initial draft of the text for Repelita VI, and for the education and human resources component of the Twenty Five Year Plan. No difficulties in completing this activity prior to the September 30 deadline are anticipated.

There will be undisbursed funds remaining after the September 30 termination of EPP (approximately U.S. \$80,000.). Balitbang Dikbud has expressed a desire to use those remaining funds to support several follow-on activities which they feel would sustain the momentum of EPP and bridge the transition period prior to the commencement of the proposed PRESS Project. They have been informed that this may not be possible, and in any event, would have to be approved by the USAID/Jakarta mission.

3.6 MOZAMBIQUE

3.6.1 Summary of Activities During Project Year Eight

In September 1991, the USAID Mission in Mozambique requested that IEES organize an Education Sector Assessment in early 1992. The purpose of this study was to investigate the opportunities for a long-term involvement by the Mission to support the development of education in the country. The IEES team of four experts arrived in Maputo to begin the three-week assessment in early February 1992. The present attention by the Mission to education in Mozambique coincides with similar studies that the Finnish and Danish international development agencies have organized for the same period.

The Mission considered three reasons for choosing IEES for this assignment: 1) the considerable experience of IEES with such activities; 2) the advantages for continuity perceived from a central AID project; and 3) the association of Richard Pelczar, a Portuguese speaker, as USAID Chief Technical Officer for IEES.

A pre-assessment team, comprised of David Plank and Sue Grant-Lewis, identified five prominent areas for further in-depth study: 1) Primary/Basic Education; 2) Education Planning and Finance; 3) Vocational/Technical and Out-of-School Training; 4) Higher Education; and 5) Mozambican Education. Other critical aspects of a comprehensive national education system do not appear on this list largely because it was concluded that their treatment by USAID would be redundant to the efforts of other donors. The final assessment team included individuals to cover the first four areas. The Mozambican Education Specialist was picked up as part of the Finnish Development Agency's sector assessment team.

Referring directly to the Scopes of Work for the different specialists, the responsibilities of the different team members are:

Primary/Basic Education Specialist – review recent sectoral and sub-sectoral analyses; analyze current school efficiency and production statistics, looking particularly at gender and region equity issues; assess the effectiveness of the primary curriculum and related instructional materials and classroom management and conditions; study teacher training techniques and needs, teacher conditions and related issues (e.g., salaries and promotion); review in-country education research capabilities; and identify key constraints to equity, relevance, efficiency and effectiveness operating within the system. This sector was covered by Carlos Torres of the University of California at Los Angeles.

Education Planner and Finance Specialist – review recent relevant analyses; describe the current education structure, looking particularly to identify constraints to effective, efficient operations at all levels; examine planning and implementation structures and systems, with special attention to the extent of decentralization of financing and decision-making; analyze institutional and human resource constraints in meeting national education goals; identify measures to build necessary administrative, policy analysis, research, evaluation, and planning capacities at all levels; analyze current government resources devoted to these areas; estimate private costs of schooling at all education levels; and examine private sector education financing options. David Plank covered this area for the sector study, also serving as Team Leader.

Vocational/Technical and Out-of-School Training Specialist – review recent relevant documentation; examine current nonformal education and skills training programs and systems, highlighting the major constraints to improved access and effectiveness; analyze the role of indigenous NGOs and private sector organizations in providing educational opportunities at all levels of the education sector, and identify strategies for expanding their contributions; and identify levels, areas, and forms of foreign assistance to the sector, highlighting areas not currently receiving assistance. Robert Verhine of the University of Bahia prepared this part of the study.

Higher Education Specialist – review recent relevant documents; review labor force analysis and assess current capacity to meet projected requirements; review the higher education sub-sector, with particular attention to Universidade Eduardo Mondlane and the Instituto Superior Pedagogico, exploring key constraints and policy issues in improving access, equity, quality, efficiency, and relevance; identify measures for addressing the key constraints; and examine the capacity of higher education institutions to absorb additional resources. Peter Dzvimbo, Dean of Faculty at the University Zimbabwe, joined the team to cover this sector, bringing an added benefit of an African academic/practitioner orientation to the work of the team.

Joshua Muskin of LSI organized and coordinated the teams preparation. He worked closely with Plank after the assessment to edit and prepare the final report, which will be published by the IEES Publications Unit early in Project Year Nine.

The team left a draft version of the assessment document with the Mission upon its departure from Maputo at the end of February. Plank debriefed the USAID/DC office on the initial findings and recommendations of the sector assessment in mid-March.

Jack Miller, Deputy Mission Director, and Cheryl Miller shared the field draft with appropriate Ministry and other associated officials, adding the comments of these officials to their own in indicating to David Plank corrections and suggestions for revisions. Plank and Muskin collaborated in incorporating these into the preparation of a final document, the final refinements of which occurred in May. A pre-publication draft of the final version will be sent to the Mission before the end of June. The final document, which is planned to be ready by the Fall, should include translations into Portuguese of the Summary and Final chapters.

3.6.2 Principal Findings and Options for Donor Assistance

This section presents a summary of the principal findings of the Education Sector Assessment, and a variety of options for further donor assistance to the education sector in Mozambique. The first section of the chapter discusses seven main themes that run through the preceding chapters. The second section discusses the main constraints to the effectiveness of foreign assistance to Mozambique, identifies several possibilities for new projects in the education sector, and notes different areas in which policy dialogue between donors and the Government of Mozambique might prove fruitful. Both findings and options are intended to approximate a priority order.

3.6.2.1 Principal Findings

1. The war has had devastating effects on the Mozambican education system. Estimates of the numbers of displaced people within the country range from two to four million in a total population of sixteen million. An additional one million Mozambicans are refugees in neighboring countries. More than 3,100 primary schools have been destroyed by RENAMO, affecting more than 800,000 students. With its effects exacerbated by drought and foreign debt burden, the war has left Mozambique virtually destitute, with over 60 percent of GDP provided by foreign aid. Improvement in the education system depends to a very large extent on continued foreign assistance to the sector; the case for additional foreign assistance is compelling.
2. Access to the education system is severely restricted at all levels. Barely one-third of the relevant age cohort are enrolled in primary schools, and enrollments in upper secondary and university education are very small. The aspirations to achieve universal primary education have recently been scaled back, but even the current goal of 86 percent enrollment is probably unrealistic in all but the long-term. Expanding access to basic education is therefore most important in order to provide the country with an educated citizenry and workforce, to enhance equity in the allocation of public resources, and to increase the pool of candidates qualified for secondary and higher education. The Government should call upon community and private resources to help finance this expansion, in order to minimize its own recurrent cost commitments.

3. Despite restricted access, the quality of instruction is very low at all levels of the education system by any standard. Many primary schools lack even the most basic materials, including blackboards, and are entirely unusable when it rains. Some secondary schools lack furniture, and students are obliged to sit on the floor. Most lack usable laboratories and libraries. Equipment in vocational schools is often obsolete or out of commission for lack of spare parts or consumable materials. The university has difficulty in recruiting qualified students and lacks essential equipment, current books and periodicals, and consumables for such laboratories as do exist. Improvements in the quality of education are therefore urgently needed at all levels. Donors are already playing a large role in financing such improvements, but there is need for further donor contributions.
4. Teachers and administrators in the basic education system are often poorly qualified, and opportunities for in-service training are almost entirely lacking. Most teachers in primary schools have completed only six years of schooling, plus one year of teacher training. Most administrators at school, district, and provincial levels have no specialized training for the posts they occupy. Upgrading the qualifications of teachers and administrators and preparing them to deal with expanded enrollments through increased efficiency and the use of new instructional technologies may be one way to avert an explicit choice between expanded access and improved instructional quality.
5. The Government has recently granted raises for all categories of teachers. In November 1991, teachers in the lowest salary category (Category E, which comprises the vast majority of primary school teachers) were paid slightly more than US\$30 per month; those in the highest category (nearly all in higher education) were paid about US\$200 per month. Salaries already represent a very high proportion of public spending on education, and the straitened fiscal circumstances therefore virtually ensure that salaries will not increase much further in real terms in the near future. At the same time, however, public sector salaries are too low to prevent many urban teachers from supplementing their incomes with second jobs and *exploração* among other things. University lecturers with saleable skills (e.g., in economics) have simply left the teaching profession. Maintaining the integrity and viability of educational institutions and improving instructional quality while restraining the overall teachers' wage bill will almost certainly require the implementation of new instructional technologies that allow significantly larger class sizes, especially in urban schools.
6. The administrative structures of the education system are intact, though many incumbent administrators have received no specialized training for the positions they hold. Provincial and district education agencies remain operational, and provide instruments for the decentralization of resources and responsibilities with the end of the war. Current problems with communication, transportation, and banking systems present difficulties for educational administrators that training cannot solve, but improvements in these areas can also be expected when the war ends.
7. The education policy framework defined by the Government is in most respects appropriate to the requirements of the education system; the very severe problems

are attributable primarily to the scarcity of resources and much less to mistaken policies. The main exception in this regard is a steady diminution in the share of local and donor educational resources going to basic education, and a corresponding increase in the share going to tertiary institutions. The establishment of a Council chaired by the Minister of Education may help to reverse this trend. A second exception is the maintenance of government regulations on the establishment of private schools, which place needless obstacles in the way of expanded private participation in the education system.

