PD-AAY-608

Improving the Efficiency of Educational Systems

POLICY RESEARCH INITIATIVE

PLANNING AND PROPOSALS
MARCH 1987

IEES

Improving the Efficiency of Educational Systems

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

United States Agency for International Development
Contract No. DPE-5823-C-00-4013-00

Improving the Efficiency of Educational Systems (IEES) is an initiative funded in 1984 by the Agency for International Development (AID), Bureau for Science and Technology, Office of Education. The principal goals of the IEES project are to help developing countries improve the performance of their educational systems and strengthen their capabilities for educational planning, management, and research. To achieve these goals, a consortium of U.S. institutions has been formed to work collaboratively with selected host governments and USAID Missions over the next ten years. The consortium consists of Florida State University (prime contractor), Howard University, the Institute for International Research, and the State University of New York at Albany.

There are seven countries working with the IEES initiative to improve educational efficiency: Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and Yemen Arab Republic.

Documents published by IEES are produced to promote improved educational practice, planning, and research within these countries. All publications generated by project activities are held in the IEES Educational Efficiency Clearinghouse at Florida State University. Requests for project documents should be addressed to:

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POLICY RESEARCH INITIATIVE

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IEES

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IEES POLICY RESEARCH INITIATIVE

Introduction

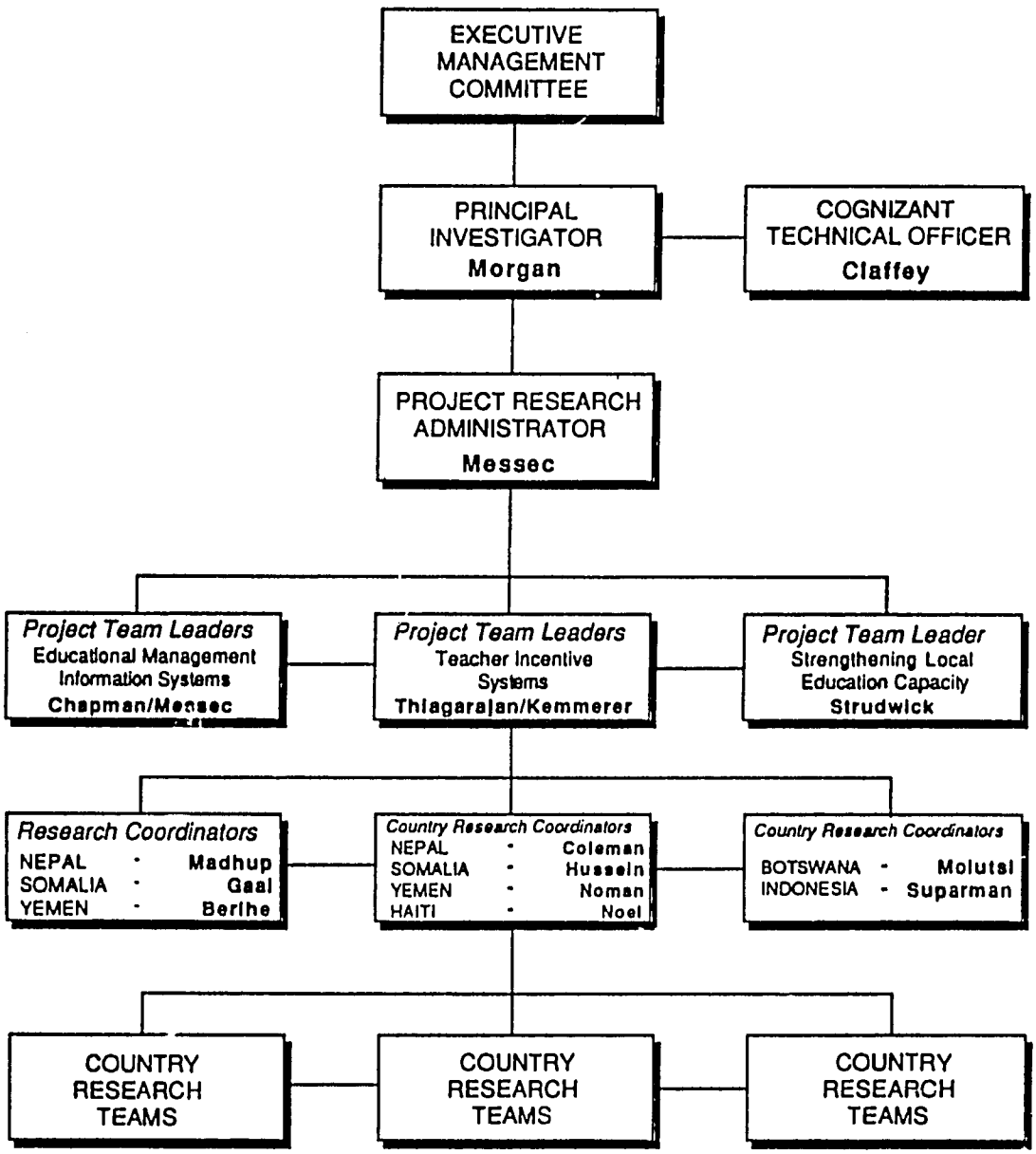
The policy research structure for the IEES Project was proposed by Douglas Windham of SUNYA in March 1986 and is divided into four components: (1) rationale, (2) structure, (3) topics and personnel, and (4) implementation and scheduling. The structure is an adaptable one, built upon project characteristics of continuity, collaboration, and coordination maintained for all the research topics and for the IEES and host country personnel involved in the conduct of the research. The policy research initiative was reviewed and approved by the IEES International Steering Committee at FSU in May 1986.