3.6.2.2 Options for Donor Assistance

The main problems of the Mozambican education system are attributable to an absolute lack of resources. A priority for prospective donors to the sector should be the identification of mechanisms to get resources into the system and into schools as directly and efficiently as possible. This may involve both a direct insertion of funds into school-level activities, thus by-passing the centralized bureaucratic structure, or efforts to improve the efficiency of this structure, both reforming its systems and building the capacity of its personnel.

This section discusses the sustainability of initiatives undertaken with donor resources, the Government's capacity to absorb additional budgetary support, some possibilities for projects in the education sector, and some of the policy conditions that might be placed on general budgetary support by donors.

Sustainability. As a basic proposition, the provision of general budgetary support should look toward a time when the Government will be able to assume responsibility for the additional expenditures that such support makes possible. If new resources are used to fund the production and distribution of textbooks, for example, the levels of production and distribution achieved with foreign assistance should be able to be sustained with domestic resources over time, in the expectation that external budget support will eventually be withdrawn. In the case of Mozambique, however, these reasonable expectations may not be justified over the foreseeable future. A very small productive base, the lasting effects of the war, and a massive debt mean that Mozambique will most likely remain dependent on large flows of concessional foreign assistance for many years.

This is true in the education sector as elsewhere in the economy. Donors already provide 41 percent of all educational expenditures in Mozambique, including 36 percent of recurrent expenditures. It is difficult to imagine how the GRM will be able to increase its own educational expenditures out of domestic resources to replace these quantities of foreign assistance in the short- or medium-term. New commitments of general budgetary support to the GRM must therefore be effectively open-ended.

Absorptive Capacity. In spite of the tremendous needs of the education sector for additional resources, the capacity to absorb additional donor assistance appears to be low. Chronic shortages of qualified personnel continue to pose difficulties in managing and accounting for counterpart funds, which has created dissatisfaction on the parts of some donors. Implementation rates on internal and external investment projects are relatively low, with disbursements occurring at about 60 percent of programmed levels. Problems in communications, distribution, and banking systems (caused in part by the war) mean that resources including textbooks, instructional materials, and even teachers' salaries are often delayed or prevented from reaching local schools.

Providing additional budgetary support will not by itself resolve the administrative and financial problems of the education sector, or any other sector; indeed, it may make some of them worse. Agreement with the GRM on conditionalities governing the disbursement and use of new resources would therefore be essential to the effectiveness of new donor resources in achieving GRM policy objectives. So could direct capacity-building efforts to help the Ministry improve its financial and administrative performance.

Projects in the Education Sector. The extremely difficult economic circumstances prevailing in Mozambique have two main implications for foreign assistance to the education sector. First, the poverty of the country and its citizens means that the most important problems facing the sector are attributable in the first instance to an absolute lack of resources to pay salaries, to repair schools, to provide books, and so on, and only to a lesser extent to inefficiency in the use of available resources. One priority for assistance should therefore be to devise ways to get additional resources into the system as simply and directly as possible. Second, the constraints imposed on the Government by poverty and structural adjustment mean that insofar as possible assistance should not require new and unsustainable recurrent expenditures. In the short- and medium-term, aid should therefore aim to improve the efficiency and effectiveness of existing institutions, rather than to expand capacity or to build new institutions.

An additional consideration for foreign assistance is the particularly sharp conflict between short- and long-term development strategies that Mozambique faces. It has been suggested that absolute poverty and economic crisis together mean that the real discount rate in the country may be as high as 50 percent. Insofar as this is true it requires that donors adopt a very short time horizon for returns on the resources that they provide. In the education sector, it has been argued that this should imply a focus on the secondary and tertiary levels of the education system, in order to get highly qualified people into the economy as quickly as possible. Improvements in managerial capacity and increases in the supply of skilled workers may yield large short-term returns by increasing the efficiency with which available resources are managed and exploited.

At least two countervailing arguments can be proposed, though, in favor of investment in primary education. First, absorptive capacity at higher levels of the system is limited, because of bottlenecks and quality deficiencies in the supply of candidates, limited instructional capacity in existing institutions, and high opportunity costs for students. It is thus not certain that short-term investments in secondary and higher education will produce the desired increase in the availability of urgently needed skills. Improvements in the quality and coverage of basic education is thus a prerequisite to efforts to increase the supply of highly-qualified personnel.

Second, an educated population is essential to the long-term development of Mozambique. Improvements in the capacity of the public sector will no doubt increase the efficiency with which public and donor resources are used in the short-term, but if these improvements are accomplished at the expense of increases in the quality and coverage of basic education (a very real risk), it is doubtful that the Mozambican people will ever build the kinds of economic and civic capacities essential to the sustained development of their country. Investments in high-level "capacity-building" may, if not carefully planned and implemented, strengthen the state at the expense of the society, increasing further the advantages of the relatively well-off at the expense of the poor, and benefitting Maputo at the expense of the rest of the country. Any such efforts, it is proposed, should be secondary to direct investments in basic education hardware, technology and school-level personnel. These expenditures will provide a crucial complement to any centralized education initiatives in order to diffuse power, build local capacity, and encourage local and private initiatives within the education delivery system. They would thus be, in many respects, more consistent with the kinds of economic and political changes that USAID and other donors are trying to encourage in Mozambique.

This section presents a number of project options for additional donor assistance to the education sector in Mozambique. Strategies for intervention in various parts and at various levels of the sector are identified, but on balance the members of the Sector Assessment Team believe that investments in basic education should be assigned priority in the development of an assistance strategy for education in Mozambique.

Matching Grants to Communities. As noted at several points in this report, the overwhelming need in the Mozambican education system is to get additional resources into the system, and especially at the local level. A related need is to build administrative capacity at local and school levels to make it possible for communities to assume greater administrative and financial responsibility for their schools. Donors could contribute to both of these ends by providing funds to be disbursed to communities (and possibly to NGOs) on a matching basis for the execution of projects in local schools. Such activities might include the provision of matching grants

for school construction or school expansion; the establishment of a revolving fund to support the acquisition of books, materials, and equipment by communities, parents' organizations, or proprietors of private schools; and the organization of training in educational administration and financial management for administrators at provincial, district, and school levels.

The explicit purpose of such a project would be to provide discretionary resources to local administrators to fund activities viewed as priorities in their own communities. Insofar as this purpose is accepted, funds should be distributed to local authorities with as few administrative strings as possible. The main responsibility for donors and MINED would be the establishment and implementation of procedures for financial control, to ensure that project funds were used fairly and honestly. Discretion in the solicitation, identification, and selection of projects could be left in large part to the provincial authorities, though the Ministry might want to retain some role in order to determine how local projects contribute to the achievement of Government goals (e.g., gender and regional equity). Such a project could be begun on a pilot basis in one or two of the most populous provinces, under the joint administration of central and provincial education authorities. A project now underway in Xai-Xai under UNICEF sponsorship may provide a useful model for future donor efforts along these lines.

Whatever expansion and improvement is to occur in the education system over the coming decade will necessarily depend to a very large extent on increased participation by communities and NGOs in the construction, maintenance, and financing of schools and school activities. Donors can play a critical role in expanding and strengthening this participation, and in building the local administrative capacity to assist communities to define and achieve their own goals.

In-Service Teacher Training. Most of the teachers in the basic education system are quite young, and most have received relatively little pre-service training before assuming their posts. They will likely remain in the education system for many years. If the quality of instruction in primary schools is to be improved significantly, therefore, the knowledge and skills of teachers now in the schools will have to be upgraded through in-service training.

Opportunities for in-service training are at present almost non-existent, and donor commitments to activities in this area are minimal. Providing training for trainers, developing curricula and materials for in-service programs, and strengthening the institutions where in-service training might be offered are thus activities in which donors to the sector could make a valuable and distinct contribution to improving the quality of basic education in Mozambique.

A project in this field should include three main components. The first would entail the provision of technical assistance and financial support to develop the in-service training capacity of

provincial teacher training institutions, including especially the *Institutos Médios Pedagógicos* (IMPs) and the *Centros de Formação de Maestros de Primária y Secundária* (CFMPSS). Priority should be on those centers located in rural and, especially, northern provinces. Activities under this component might be conducted under contract with a local or foreign university or consortium of universities. Activities would include the training of local trainers, the development of curricula and materials, and the organization and implementation of training programs for practicing teachers in existing teacher training institutions.

The second component would take place simultaneously with the first. It would comprise training for members of faculty and staff in institutions involved both in the provision of in-service training and in the training of in-service trainers. The aim would be to establish local capacity to sustain national in-service programs when technical assistance is eventually withdrawn. Training at various levels might be provided by institutions within the country (e.g., INDE, ISP), with or without foreign technical assistance; in regional institutions with appropriate programs (e.g., the Institute of Development Management in Swaziland); or in universities of countries involved in providing technical assistance.

A third component might entail the distribution of professional books to EP1 and EP2 teachers, either in association with or independently of their participation in in-service programs. Books to be distributed should include some that deal with the principles of pedagogy and learning in general, and some that would be useful as sources of subject matter and/or reference material in their specific disciplines. The content and presentation of these would have to be relatively basic.

Training of Provincial, District, and School Administrators. There is an urgent need for in-service training for local educational administrators and school principals, almost none of whom receive any specialized preparation before assuming their positions. As in the case of teachers, many of these administrators are quite young and can be expected to remain in the education system for a long time. Short in-service courses for them on education leadership, management and administration techniques, basic principles of accounting, school-community relations, and the collection and use of statistical data could do much to improve the performance of Mozambican schools. Such training would be especially important and valuable in association with the effort described above to increase the administrative and financial discretion of local level administrators through the provision of funds for matching grants. Coordinating this regional capacity-building with central authorities should also yield benefits in the overall management of the national education system.

Low-Cost Instructional Technologies. Low levels of enrollment at all levels of the education system combined with the bleak fiscal condition and prospects of the GRM mean that very large numbers of children will continue to be excluded from school due to lack of places for many years to come. The only truly viable way to increase the numbers of children in school given the inability to raise expenditures is to reduce the per pupil cost. A variety of low-cost instructional technologies might be tried. Examples include multi-grade teaching (combining two or more grades in one classroom with one teacher) and programmed teaching/programmed learning strategies. Donors might therefore work with the Government to assess the possibilities for adopting one or more of these technologies in Mozambican schools, in order to provide access to schooling to a larger number of children. Experimentation with the implementation of alternative instructional technologies might be accompanied by efforts to expand participation by parents and communities in education governance and financing.

Replacement of Nationalized Properties. After a decade of often strained relations and communication, the Government is now moving to adopt less restrictive policies with respect to the private and non-governmental sectors. One result of this rapprochement between the Church and the Government is negotiations over the return of Church properties nationalized at the time of Independence. Many of these properties are now in use as public schools. In Manica, for example, nine of the eleven EP2 schools now in operation formerly belonged to the Church; virtually all of the CFMPSs throughout the country are housed in former Church properties. Donors could facilitate the transfer of these properties back to the private sector and help to ensure the continuing functioning of the basic education system by either building or funding replacements for nationalized properties returned to their previous owners. Such funding could provide especially valuable assistance by ensuring the continued functioning of CFMPSs because of the crucial role these institutions can play in the provision of pre-service and in-service training.

Strengthening the Faculty of Agriculture at UEM. The Faculty of Agriculture is seeking to develop research and teaching capacity in: 1) agricultural extension for peasant and commercial farming; 2) food security; 3) rural development and land policy issues; 4) farming systems research; 5) environmental management; and 6) training of extension workers and farm managers in conjunction with the Ministries of Agriculture and Forestry. These objectives fit well with ongoing efforts to strengthen the agricultural sector and to build local capacity, particularly in rural areas. At present, however, the Faculty of Agriculture has a very limited capacity to extend its work beyond Maputo, in large part because of the war but also because of a lack of coordination with existing extension activities in the Ministry of Agriculture and elsewhere.

Donors could provide assistance to the Faculty of Agriculture in its efforts to strengthen its programs in the areas of rural development and agricultural extension through: 1) support for already existing linkages with U.S. and other foreign universities to encourage staff development; 2) the provision of books for the library and training for library personnel; 3) the supply of equipment and vehicles to expand the Faculty's activities in rural areas of the country; and 4) through the provision of installation allowances (e.g., for books, journal subscriptions, conference travel, etc.) for staff returning to Mozambique from training abroad, in order to facilitate their retention by the Faculty.

Efforts to expand the participation of the Faculty of Agriculture in extension and rural development efforts will only be realized on the basis of much closer cooperation between the Faculty, the Ministry of Agriculture, and other organizations involved in the sector. More extensive support to the Faculty should be predicated on the success of efforts by the Faculty to establish such cooperation.

Housing for Female Students. To improve the access of women to tertiary education, donors could consider providing funds for the construction of housing for female students at UEM, ISP, INDE, and ISRI.

Nonformal Basic Education. With the deterioration of the Mozambican economy and the war, a great number of children have dropped out of school, and many have never attended at all. Donors could assist in efforts to provide these children with basic literacy skills through the development of pilot instructional programs in functional literacy and community education for children and youth between the ages of 10 and 15. Such programs should be located in rural areas, where the educational deficit is greatest. The objective would be to provide children with skills equivalent to the completion of EP1 through nonformal means. Pilot projects would last three years, with the first year to be used for establishing contacts with the communities, developing instructional materials with strong regional content, training literacy teachers, and establishing an instructional system. Instruction will take place in the last two years. The project could be administered through ISP or INDE, with financial support from donors and the GRM and technical assistance from the U.S. or other donor countries. For these and other innovative projects in nonformal education to succeed, donors would have to work with the GRM to ensure the differentiation of adult education learning requirements from schooling requirements for purposes of certification. The participation of a NGO or a foreign university might also be fruitful.

3.6.2.3 Conditionalties and Policy Reform

The GRM has recently undertaken a dramatic change of direction in education policies, as in other realms. The present policy environment corresponds in most important respects to

USAID goals for the education sector. There are nevertheless several policy issues in the Mozambican education system to which conditionalities on the disbursement of general budgetary support might be addressed.

Priority for Basic Education. The GRM has declared that priority in the distribution of educational resources should be accorded to basic education, but the Government's own budget projections show that the share of resources going to primary and secondary education is expected to decrease over the next decade, while the share going to higher education should increase. Donors to the sector might therefore work with the GRM to develop financial, organizational, and political strategies aimed at reducing the share of public resources allocated to higher education and freeing additional resources for basic education. Donors would correspondingly need to reorient and coordinate their own assistance priorities, which at present skew the GRM's education expenditures away from basic toward tertiary education.

Private Participation in the Education System. Another set of policy issues that needs to be addressed in the Mozambican education system concerns the nature of private participation in the system. There are two main dimensions to this matter. On the one hand, a new GRM openness to the expanded private provision of educational opportunities at the level of policy continues to be handicapped at the level of practice by excessively strict regulations on schools outside the public system. These impose standards on private schools with respect to space, teachers' qualifications, sanitary facilities and so on that few public schools in the country could begin to meet.

These regulations have two main consequences. First, and most obviously, they needlessly restrict the supply of private school places available to children excluded from public schools. Imposing impossible conditions on the prospective managers of private schools is as effective in preventing such schools from opening as an outright ban. Second, the imposition and selective enforcement of such regulations establishes a "market" for licenses and exemptions that works to the detriment of students and teachers by discouraging proprietors from adopting a long-term perspective with respect to their investments. Permanently faced with the threat of being closed down (and perhaps with the obligation to share their profits with their regulators), proprietors seek to obtain their returns in the shortest possible time, after which point they have little incentive to ensure the adequate functioning of their schools. The result in one such school in Maputo was the sudden closing of the school and disappearance of the owner.

On the other hand, public schools in Maputo and Beira (and perhaps elsewhere) are increasingly being de facto "privatized" by those who work in them. Scarce school places are reportedly routinely auctioned off to those who are able and willing to pay for them, and other education benefits (examination passes, completion certificates) are increasingly offered for sale as well.