Rationale for the IEES Research Agenda

The original IEES Consortium proposal to USAID notes the following:

> Applied research and development activities will be carried out to support the (IEES) field projects. The research will have direct relevance to policy issues and will focus particularly on efficiencies in the formal school system.

IEES POLICY RESEARCH INITIATIVE
Organizational Chart



> We shall carry out coordinated research projects among the various countries on problems that are endemic to developing countries. The research will be developed in coordination with the host countries, the Mission, other donors and AID/Washington. Host national personnel will participate in the research with a view to developing local research capacity as well as determining the answers to the research questions.

As noted, the primary characteristics of the IEES research program are relevance to policy, coordination among participating countries, coordination with other agencies and authorities, and collaboration with host country personnel. These themes are repeated in the official project description prepared jointly by the consortium and USAID. In that document, research and development support is discussed as follows:

> IEES provides training and other forms of assistance for the design and execution of medium-scale R&D studies that address current inefficiencies in the educational system and ways of overcoming them. The subjects for research and development generally are derived from needs identified in the course of the sector assessment process or during the implementation of field projects. All R&D activities are chosen, designed, and carried out in close collaboration with host country institutions concerned with educational research.

These characteristics for the research agenda are derived from the conceptual framework of the project. The IEES conceptual framework is based on four major assumptions, which are discussed in detail in Section 3.1 of this document.

Administrative Structure for IEES Research Agenda

The basic design for the IEES research agenda is one of collaborative research teams which will conduct coordinated projects on three research topics. The detailed research agenda is based upon an assumption of three topics, with each topic being researched in three countries currently collaborating with IEES to improve educational efficiency.

To ensure both collaboration and coordination of the research topics, a specific organizational structure adaptation will be made in the IEES management system. As indicated in Figure Two the Principal Investigator (PI), in coordination with the Cognizant Technical Officer (CTO), is the individual responsible to the IEES International Steering Committee (ISC) for initiation, conduct, evaluation, and dissemination of activities for the research agenda. The ISC is made up of the Country Representatives from each of the active IEES collaborating nations, as well as the members of Executive Management Committee (EMC). The EMC includes the PI, the CTO, the Project Director, and the IEES Institutional Coordinators from Howard University, the Institute for International Research, and the State University of New York at Albany.

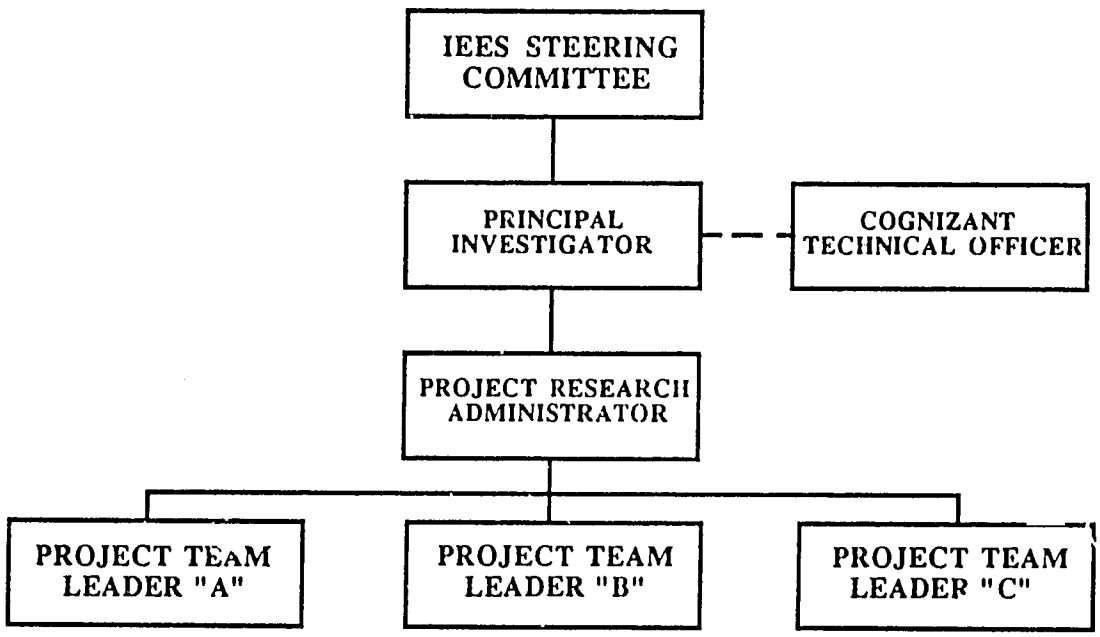
The structure recognizes the need for a major part of each of these tasks to be delegated to a Project Research Coordinator (PRC) who will have the ongoing, day-to-day responsibility for the policy research program. Douglas Windham of SUNYA will serve as PRC and will be directly responsible to the PI and, through him, to the ISC.