The exploitation of public institutions for private "rents" has at least three pernicious consequences. First, it contributes to an increasingly pervasive climate of corruption, which over time undermines the legitimacy of the state and the potential effectiveness of all public institutions. In the education system the availability of examination passes and diplomas for sale calls into question the meaning of all education credentials, which are the main determinant of income and status differentials in the country. Second, it gives privileged access to nominally public services to those with the means to pay for them, thus contributing to the construction and perpetuation of increasingly large and durable inequalities based on economic status. Third, it diverts resources that could in principle be dedicated to public purposes into private pockets. In the education system, for example, increasing the official fees that are now charged for matriculation in public schools would reduce the extent of the "market" for private rents, and simultaneously increase the revenues available to the government to expand access or improve quality. Because nearly two-thirds of all Mozambicans live in absolute poverty, however, such a policy would have to be accompanied by tuition waivers for poor children.

One very useful role for donors to the education sector would therefore be to work with the GRM to develop more effective and less damaging policies with respect to private participation in the education system.

Education of Females. Despite some progress in the years since Independence, girls remain significantly under-represented at every level of the education system. The reasons why this is so are not presently understood well. Donors might therefore usefully work with the GRM both to conduct research investigating the causes of low enrollment rates among girls and to design policies that would help to reduce gender disparities in enrollments.

Pre-Service and In-Service Training. Teacher training institutions in Mozambique currently devote nearly all of their resources to pre-service training, and virtually none to in-service training. Strict limitations on government expenditures and the relative youth of the current teaching force mean that jobs for new teachers are not likely to be plentiful in the near future. Consequently, a shift of policies and resources toward in-service training seems advised. A project to expand in-service training capacity for primary school teachers and administrators is described in the above section. Policy changes that might accompany such a project include the establishment of rewards and incentives for teachers who participate in in-service programs, and the reconsideration of present trends toward longer and higher-cost pre-service training programs, including the five-year *licenciatura* course at ISP.

3.6.2.4 Summary

As has been noted elsewhere in this report, there is much to be done in the Mozambican education system. Resources of all kinds are in short supply, and assistance of any kind can be put to immediate and profitable use. At the same time, however, donors must be cautious that the aid that they provide neither overburdens the limited administrative capacity of the GRM nor imposes an unsustainable recurrent cost burden on the public budget. Together these considerations mean that in fact the kinds of assistance that can usefully be provided may be rather limited, at least in the short run.

This section has presented a very limited set of ideas for additional donor support to the educational sector. In our view, the most useful assistance will be direct financial support, especially support that goes as directly as possible to communities and schools. The provision of general budgetary support accompanied by conditionalities directed toward the expansion or improvement of basic education, or the establishment of a fund to provide matching grants to communities for local educational projects are therefore attractive options. The latter has the additional advantage of shifting some control over resources out of Maputo and down to the community level.

For this to be effective and politically palatable, however, attention must also be paid to the centralized structures of the national education system. Efforts to streamline systems and build capacity within MINED will serve as critical long-term complements and support to any locally-based interventions. Both as regards direct financial assistance to schools, local administration and communities, and support to the centralized national education authority, it will be critical that there be as little increase in recurrent costs as possible. In-service training for teachers and administrators in primary schools satisfies this criterion, as does support to the Faculty of Agriculture at the UEM.

3.6.3 Plans for Project Year Nine

It is uncertain what a future role for IEES in Mozambique might be. The USAID Mission, however, is committed to involvement in the education sector.

3.7 Nepal

3.7.1 Background

The Nepal Ministry of Education and Culture has given priority to improving its capacity for collecting, analyzing, and using information. The history of education and educational information in Nepal is a relatively recent one. A national system of schooling began in 1951 with 321 primary schools, and 11 secondary schools. Today over 13,000 primary schools cover most of the country. A National Education System Plan (1971) introduced a new curriculum, increased access through gradual elimination of tuition and textbook charges at the primary level, and increased educational opportunities in rural areas. The secondary school system in recent years has been expanding somewhat faster than the primary, although even now it still serves less than 20% of the age cohort. Approximately ten percent of Nepal's youth complete grade 10 and, of those, some 35% pass the Secondary Leaving Certificate.

The expansion of schooling has placed a heavy demand on the central ministry for developing and maintaining adequate basic data on schools, teachers, and students, to make decisions such as allocation of teacher funding and textbook distribution.

Another factor in making information a high priority is that the provision of schooling in a country such as Nepal is a very loosely coupled enterprise. The rugged terrain, extreme seasonal weather, and a communications and transportation infrastructure which is still in the process of being extended to large population areas, leave much of basic and primary schooling subject to community initiative and support. Information about the implementation of a national curriculum, teacher attendance and teaching quality, and student attendance are, in most cases, better known to the local community than to MOEC planners and administrators.

The unavailability of this level of information makes policy and program development problematic, both in having an information basis for quality improvements and in following the effects of policy and program decisions. The lack of information places an additional constraint on the Ministry in its ability to effectively direct and coordinate donor assistance in education. When a donor agency proposes program assistance in education, based on its studies conducted in Nepal, or on the basis of studies and experience in other countries, it is quite possible that the Ministry will not have available "countervailing" information with which to negotiate and shape the donor proposal.

A third factor driving the need for more comprehensive and higher quality data is the democratization of Nepal's government. For approximately six months, beginning in the Spring of 1990, Nepal experienced considerable political and social unrest. A new order was established late in the year with the adoption of a new constitution, based on democratic principles, a multi-party system, and a constitutional monarchy. In May 1991, the first party political elections since 1958 were held. The Nepali Congress Party won the election with a simple majority.

The first parliamentary session of the new democracy (1991) gave priority to extending and improving support and services to Nepal's rural poor. Nepal is a village based society, with 91% of the people living in rural areas. Development priorities are to raise the standard of living of these people, with a commitment of 70% of the central budget for rural development. In the newly democratic system, His Majesty's Government has many new opportunities to address the challenges of development. In order to meet these opportunities, better data are needed.

The main source of educational information that the MOEC has relied on has been its own Statistical Information System (SIS), which is administered in the Manpower and Statistics Section of the Planning Division.

In the Fourth Development Plan of Nepal, the Division of Planning was created to handle the data functions of the MOEC. Regular publications of Educational Statistics began in 1970-71. Over the past two decades there have been many changes in the reporting of Education Statistics, and improvements in the type of data reported, in format, and publication schedules.

Under Phase I of the Improving the Efficiency of Educational Systems (IEES) Project (1985-89), an IEES Resident Technical Advisor (RTA) 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 MOEC's Planning Division. A focal point, now that data have become so critical, is to what degree are the MOEC data valid and reliable and whether the data address the critical, priority areas of educational efficiency and improvement. To expand this capacity and bring it more directly to bear on the MOEC's planning activities, AID/Nepal requested the services of an IEES/RTA for two years (1991-93).

Phase II of IEES assistance in Nepal is focused almost exclusively on concentrated development of the MOEC's education information system, specifically on establishing an Education Management Information System (EMIS) and conducting policy oriented research.

The reference to EMIS in the agreement for IEES Phase II assistance is probably an acknowledgment of the currency EMIS has today in educational development efforts, as well as what is actually expected from this assistance effort under the present circumstances. An EMIS would

provide regular, timely information on project or programme status and implementation for management monitoring, decisions and actions. This system requires a fairly deep level of trained personnel and technology which will be held on-line for the purposes of a particular project or programme. The costs of dedicating the requisite staff and technology to a selected effort, in the case of Nepal, must be weighed against a larger cluster of information needs which presently face the Ministry, along with its capacity for generating, analyzing and using the information. For this reason, a more general EMIS is being developed, which incorporates the Statistical Information System (SIS), an action research programme, a set of educational efficiency indicators, standards for the conduct for programme evaluation, and an analytic capacity for ad hoc requests which are expected in the new democracy.

3.7.2 Summary of Activities During Project Year Eight

A proposal for establishing an EMIS Steering Committee, supported by an EMIS Technical Committee, was developed with IEES assistance and was approved by the MOEC. The Steering Committee was established to: 1) promote the diffusion of educational information for program and policy development; 2) promote the sharing of data regarding schooling, its context and effects; 3) solicit and share technical expertise, in regard to information systems and their use; 4) coordinate and guide research, evaluation, and administrative data collection within the MOEC; 5) oversee the decentralization of the MOEC EMIS, to regional, district, and school levels; and 6) provide programmatic guidance to the Improving the Efficiency of Educational Systems (IEES) project.

The Division of Planning, through its Manpower and Statistics Section, has established the capacity for routine collection and reporting of basic school level data. The Section has also established the capacity to respond quickly to ad hoc data requests, particularly when the requests are well defined and rely on the current bank of data. For more comprehensive data collection and analyses, and targeted research and evaluation, the MOEC has relied more on irregularly scheduled, costly, large-scale interventions, such as the IEES EHR Sector Assessment and other donor-sponsored reports.

The MOEC EMIS will serve to expand the use of timely, high quality data to meet the priority needs of the Ministry for program and policy planning. The EMIS Steering Committee provides the oversight and guidance to the EMIS Technical Committee to meet this goal.

The EMIS Technical Committee is smaller and composed primarily of Planning Division officials (and the IEES RTA) who can meet on a regular basis to plan and implement the technical aspects of the EMIS. The Technical Working Group carries out agreements of the Steering Com-

mittee, sustains the development of the EMIS, prepares the Steering Committee meeting agendas (with the advice and approval of the Chairman), and plans and provides EMIS orientations and trainings.

Outside (extra-MOEC) members are included for both the Steering Committee and the EMIS Technical Working Group, based on their ability to contribute to the functions of each group.

IEES inputs are considered to be direct technical support to the EMIS. IEES and the Planning Division, with agreement of the Secretary, have decided that members of the EMIS Technical Working Group be tasked with the responsibility of oversight of the IEES Project. In this capacity, the Technical Working Group reviews IEES activities for their consistency and support of the MOEC and EMIS goals and recommends their approval by the MOEC Secretary. These activities are consistent with discussions held among the MOEC, USAID, and IEES regarding IEES Phase II activities.

The EMIS/IEES Workplan for 1991-92 includes: 1) regular meetings of the Steering and Technical Committees; 2) improvement in the quality and timeliness of regular school data collection and reporting (Attachment A); 3) development of a set of national education indicators (Attachment B); 4) development of evaluation capacity of the Planning Division; 5) conducting targeted research (Attachment C); 6) extending the EMIS to all levels; and 7) EMIS staff training. These activities are described below:

1. The EMIS Technical Committee is comprised primarily of the Joint Secretary for Planning, the Undersecretary and Section Officers for the Manpower and Statistics Section and the IEES RTA. These staff members meet almost daily in order to plan, implement, and review the EMIS activities. As the need has arisen, formal EMIS Technical and Steering committee meetings have been held. The EMIS Steering Committee also provides a unique seminar forum, such as the one conducted in October, 1991, to review the status of the EMIS, the proposed national education indicator set, and the proposed IEES research.
2. An IEES study conducted under Phase I, directed by Madhup Dhungana, David Chapman and Jerry Messec, found that data routinely collected and reported by the M&S Section was reliably transmitted (95%) from the schools to the central MOEC office in the Planning Division for entry and analyses. A key issue now is whether the school record keeping is reliably maintained with valid data.

An educational data needs assessment survey was conducted by the EMIS Technical Committee to determine the priority data needs of key educators, planners, and managers, and to set the data specifications for a school level data register. It is believed that the register will help to

improve and standardize the quality of data by avoiding problems of data duplication and inconsistencies of data definition.

The most frequently cited purposes of data use, according to preliminary survey results, are to carry out research studies, followed by evaluation of programmes and projects. Monitoring of programmes and projects and management decisions were also cited as key purposes of the data.

The concept of a school clustering system as a decentralizing mechanism may provide an appropriate focal point for strengthening the information system. As the management of education moves closer to the point of delivery, the EMIS can follow in order to maintain and improve its integrity and utility.

3. A proposal and draft set of national educational indicators was developed for review by the participants in the 1991 national two-day workshop on the Ministry's information system. The indicator set was proposed for use in organizing data for assessing the status and performance of education in Nepal, monitoring important developments, and showing trends in key dimensions of educational improvements. When the indicator set is established, it may also be used as a reference for the MOEC in prioritizing research and routine data collection by projects and programmes, to fill essential gaps, avoid duplication of effort, and to meet the highest priority data needs of the Ministry.

To determine which data can serve as indicators, a series of considerations will be addressed:

- Are the data useful in telling us something about the educational system?
- Are the data sufficiently representative?
- Are the data available and collectible at reasonable cost and effort?

Similarly, there are several programmatic considerations:

- Who should collect the data, and at what level?
- Who should analyze the data, at what level?
- How often do we need to collect the data? Will sample data serve adequately or is census data necessary?
- Should the MOEC serve as primary collector of the data or can it use secondary sources?

The "indicators approach" was based on review, compilation and analysis of indicators research conducted at Florida State University (Easton, Holmes, Williams, and duPlessis, 1989) and refined in consultation with the Ministry's EMIS Technical Committee.

The Secretary and other officials expressed their view that the indicators model was particularly helpful as a conceptual reference, in seeing where the strengths and weaknesses of the data

system lie. The model was also helpful in discussions for further information system development and activities. For example, consultation with Ministry officials on the topic of MOEC/IEES action research focused initially on school processes, the most difficult domain to observe and collect meaningful data. It was agreed that this domain would be appropriate for action research, collecting valuable and useful data on school processes most of interest to the Ministry, e.g., teaching quality.

The Secretary and other officials acknowledged that the area of school processes is a weak area in terms of data and knowledge on schooling, and that targeted research, using careful sampling, was needed in this area. The focus of discussions on research, however, shifted more to the "action" aspect of the research, that is, the topic which the Ministry felt was most urgent to address as a national issue in schooling. The Secretary and others expressed their interest in learning more about the phenomenon of student dropout and repetition and concern that these students represented a tremendous cost without related rates of success and attainment. Teaching quality was agreed to be an important area for research and improvement, but was felt to be secondary (though not unrelated) to the context and input factors which affect student participation and progression.

4. Strengthening of the evaluation capacity of the Planning Division was included as part of the 1991-92 EMIS/IEES workplan. The organizational capability of the central Ministry to conduct extensive evaluations of all programmes and projects is not likely to be in place in the foreseeable future, when weighed against other competing programme needs. A preliminary "consultative analysis" of the evaluation functions of the MOEC suggests that the most fruitful approach may be for the central MOEC to develop programme evaluation standards, along the lines of standards developed by the joint American Educational Research Association/American Evaluation Association Committee and adapted by the State of Florida (1986) and the Government of Botswana (1988).

With reference to an established set of evaluation standards, the actual conduct of evaluation may then be delineated by function and purpose: formative evaluation may be conducted by donor-assisted initiatives for programme and project management purposes, and summative evaluations may be conducted by the central Ministry with technical and financial assistance from the donor-assisted projects.

While the development of MOEC evaluation standards is an integral part of the EMIS/IEES workplan, it has not been initiated to date. Other EMIS components have been of a more urgent priority, in developing or strengthening the EMIS statistics, research, and training programmes. Most of the IEES assistance for Project Year Eight has gone to the Ministry's Manpower and Statistics (M&S) Section, which serves as the EMIS Technical Committee. In Project Year Nine

more IEES support will be given to the Programme Planning and Evaluation Section, including integration of data functions with the M&S Section, and the development of the evaluation standards.

5. A major component of the IEES Project is providing technical assistance and targeted support funds for the conduct of educational research. IEES, in consultation with the MOEC leadership and the EMIS Steering Committee, has designed and initiated an action research study to investigate the: (i) family, school, and community factors contributing to grade repetition and student attrition at the end of first grade; and (ii) 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 for improving student flow will rest on interventions undertaken at the community level. More information is needed on community-school dynamics if effective assistance is to be developed for communities to improve the efficiency of primary education.

As the research is built more on a case study approach, offering situation-specific profiles and solutions, statistical representation will not be attempted – it is not considered appropriate for this type of action research. The approach for this research has been chosen with the understanding that a traditional, statistically representative survey would not produce the type of results desired by the MOEC, namely, specific solutions and recommendations for action.

A nine-member, intergroup research team has been constituted with MOEC officials, faculty from Tribhuvan University, New Era staff, and Cynthia O'Brien and David Chapman of SUNY/A. New Era is a private, Kathmandu-based research organization which will assist with the study. RTA Howard Williams serves as Research Director.