Figure Two indicates the three research topics and their organizational placement. The PRC, with approval of the ISC, has appointed the following IEES Consortium personnel as the Project Team Leaders (PTL) for each of the topical research teams.

David Chapman, PTL Jerry Messec, Associate PTL	Education Management Information Systems
Lorenzo Morris, PTL Peter Easton, Associate PTL	Decentralization and Localization of Educational Authority and Finance
S. Thiagarajan and Frances Kemmerer, PTLs	Teacher Incentive Systems

Figure 2

Organizational Placement of IEES Research Activities



It is the responsibility of the PRC, as well as of each of the PTLs, to assure that administrative coordination of the individual topical research agendas is maintained.

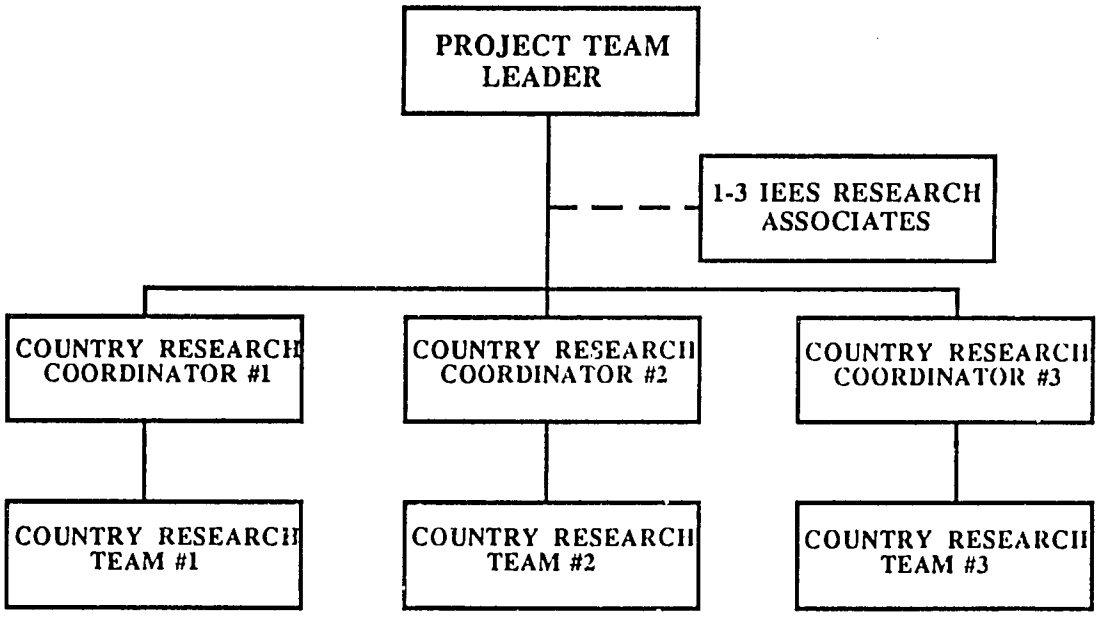
Figure Three provides more detail on the structure of topical research efforts and of individual topical research teams. An important distinction is made between the administrative accountability structure (Part A of Figure Three) and the operational structure for the design and implementation of research activities (Part B).

The project teams will be administered for IEES within a structure wherein the PTL (with assistance from the Associate PTL) is responsible for coordination of the countries that have agreed to join IEES in conducting research on that particular topic. The country team leaders (CTLs) are nominated by the IEES country representatives from each country. The country research teams are made up primarily of host country personnel but may, at the request of the CTLs, include IEES consortium researchers where this is appropriate to fulfill specific duties.