The research will be conducted in four districts of Nepal: Dhankuta, Rasuwa, Kapilbastu, Dadeldhura. These districts offer basic representativeness of Nepal (Mountain, Hill, Terai; East, Central, West, and Far West). Five school/communities have been selected for each of the four districts, for a total of 20 schools/communities. In each district, one school/community site will be the district headquarters and the other four will be rural.

Phase One data collection instruments were reviewed by the full research team and Joint Secretaries Manandhar and Giri. The instruments have also been field tested in Kaski, Gau-

suli/Chhaling (Bhaktapur), and Kathmandu, with subsequent revisions made. Cynthia O'Brien also provided an "external" review of the data instruments.

For each site, data are being collected regarding:

- Basic community characteristics and "community perspective," through group discussion/interview with eight-plus community persons who are active in community development and/or educational support. These persons are identified through consultation with the headmaster and teachers. However, the community group should not include the headmaster or teachers.
- School characteristics, through discussion/interview with school headmaster. The school registers are also being reviewed for attendance rates, and Grade One ethnic, age, and sex representation.
- Teacher's perspective, through interviews with two teachers with grade one assignments.
- Students' experience (regular, drop-out, and repeater), through interviews with eight students. This group should be at least 40% female, and the proportional breakout among the three groups will represent the distribution among these groups in the school.
- Parent's perspective, through interviews with one parent of each student interviewed, with at least 40% female parents.

Interview teams for each district are comprised of three-person teams: two interviewers from New Era, one-two DEI representative(s), e.g., primary supervisor, and a member of the Research Team. The Research Team members will remain with the field data collectors for at least one full community data collection outside of the district headquarters, in order to address any methodological or procedural issues in the start up.

The interview data and the results of the content analysis will be used to develop a Community-School Profile of Communities and Schools. Primary differences among schools in the high and low groups will also be identified.

Based on an analysis of the interview data, follow-up focus group discussions will be conducted with community and school leaders in four-six communities and schools to identify 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 the early primary grades. The design additionally will offer a model for policy action research that the MOEC can use to investigate the impact of interventions aimed at solving other issues in educational quality and efficiency.

6. The MOEC has determined that the EMIS needs to be decentralized to the degree that it can: (i) close the data links between school level reporting and central Ministry data needs; and (ii) serve the information and management needs of the regional, district, and school levels. Diagnoses of these regions, and related assistance, will be provided regarding management, staffing, training, and technical equipment needs for sustaining a decentralized EMIS. Preliminary assistance for the decentralization of the EMIS was planned for Project Year Eight. The decentralization effort will be moved to Project Year Nine, as it is predicated on a shared view of the EMIS at the central level.
7. Training in support of the EMIS has been provided through the IEES Project, covering organizational and technical aspects. Six of the research team members (four of whom are EMIS Technical Committee staff) participated in a three-day organization development workshop in Kathmandu, conducted by a professional OD consulting firm, The Mentor Group, based in Seattle and Hong Kong. The participants gained insights and skills in agenda setting, establishing effective work groups, and in analyzing organizational problems and prospects for action. A secondary benefit of workshop participation was a further solidification of the research team, as the seminar allowed for group work with specific reference to actual work situations. A long-term relationship with the OD firm is being considered for "maintenance" and continued development of positive changes in work situation and personal effectiveness.

A one-month EMIS training is currently under way for an EMIS staff member through Han-Yang University in Seoul, Korea. The training will provide consultation and hands-on experience with the Korea EMIS for applications to Nepal.

A twenty-month training is currently under way for another EMIS staff member at the Asian Institute of Technology (AIT) in Bangkok. The AIT training in Human Services Planning, jointly funded by the Asian Development Bank and IEES, which will provide a key enhancement of the MOEC's policy and planning capability.

A nine-month training is also being provided in computer hardware and software development and maintenance, also for an EMIS staff member. This Kathmandu-based training will improve EMIS computer system development, maintenance, and trouble shooting. It is also expected that this staff member will subsequently provide technical training to other staff of the Planning Division.

RTA Williams provided a one-day training workshop on criterion-referenced test (CRT) development for the Primary Education Project (PEP). This workshop was requested by the PEP evaluator to determine the requisite steps and timing in developing CRTs as part of the overall PEP curriculum and materials development process.

8. IEES is uniquely positioned to provide additional, ad hoc technical assistance to the MOEC through its commitment to maintaining an RTA in the Planning Division for two years, its university resource base at Florida State, and its seven year educational development experience in as many countries. Occasionally, technical assistance is requested of IEES which arises from MOEC program or policy development, events which many times cannot be foreseen. However, it has often been critical that these opportunities be recognized and acted upon, when they are within the scope and capacity of the IEES programme, so that efficiency and quality improvements can be facilitated and enhanced when possible. Several of these opportunities have been presented and acted upon, which are described below.
- Projections of HMG cost liability for proposed free secondary schooling, with assistance from IEES, demonstrated that the costs associated with making secondary schooling free far exceeded (500%+) expectations of politicians who sought to implement this platform issue as soon as possible. Incremental implementation has subsequently been endorsed (free schooling for grade six for now), relieving HMG from undertaking an unsustainable financial obligation or from proceeding with the larger scale implementation at the cost of decreased funding for other development initiatives.
 - The RTA has served as a technical advisor to the Primary Education Project (PEP) school mapping project. In this capacity IEES has provided specific recommendations to clarify purposes and methodology of the study, and technical assistance for the analyses and reporting. The school mapping study is being undertaken in order to provide guidance and priority to school construction, rehabilitation (physical access), and for school clustering around a resource school (quality support), which are fundamental to the PEP concept.
 - IEES has provided targeted assistance to the work of the National Education Commission (NEC) for development of the eighth five-year plan for education. Through consultation with NEC members, it was determined that IEES assistance would be of most benefit to the Commission if it were focused on publication of the later drafts and final report of the planning document. Drafts of the final documents were made available for a three-day national conference, for review of feedback before the plan was finalized. RTA Williams also served as a conference participant. The NEC's five-year plan will be presented at the next Parliamentary session for approval.

3.7.3 Overview of Activities in Nepal During Project Year Eight

| Activity | Date | Personnel (counterparts) | Impact |
|--|-----------------|--|---|
| I. Policy and Planning | | | |
| 1. EMIS Steering Committee: | | H. Williams D. Chapman C. O'Brien | |
| a. Committee established | July | (I. Upadhyay T. Manandhar K. Nepal U. Amatya N. Karmacharya V. Karkiuli M. Parajuli) | Approved IEES SOW as integral part of MOEC's EMIS, with direct link to Secretary |
| b. Committee meetings | ongoing | | MOEC sponsorship of improvements in data scope, quality, and use |
| c. 2-day seminar | October | | a. Review of MOEC data needs assessment b. Review of MSS Stat. Info. System c. Review/endorsement of Ed. Indicators d. Review/endorsement of IEES research e. Review of pilot study of rates of drop-outs and repeaters |
| d. Reflective analysis of approach to developing MOEC EMIS | March | H. Williams | Documentation of approach to, and status of EMIS, for review by Secretary, EMIS Steering Committee |
| 2. Cost-analysis of HMG proposed free secondary schooling | July – November | H. Williams (V. Karki M. Parajuli) | Revision of proposal/policy, to implement incrementally, based on fiscal capacity, starting with grade six. Savings in annual HMG liability approx. US\$8 million. |
| 3. School mapping (RTA as tech. adv.): revision of instrument, methodology | ongoing | H. Williams (V. Karki M. Parajuli) | Improved validity of data; "expected" better choice of school sites, school clusters, and resource schools |
| 4. 1-day seminar on Criterion Reference Testing for PEP | July | H. Williams (B. Joshi) | Revision of PEP curriculum development process/schedule to incorporate CRT |
| 5. NEC 5-Yr. Plan for Education: assist. for publication of draft for natural review | May | H. Williams (P. Shrestha) | Public review, discussion and feedback on proposed 5-year plan for MOEC |