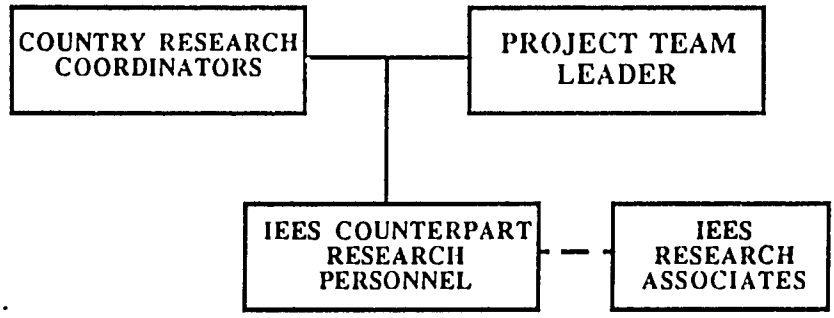
It is important to distinguish this hierarchical reporting structure (required by the accountability needs of the IEES Project) from the collaborative operational structure illustrated in Part B of Figure Three. For each selected research topic, acommittee, made up of the PTL and each of the CTLs working on that topic, will operate as the agency responsible for all methodological and operational issues related to the topic. Each CTL reports to this committee on research activities in their country and receives the committee's comments and suggestions. In this manner, the committee helps assure the comparability of results across the countries working on the same topic while assuring the individual country teams of the latitude necessary to adapt the research to their particular environment and to their needs for policy information. The structure also maximizes the on-the-job experience to be gained by host country personnel, not just as counterparts in implementation, but also in the design and analysis activities of the project. While the CTLs and PTL are jointly responsible for quality control, the IEES

Figure 3

A. Structure for Administrative Coordination of Project Topical Research Teams



B. Structure for Operation of Individual Topical Research Teams



Project staff must ensure that these research activities include an implicit goal of increasing the host country research capacity as well as the explicit goal of producing policy relevant information and scholarly contributions.

The organizational structure described here may appear complex relative to the alternative of commissioning individual projects or sets of projects. The response to this potential criticism is that the seeming complexity is offset by the clear lines of administrative accountability and by the facilitation of coordinated topical research activities among a group of countries, with a major emphasis on real rather than nominal collaborative efforts.

To change (increase or decrease) the number of topics covered in the research agenda would imply a sacrifice of either the breadth of the agenda or the comparative contribution of the research. In addition, such a change probably would not be as responsive to the realities of local absorptive capacity for additional research responsibilities. In the section that follows, the focus will shift from the discussion of the organizational structure for promoting research to the specific topics for research activities.

Proposed Research Topics

In its 1983 report for USAID on topics for research on education in developing countries, the National Research Council outlined six major areas of potential emphasis:

- resources,
- equity and distribution,
- the learning process,
- education and development policy,
- planning, managing, and monitoring education, and
- research on research.

The conceptual framework of the IEES Project provides guidance for the selection among these alternatives just as it informs the design of the administrative structure of the IEES policy research effort. The focus of IEES Project activities is on improved resource utilization. Because of the existence of other USAID research efforts (especially the BRIDGES Project) and those of other donor agencies (e.g., the "Small School Project" at the World Bank) that emphasize microeducational approaches, the comparative advantage of the IEES Project lies in the analysis of policy issues at the national, regional, and district levels. A major commitment of the IEES Project is to remain informed about the emerging contributions of research at the microeducational level, so that these insights may be incorporated into the design and/or interpretation of IEES research efforts. Finally, the specific topics should not be redundant to existing macroeducational efforts of USAID (e.g., the work of the "Futures" group) or of other donors.

In addition to these considerations, the IEES policy research agenda must be complementary to the other analytical efforts of IEES. At present, two major papers--one on criteria for project evaluation in developing nations and the other on economic indicators of educational efficiency--have been commissioned and will be completed in the third project year. The research topics selected should be informed by these papers and incorporate their findings, wherever appropriate, into the research designs.

Given these comments, the items on the National Research Council list that appear most relevant to IEES policy research responsibilities are the topical areas of resources, education and development policy, and the planning, managing, and monitoring of education. The issue of equity and distribution, while not a topical focus, will represent a major analytical dimension of the IEES work. Following a review of the detailed National Research Council list, as well as the research

needs identified in the collaborative IEES sector assessment reports, three topics were selected for consideration:

1. the design of a practical generic structure for an EHR data management system to promote increased efficiency in resource utilization;

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

3. an analysis of the incentive configuration for teacher training and employment.

Each of these topics will be elaborated below. However, some general issues will be considered first.

First, the focus of all of the IEES efforts research should be on preprimary (where it exists), primary, and secondary (including vocational/technical) schooling. These areas represent the subsectors of the EHR system that dominate the resource budget and have the widest individual contact within the society. The importance of nonformal and postsecondary education is recognized, but to incorporate these subsectors in the initial research would dissipate project resources. Rather, these sectors should be dealt with in a contextual sense only. For example, the availability of literacy instructors often is a direct function of the availability of primary school teachers. Similarly, the university may be a source for secondary school teachers or for personnel to design and develop instructional support systems. Beyond considerations such as these, however, these other subsectors should not be a primary focus of any of the topical research projects.

The descriptions of topical research activities presented here are intended to clarify the domain of the research. The purpose of the brief descriptions here is to clarify the rationale for their inclusion in the research program.

Education Management Information Systems. A topic that meets the needs of the IEES countries, as well as the conditions of the project's conceptual frame work, is the development of a generic data management system that will provide policymakers and planners with the information needed to increase the efficient utilization of resources in the EHR sector. One of the consistent findings across all of the sectors assessments conducted thus far has been the existence of significant data gaps in all EHR data collection systems. What has been more surprising, however, has been the equally consistent finding that the data that are available has been underutilized or totally ignored by policymakers and planners. Frequently, the assessments have revealed that these decisionmakers may be unaware of the existence of raw data that could be used to inform the judgments they have to make.

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

The goal of this IEES research effort should be to:

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

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

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

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

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

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

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

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

Decentralization and Localization of Education. A major policy issue in the education area for international donors, as well as for host country personnel, is the topic of governmental decentralization and the possibility of an enhanced role for the private sector in the delivery or support of instructional activities. This issue is very much an efficiency one as decentralization has the potential to improve management and evaluation activities of government. Governments may provide some decentralization of authority in order to encourage expanded local financing; and increased private participation has the potential to expand the resource base for education, provide more diversified instructional alternatives, and to improve internal resource allocation.

It should be made clear that the forms of private participation are not restricted to religious or private secular management of schools. For many countries, it may be more important to examine the role of the private sector in ancillary educational support activities such as materials production or textbook

distribution programs. A special area of consideration should be the role of the private sector in providing practical training for students in secondary vocational and technical education programs.

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

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

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

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

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

5. the potential separation of responsibility for certain costs among the family, the community, and the central government;

6. the linkage of educational decentralization or privatization to similar efforts in other economic or governmental sectors; and

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

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

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

It is possible that in the next six months USAID will engage in a more expansive research effort on this particular topic. This might be interpreted as precluding the need for IEES to pursue research in this same area of concern. However, consideration also should be given to the benefits to be derived from a complementary research effort by the IEES Project that would take advantage of the longer time horizon of the project's research agenda. The importance of this topic should preclude its abandonment without careful study and some assurance that the alternative proposed research activity on this topic will produce the type of policy information needed by the countries collaborating with the IEES Project.

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

The research proposed here concentrates upon examining the incentives of individuals to become teacher trainees, incentives for retention and graduation from teacher preparatory programs, incentives (including assignment and pay policies) for becoming and remaining a teacher, and incentives for professional

development of teachers through informal activities, formal inservice programs, or supplementary full-time training.

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

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

Given the present probabilities concerning the nature of the teacher corps in most developing nations over the next twenty-five years, it is essential that some means be developed for supplementing and enriching the efforts of classroom teachers. Extensive experimentation has been done on instructional support systems ranging from the use of textbooks and teacher guides through systems of programmed instruction and teaching and extending to the "new" instructional technologies of radio, television, and computers. These experiments, even when they have been deemed successful, have rarely led countries to engage in widespread dissemination. The characteristics which appear to identify the rare successful efforts are that they were planned explicitly as complements to the existing teacher-centered method of instruction and that their dissemination was the result of the enthusiasm of the

host country policymakers and practitioners, rather than on that of researchers or donor agencies.

The product of this research should be an enhanced ability to restructure public sector incentives for teacher training, employment, and retention. Like all IEES activities, the emphasis should not be on simply an expanded reward system, but on suggestions for reallocation (if possible) and better targeting of incentives to promote the goals of the school system's specific levels and types of programs.

IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

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IEES Policy Research Initiative
on Data Management Systems

Purpose:

The purpose of this research is to examine the impact of education data management systems on national level educational policy formulation in developing countries.

Research Focus:

The study will be organized around three issues:

A) To what extent is there congruence between (1) the information MOE decisionmakers say they need, (2) the information currently available to MOE decisionmakers, and (3) the types of data and standards of data quality that the literature says decisionmakers should use?

B) To what extent does the development of an education data system contribute to greater congruence among these factors?

C) To what extent is the development of an education data system related to increased use of quantitative information in educational decisions at a national level?

Participating Countries:

The study will focus on three countries: Nepal
Somalia
Yemen

Procedure:

The research could be conducted as a series of case studies.

The purpose of a case study is to document the development of the data management system as completely as possible so that we can develop a fuller understanding of how that development process occurs.

A case study proceeds by making initial observations, developing tentative general conclusions that suggest particular types of further observations, making those observations, and then revising the conclusions.

The case studies could be organized around three issues:

1. What data is currently available to MOE decisionmakers?

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2. What data do decisionmakers say they need for the decisions they make?

3. What types of data and standards of data quality do the literature indicate that decision makers should use?

The research could then examine (1) the extent to which these issues initially are congruent and (2) the extent and manner in which the introduction of an educational data system leads to greater congruence.