| Activity | Date | Personnel (counterparts) | Impact |
|--|----------------------|---|--|
| II. Knowledge Building | | | |
| 1. Research design: common school dimensions of effective enrollment, retention, and progression | Sept.– October | H. Williams D. Chapman C. O'Brien (I. Upadhyay K. Nepal K.N. Shrestha N. Karmacharya V. Karki M. Parajuli G. Amatya) | Consensus on topic as high policy priority, design as most appropriate for this setting, support for the study. |
| 2. Research initiated | December– ongoing | H. Williams C. O'Brien (I. Upadhyaya T. Manandhar J. Giri K. Nepal M. Dhungana C.N. Aryal D. Karmacharya V. Karki M. Parajuli G. Amatya) | a. Research team formed: MOEC, Trib. Univ. New Era, IEES b. contract terms developed for New Era, with FSU for execution c. lit review started d. sites selected (20) e. instruments developed, field tested f. Phase One field data planned g. field interviewers trained |
| III. Education Management | | | |
| 1. EMIS Technical Committee | July – ongoing | H. Williams (K. Nepal T. Manandhar N. Karmacharya M. Parajuli V. Karki G. Amatya) | a. Development of agendas, materials for EMIS SC b. Revision/publication of Educational Statistics of Nepal (1990 data); improved readability, utility c. Revision of school & district data forms for 1992 data; improved purpose, focus, definitions, format |
| 2. Computer hardware specifi- cation, procurement, & installation for M&S Section; (HP Laser printer installed; Xenix 386 purchased (in customs) | May – June | H. Williams D. Holmes (V. Karki M. Parajuli) | Improved capability for data management, analyses, production. |
| 3. Computer software specifi- cation, procurement, installa- tion for M&S Section; (computer mgt, word- processing stat analyses, graphics, publications) | May – February | H. Williams D. Holmes (V. Karki M. Parajuli) | Improved capability for data management, analyses production. |
| b. Review of school level record keeping & reporting | April – ongoing | H. Williams (Research Team) | Documentation of school-level practices, for development of school registers |

| Activity | Date | Personnel (counterparts) | Impact |
|--|-----------------------|--|---|
| 4. Training for EMIS | | H. Williams | Organizational and technical training, local and Asia region; IEES collaboration in design/selection of training; full/part fund |
| a. Organizational Development training (3 days local) | December April | (V. Karki M. Parajuli G. Amatya) (D. Karmacharya C.N. Aryal) | Develop capacity to reflect & plan for increased organizational effectiveness |
| c. Human services planning (20 mos. AIT, Bangkok) IEES support for program selection, part funding | May – 1993 | (M. Parajuli) | Planning and analysis training for human service delivery systems; key enhancement of MOEC policy and planning capability |
| d. EMIS training (1 month, Seoul) | May – June | (V. Karki) | Orientation and training re: Korea EMIS, for application to Nepal EMIS |
| e. Computer programming, hard/software development & maintenance | March – December | (R. Kharel) | Improved EMIS computer development, maintenance, and troubleshooting |
| IV. Dissemination | | | |
| 1. IEES International Conference | November | H. Williams J. Mayo (U. Amatya M. Bista) | Validation of IEES/Nepal strategy; improvements in technical plans, esp. in regard to EMIS and indicators, vis-a-vis, Indonesia, Botswana. |
| 2. Report on 1991 EMIS national seminar-draft | February | H. Williams | Documentation for EMIS Steering Committee members of: a. MOEC data needs assessment b. MSS Stat. Info. System c. proposed MOEC Ed. Indicators d. IEES research design e. MOEC data quality on rates of drop-outs and repeaters |
| 3. Nepal Admin. Staff College review of IEES | February | H. Williams (U. Amatya, seven other GON participants) | Review of IEES history contributions to MOEC; findings presented to full Staff College class in presentation and written report |
| 4. Presentation of reflective analysis of MOEC EMIS (CIES Annapolis, MD) | March | H. Williams | Documentation of approach to, and status of EMIS, for review by Secretary, EMIS Steering Committee |
| 5. Indonesia Ed Planning Policy Conference (Invitations) | June | H. Williams (T. Manandhar V. Karki) | Asia region networking and cross-national EMIS lessons learned |

3.7.4 Plans for Project Year Nine

IEES/Nepal activities for Project Year Nine will focus on consolidation of the overall EMIS effort, initiating some new activities while continuing or extending others. In the next year, the EMIS is expected to incorporate programme planning and evaluation, and will be extended to levels of the system closer to schools, especially district offices. The action research on Grade One drop-out and repetition will be concluded, and is expected to be followed by an IEES-supported action planning activity. The computer system will be expanded to link the Manpower and Statistics Section with the Programme Planning and Evaluation Section, and both Sections with the Secretary's office for a more complete EMIS network. EMIS training will continue, particularly in support of the EMIS network.

In several instances, IEES will have the opportunity to coordinate activities with those of other donor assisted programmes. The results of the IEES research will be shared with DANIDA for their work in developing physical facilities and community support for schools. The programmes receiving assistance from the World Bank (Basic and Primary Education Project) and the Asian Development Bank (Primary Education Development Project) will also be reviewed in the Planning Division in terms of lessons learned from the EMIS development and from the IEES research. Action planning in regards to early primary grade enrolment and progression, based on the MOEC/IEES research, will take into account the projects' inputs to primary education.

John Mayo, Florida State University, and RTA Howard Williams will consult with MOEC and USAID officials in late June 1992, to plan specific Project Year Nine activities. The planning discussions will focus on the EMIS/IEES components described below:

1. The EMIS Steering and Technical Committees will continue their present functions, information policy and day-to-day EMIS implementation, respectively. Two national seminars will be conducted through the EMIS Steering Committee, focusing on results of the first phase of the MOEC/IEES research (August 1992), and the full conclusions and recommendations of the research activity (January 1993).

The EMIS Technical Committee will oversee development of a computer-based system for the Programme Planning and Evaluation Section, and its coordination with that of the Manpower and Statistics Section. These systems will then be linked with the Secretary's office, for interactive analysis, reporting, and planning.

2. The MOEC/IEES research team is presently collecting information on school-level record keeping practices. An additional EMIS activity is expected to be undertaken, in which a sample of schools will be visited by EMIS staff members, for analysis and consultation in regard to development of the school data registers. It is believed that the school register will help to improve and standardize the quality

of data by avoiding problems of inconsistencies in data definition and being more "user friendly" for school headmasters.

3. The educational indicators will be developed through consultation with MOEC officials, and an analysis of data availability and feasibility. The indicator set will be operationalized and computerized for data entry and utilization by MOEC officials and the EMIS Steering Committee.

Discussions have been conducted with the national Planning Commission (NPC) to organize a linkage with the NPC's national indicators set. An NPC representative, who also serves on the MOEC EMIS Steering Committee, has used the draft set of educational indicators as a reference in discussing plans for an HMG-wide set of indicators. Linkage of the MOEC's indicators data system with that of the NPC will depend largely on what may be usefully collected and provided for the NPC while not overloading or jeopardizing the MOEC current statistical information system.

4. Strengthening of the evaluation capacity of the Planning Division was included as part of the 1991-92 EMIS/IEES workplan. In Project Year Eight, other EMIS components were of a more urgent priority, in developing or strengthening the EMIS statistics, research, and training programmes.

Consequently, most of IEES assistance has gone to the Manpower and Statistics (M&S) Section, which functionally serves as the EMIS Technical Committee. In Project Year Nine, greater IEES support will be given to the Programme Planning and Evaluation (PP&E) Section, including integration of data functions with the M&S Section, and the development of the evaluation standards.

A preliminary "consultative analysis" of the evaluation functions of the MOEC has suggested that it may be fruitful for the central MOEC to develop programme evaluation standards, along the lines of standards developed by the joint American Educational Research Association/American Evaluation Association Committee and adapted by the State of Florida (1986) and the Government of Botswana (1988). With reference to an established set of evaluation standards, the actual conduct of evaluation may then be delineated by function and purpose: formative evaluation may be conducted by donor-assisted initiatives for programme and project management purposes, and summative evaluations may be conducted by the central Ministry with technical and financial assistance from the donor-assisted projects.

Additional support for the PP&E Section will develop a computer-based system for: 1) developing and monitoring programme and project descriptions, timelines, and budgets; 2) annual MOEC budget preparation; and 3) computer linkages with the Manpower and Statistics Section and the Secretary's office.

5. An MOEC/IEES action research study is presently underway to investigate the: (i) family, school, and community factors contributing to grade repetition and student attrition at the end of first grade; and (ii) 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.

Major events in the research study will take place according to the following schedule:

- The first round of data collection will be concluded by June 30 (17 Jestha), 1992.
- Basic community-school profiles (from first round data) by August 15 (31 Shrawan), 1992.
- EMIS Seminar: interim results, plans for 2nd round data collection by August 20 (4 Bhadra), 1992.
- Second round data collection (focus groups) by September 30 (14 Ashwin), 1992.
- Results, conclusions, and recommendations by January 20 (7 Magh), 1993.
- EMIS Seminar: presentation of research results – solutions and recommendations by January 25 (12 Magh), 1993.