To further focus the research, the study could concentrate on four types of data:

Student enrollment data
Teacher supply and demand data
Facilities use data
Cost and financing data

The most interesting data for the case studies is likely to be:

1. Differences in the ideas and beliefs of key planners and policy makers about EMIS (at different points in time).

2. Changes in the ideas and beliefs (about EMIS) of key planners and policy makers over time.

3. Changes in actual patterns in planner's and policy maker's use of EMIS.

4. Reasons cited for use or non-use of EMIS.

Techniques for collecting data for case studies.

review of relevant documents
reports of consultants and staff working with the data system
interviews with key personnel
direct observation
participant observation
questionnaires

General strategy for implementing case study research.

Activities could proceed in three stages --

Stage 1: Initial documentation activities

(a) summary of history of EMIS efforts
(b) descriptions of present system

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(c) documentation of what data is collected
(d) what do decision makers say they need?

(e) analysis of MOE capacity for change (availability of trained personnel, etc.)
(f) summary of intents, expectations and beliefs of key decision makers regarding the EMIS.

Stage 2: Analysis of change over time

(a) analysis of change in decision makers' actual use of EMIS
(b) comparison of actual use with earlier intents
(c) summary of current (new) intents, expectations and beliefs of decision makers about EMIS
(d) analysis of differences in the views and actions of key decision makers.

Stage 3: Analysis of case study data and development of report

(a) analysis of each case study to identify findings and generalizations
(b) comparison of findings across case studies
(c) preparation of final study report
(d) dissemination of study findings

Proposed Strategy for Developing a Research Project

	STAGE	Question to Answer
1.	Clarify the goals of the research.	What is this research intended to accomplish?
2.	Specify the audiences for the research findings.	Who will be interested in these results?
3.	Formulation of specific research questions.	What specifically will be investigated in this research?
4.	Analysis of available resources: personnel and fiscal.	What staff are available to work on this study?
5.	Structuring the research activities.	What activities will be conducted? On what schedule will they be conducted? What indicators of progress will be expected?
6.	Specify strategy for implementation.	How will the research team be organized? What are each person's duties? How will CRC monitor the activities of the research team?
7.	Budget the research activities.	How much money will be allocated to each activity? How will those funds be distributed? How will CRC ensure that the necessary receipts are collected?
8.	Specify reporting system.	What format will be used to report results? On what schedule will results be reported? To whom will the results be reported?
9.	Plan coordination with other participating countries	How will the research in the three countries be similar?
10.	Identify potential problems in conducting the research	What problems are likely to occur? What will be the most serious problems?

Policy Research Protocol Data Management Systems

Sources of Data:

1. documents prepared as part of data system development
2. reports of consultants working on data system
3. interviews with relevant persons
4. systematic observation

Four things to look for:

1. history and current status of DMS
2. congruence between what people say and what they do
3. how people change attitudes or behavior over time
4. disagreements among groups/people

Issues to Examine

Sources of political support for a DMS

Who want the DMS? Why?
- at design stage
- at implementation stage
- during use

Who opposes the system? Why?
- at design stage
- at implementation stage
- during use

Whose support is necessary for the system to work?
- at design stage
- at implementation stage
- during use

Purposes of the data management system: INTENDED ACTUAL

What purposes will it serve?
Who determines those purposes?
Who else influences that decision?
Do the purposes change as the system is implemented?
In what ways?

What types of data are collected?
(e.g. - enrollment, staffing, facilities use, financial, etc.)

Level/unit of data collected?
(e.g. - school data, district data, regional data)

Staffing of DMS
- Staff size?
- How were they selected?
  - Who selected them?
  - Criteria for staff selection?
- What is the long term staffing plan?
- What skills and experience are represented on the staff?
- How is staff organized?

Training of Personnel
- What training did DMS staff have at time of hiring?
- What training was provided? (short-term, long-term, in-country, out-of-country, etc.)

Data Needs
- How well articulated are the data needs?
- Is data being collected to answer specific questions or is it being collected in case a future information need is identified?

Procedures for data collection
- What types of data are collected?
- Who designs the data collection procedures?
- Who implements data collection?
- How are data collected?
- How are data coded and entered into the computer?
- What types of data do decision makers wish to collect that are not now collected?

Data Quality
- Users assessment of data quality?
- Means of assuring data quality?
  - verification of data collection
  - verification of data entry
  - verification of data analysis

Procedures for analyzing data
- Who decides what type of analysis should be conducted?
- What data analysis capacity is available?
- What types of statistics are most frequently used (e.g. - descriptive, cross-tabulations, inferential)?

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Extent of analysis?
How much analysis is conducted before the results are presented to the decision maker?
Who conducted the analysis?
How is data analysis coordinated with the needs of education decision makers?
How are priorities set if there are competing demands for analysis?