Publication of final research report, by February (Falgun), 1993.

6. MOEC action planning may be conducted, based on results of the MOEC/IEES research on drop-outs and repetition. This action research study has been designed specifically for action planning, but will not result in actual plans in and of itself. For translation of results into feasible plans for the MOEC to favorably affect student participation and flow through the early grades of primary school, IEES will offer assistance for planning interventions for more effective enrolments and progression rates. The action planning will be conducted at the Joint Secretary level, in consultation with the Secretary.
7. The MOEC plans to decentralize the EMIS along with other selected managerial functions to regional and district levels. For the EMIS, decentralization will serve to: (i) close the data links between school level reporting and central Ministry planning; and (ii) support management needs of the regional, district, and school levels. Diagnoses of these different level functions, and related assistance, will be provided regarding management, staffing, training, and technical equipment for sustaining a decentralized EMIS. A District EMIS system may be piloted in Project Year Nine for development of a decentralized EMIS.
8. Training will be continued in support of the EMIS, particularly as it relates to the integrated functions of the PP&E and M&S sections, and the computer network to be established with these Sections and the Secretary's office. Additional training may be provided for data and budget analysis, as determined appropriate by the EMIS Technical Committee.
9. Additional, ad hoc technical assistance may be provided to the MOEC as needs arise from MOEC program or policy development, events which many times cannot be foreseen. However, it is often critical that these opportunities be recognized and

acted upon, when they are within the scope and capacity of the IEES programme, so that efficiency and quality improvements can be facilitated and enhanced when possible.

Two such activities were discussed for Project Year Eight, but which were not acted on in favor of the more routine development of the EMIS and action research programs:

1. IEES will provide assistance for the development of a sectoral brief, for presentation of MOEC goals, programmes, and projects to both national and international audiences. Project year nine assistance to the Programme Planning and Evaluation Section will provide the basic programme and project information for the brief.
2. The Education sector is under critical scrutiny from the HMG in regard to its perceived productive contribution to the national economy. While there has been some incongruity in the arguments against further increases in central finance of education and the political decisions which are currently shaping educational finance, such as free secondary schooling, there is a pointed need to develop an articulated case as to the "productivity" of the education sector and an explicit, prioritized educational programme agenda. The MOEC, through the NEC, is presently developing the latter. IEES assistance has been requested to help develop a position paper, and possibly short-term technical assistance to demonstrate the expected rates of return of educational activities, both in terms of increased economic activity and productivity, and in terms of the performance of other sectoral activities, such as increased receptivity to family planning, or improved participation with health or agricultural extension programmes.

Attachment A

Issues in Today's EMIS

1. RELEVANCY

- Is the data which we are collecting and reporting meeting the needs of the data users?
- Are there different frameworks and formats we can use for reporting?
- Are there any special studies or data collection activities we can do?
- Are we collecting the necessary data, and only the necessary data?
- Is the frequency of our data collection appropriate or not for each type of data? Are we using census data when sample data will be as useful?

2. ACCURACY

- The EMIS study by New Era indicated that we are accurate within 5% in transmitting data from the school records to the MOEC MSS for analysis and reporting.
- Our analyses (such as gross and net enrollments) give us some concerns about the accuracy of the data. Are the schools recording and keeping accurate data?

3. TIMELINESS (UP-TO-DATE)

- If the data are seriously delayed, it detracts from their usefulness. Are there problems in the EMIS data process which slow down the data collection and reporting, and, if so, which we can improve?

4. DECENTRALIZATION OF THE EMIS

- The system presently provides copies of the district summary data to the DEIs and REIs. What can we do to improve data activities and flow at all levels?

| LEVEL | ACTIVITY | | | | |
|---------|------------|-----------|---------|-----|---------------|
| | Collection | Reporting | Storage | Use | Dissemination |
| Central | | | | | |
| REI | | | | | |
| DEI | | | | | |
| Schools | | | | | |

5. PRIVATE SCHOOL REPORTING

According to district reports, private schools are not very responsive in reporting to the DEIs, and we have very little leverage over these schools. What can we do to improve private school reporting?

Attachment B

Educational Indicators

The M&S Section of the MOEC's planning division has already established data collection and reporting on several key indicators:

I. INPUT INDICATORS

- 1. School Endowment**
 - a. number of schools
- 2. Student Characteristics**
 - a. total enrollments
- 3. Teacher Characteristics**
 - a. teachers' level of training

II. PROCESS INDICATORS

- 4. Curriculum Quality**
 - a. subjects taught
- 5. Student Participation**
 - a. drop-out rate
 - b. repeater rate

III. OUTPUT INDICATORS

- 6. Student Attainment and Achievement**
 - a. number of students reaching the last grade of cycle
 - b. student grade-to-grade progression rates
 - c. level examination results (grades 5, 7, and 10 – slc results)

IV. EQUITY

- a. students and teachers, by region, by gender

Suggested MOEC Education Indicators (by domain)

I. CONTEXT INDICATORS

1. Socio-economic and Demographic Background

- a. total/regional population
- b. life expectancy at birth
- c. purchasing power per household
- d. newspaper/radio circulation per 1000 population
- e. adult literacy rates
- f. number of hours per day spent on labor for school age children
- g. family preference for educating boys vs. girls
- h. career expectations for boys and girls
- i. evidence of community political participation (e.g., percent adults casting votes in elections; percent adults attending community meetings)
- j. number of active community civic organizations

II. INPUT INDICATORS

2. School Endowment

- a. number of schools
- b. class to classroom ratio
- c. whether furniture is provided
- d. the availability of instructional materials

3. Local/community Support

- a. building of school facilities by the community
- b. maintenance of school facilities by the community
- c. whether a functional parent/teachers committee or association exists
- d. the nature and frequency of community-school contacts

4. Central/Regional/District Support

- a. the number of textbooks produced
- b. the number of school inspection visits by MOEC officers
- c. the overall and HMG/MOEC non-personnel expenditures on local schooling

5. Student Characteristics

- a. total enrollments
- b. the percentage of female students
- c. calories consumed per day per person
- d. health status of school age children

6. Teacher Characteristics

- a. the number of teachers
- b. the percentage of female teachers
- c. qualification: training (by level)
- d. average salaries
- e. attrition rates

III. PROCESS INDICATORS

7. School Management

- a. number of school days per year
- b. hours of instruction per day

- c. teacher-student ratio
- d. school expenditures on facilities and maintenance

Indicators of Headmaster Characteristics May Include:

- e. number of headmasters completing administrative training
- f. level of teacher training
- g. years experience
- h. amount of time spent in classroom instruction
- i. amount of time spent on supporting other teachers' instruction
- j. amount of time spent in introducing or supporting instructional innovations

8. Curriculum Quality

- a. subjects taught
- b. professional judgement of the appropriateness of the curriculum
- c. parents' judgement of the appropriateness of the curriculum
- d. the degree to which the national curriculum is followed

9. Teaching Quality

- a. the amount of teachers' time spent on instruction
- b. the use of instructional materials for instruction
- c. the frequency of testing and feedback to students

10. Student Participation

- a. average daily student attendance
- b. student time on task
- c. drop-out rate
- d. repeater rate

IV. OUTPUT INDICATORS

11. Student Attainment and Achievement

- a. percentage of students reaching the last grade of cycle
- b. student grade-to-grade progression rates
- c. results of level exams

12. Student Attitudes and Aspirations

- a. the number of students seeking admission into the next level of schooling (grade 5 into secondary schools)
- b. the general level of occupational choice for school leavers and school completers

V. OUTCOME INDICATORS

13. Later Academic Outcomes

- a. percent of graduates of the primary cycle entering the following cycle
- b. the number of students entering/graduation from scientific and technical fields

14. Economic Outcomes

- a. labor force status of cycle graduates
- b. average earnings of cycle graduates
- c. average agricultural productivity of cycle graduates

15. Social and Political Outcomes

- a. number of primary school graduates voting in elections
- b. number of primary school graduates participating in civic organizations
- c. social mobility of primary school graduates, e.g., positive changes in land ownership, income-debt ratios, capital investments, etc.

16. Feedback to Context

- a. recent primary school leavers' aspirations for family – size, economic, and educational aspirations
- b. recent primary school leavers' participation in community affairs
- c. recent primary school leavers' support for community's schools