Access to Data (once collected)
Who has access to the data once it is in the system (e.g. - central ministry personnel, regional personnel, other ministry personnel, private persons, etc.)?
Who decided who has access to the data?
Will ministry share raw data or only results of the analysis?
Degree of centralization in data access?

Use of data
Who is involved in using the data?
Who is not involved, but wishes to be?
What is the technical background of the decision makers who work with the results of the data analysis?

Reporting of results
Who has access to the reports once they are prepared?
Who decides who has access to the reports?
How will special reporting requests be handled?
On what schedule are data reported?

What procedures are used to modify the purpose or operation of the data system after it is first implemented?

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IEES Policy Research Initiative
on Data Management Systems

Issues to address in documenting current status of EMIS

1. Summarize history of EMIS

    a. prior use
    b. why was EMIS thought to be needed
    c. internal and external sources of support and encouragement of development of EMIS

2. Current status of EMIS

    a. describe
        what it is currently used for
        who staffs it
        to what level staff are trained
        how staff are trained
        how EMIS fits into administrative structure of the ministry
        where it fits within the organizational chart of the ministry
        relationship to offices to which it does not report directly
        how is data reported
        to whom is data reported
        on what schedule is data reported

3. Intended uses of EMIS data

    a. How do key planners and decision makers expect to use the EMIS?
        -eg., describing status, monitoring change, developing projections.
        -service function vs. policy function

4. Major issues (anticipated) in EMIS development

    a. key issues
    b. policy implications of those issues
    c. emerging insights into developing/using an EMIS

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IEES Policy Research Initiative
on Data Management Systems

At least twice each year, David Chapman or Jerry Messec will visit each country in this research activity.

Purpose of Research Country Visits

1. to review the detailed Country Research Plan with the CRC.

2. to hold collaborative research meeting with local research team.

3. to convey information on parallel research activities in other participating countries.

4. to review budget with Country Research Coordinator.

5. to assist Country Research Coordinator in any way possible as requested by CRC.

Activities during first Research Country Visits

1. Review progress on activities outlined in Country Research Plan with the CRC.

2. Meet with country Research Team (a) to meet staffs, (b) to review work plan with staff, (c) discuss larger research project and activities of other countries in the study, and (d) provide training as requested by CRC.

3. Meet with other Government and Education officials related to IEES Activities.

4. Work on budgetary and financial logistics with CRC.

5. Work on schedule and plan for implementation of research activities.

Length of Country Visit

Usually about one week, unless other activities require a longer visit.

IEES Policy Research Initiative
on Data Management Systems
Tentative
Schedule of Research Activities

July - November 1986	Identification of Country Research Coordinators
November 1986	Initial planning meeting - formulation of research questions - development of research strategy
November 1986 - February 1987	In-country planning by Country Research Coordinators Preparation of written research plan for each country
March - July 1987	Conduct Phase I of research activities
June - July 1987	Country visits by Research Team Leader - to review research progress - budget status - continued planning
August, 1987 - February 1988	Conduct Phase II research
November 1987	Country visits by Research Team Leader
February 1988	Research Team meeting (as part of IEES Annual Conference)
March - June 1988	Conduct Phase III Research
July 1989	Country visit by Research Team Leader
July - December 1988	Final write-up of results

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IEES Policy Research Initiative
on Data Management Systems

Budget issues

Anticipated budget amounts available to support in-country research activities.

November 1986 - June 1987	$10,000
July 1987 - June 1988	25,000
July 1988 - December 1988	15,000

Notes:

1. These amounts are for use by the CRC for the conduct of in-country research.

2. These amounts do not include the travel of the CRC to research meetings (such as this one in Nepal)

3. These amounts may change, based on AID or Project needs. These amounts are estimates.

Examples of possible uses of these monies

salaries for researchers
data collection costs
in-country travel
consultants
data analysis

Topics for Discussion

Uses of the funds within each country
Financial reporting requirements
- types of documentation required
- schedule of financial reporting
Logistics of money transfer

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IEES Policy Research Initiative
on Data Management Systems

Characteristics of good research using the case study approach

1. Provide detailed narrative

   1.a. cite specific facts
   1.b. use examples

2. Claims grounded in evidence

   2.a. nature of source of evidence clearly described
   2.b. opinions clearly cited as opinion

3. Attention to multiple perspectives

   3.a. consider the points of view of many people/groups
   3.b. record negative as well as positive perspectives

4. Continuity of researchers

   4.a. use people who have access to information
   4.b. use people who will remain involved for entire time of study

Data Management Policy Research Initiative
Nepal Meeting

Budget Planning Issues: Discussion Points

1. Mission approval is required for
   a) salary schedule of local personnel
   b) in-country travel

2. Mission salary rate for local nationals

3. Need to develop resumes and biodata sheets

4. Need information about wiring money
   - need a bank account number and a name
   - does home government have objections to government officials receiving payment directly from project

5. Payment of all personnel requires a statement explaining what tasks are being performed and what outcomes are being delivered by the person paid.

6. Importance of forecasting budget needs due to the time it takes for funds to be secured and transferred.

   A) what form should forecasting take

   B) the need to develop a specific country budget for each country

   C) anticipated amount available

November 1986 - June 1987	-	$10,000
July 1987 - June 1988	-	25,000
July 1988 - June 1999	-	15,000

Data Management systems
Budget Planning Sheet

Budget

Personnel

Long term

List persons you expect to hire to assist you in conducting the research. For each person listed, complete a personnel budget worksheet.

Short term

Travel

International

airfare

per diem

incidentals

in-country

. transportation

per diem

incidentals

Materials

Other direct

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Budget Worksheet
Personnel

Name:

Current employment:

Address:

Education:

Prior Experience:

Proposed for _____ Long term employment

_____ Short term employment

Describe task for which person is being hired:

Proposed Title

Amount of time

Rate of pay

Expected outcomes of the person's work

Conditions of employment

Policy Research Initiative on Data Management Systems

Summary of research findings regarding the development and use of data management systems in developing countries:

- Efforts to develop and implement data management systems have a very mixed history of success. The more successful ones are those that emphasized lower levels of technology, local participation in all stages of system development, and respond to clearly articulated information needs.

- Information systems are most useful at the planning stage--decision makers have little ability to react to the information provided to alter policy or practice once those have been implemented.

- Decision makers frequently are unable to specify in advance what information they need in planning, policy formulation, and project monitoring activities. This task then falls to "information experts" who take it upon themselves to construct in the information system. The information specialist designs the system in a vacuum and it ends up being irrelevant from the standpoint of political users' perceived needs.

- The absence of an identified user for the information system is a major reason for the failure of that system.

- the design of data management systems generally are not based on an analysis of the management system that really operates within a ministry.

    - Management of a project or a Ministry is normally a complex structure of numerous levels of decision making with various degrees of delegation of power. Educational managers often do not have the authority to make decisions based on the information provided.

    - The list of management tasks that information systems are supposed to address often has no relationship to the managerial tasks that are actually performed in the project. Case studies show that what is being managed are inputs and in some cases physical targets. Project management is not responsible for project effects and goals and therefore is not concerned with their management. Most often, no one has the authority or clear responsibility to manage outputs and goals, and they are therefore not managed.

- Information systems often are unable to deliver usable information in a timely manner.

- Decision makers frequently do not know how to interpret and use quantitative data.

    - Primary users of the data often lack appropriate training.

    - Non-use of data often is attributed to the very limited interpretation of the masses of data.

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- Incentives in developing countries to use objective information are weak.

  - Managers within ministries tend to be rewarded for securing additional funds. Careful data analysis may reveal problems that may delay the funding of additional projects.

  - Management is often more interested in showing progress reports than in using them.

  - There is some evidence that managers are more ready to accept monitoring information that information on effects.

- Ministry personnel need hard information on inputs and outputs which generally is easily obtainable. In terms of effects, decision makers require information on general trends, but no hard evidence. It therefore seems that information systems are often over-designed in terms of the information that is really required by decision makers.

- Donor agencies often express an interest in effects and goals, however, information from data systems is used by those agencies to a surprisingly limited extent.

- Outside technical assistance often is counter-productive to the development of a data system since key steps in planning and implementation are done by outsiders rather than local staff. Outside assistance should be limited to specific, short-term assignments and should be limited to advice and not include the execution of a task.

Key issues identified in Research Group Meeting of November 11, 1986

1. Identification of the demand for quantitative data. Who wants it?

2. Lack of clear definition of who is responsible for what types of data.

3. Placement of statistics/Research Division within Ministry - Where?

4. Structure of authority: does the research office have the authority to collect the data needed for the analyses that are important to collect?

5. Data Quality

6. Timeliness of data for use in decision making

7. Apprehensivement of Ministry Officials about having correct information

   It may limit their range of options

   Ministry Officials sometimes use data

   (a) to justify a policy or activity they were going to pursue anyway

   (b) to do a favor for someone

   Distinction between officials who do not want data and those who do not know how to use it.

8. To what extent does the availability of good data and policy analysis create its own demand?

9. Demonstration effect: Once data is shown to be useful, it gets picked up and used.

   Possible side effect: it alters power structure among decision makers

10. What incentives are available to data providers to encourage accurate data?

11. Lack of agreement on definition of variables and on formulas for calculating statistics.

12. How to collect and integrate qualitative and supplementary types of data.

13. No one is clearly responsible for formulating data and statistics into policy issues.

    - who does special policy analysis on key issues as the arise
    - who is responsible for policy analysis of recurrent policy issues
    - emphasis has been on presenting raw data

14. Is the data collected worth the information it provides?

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15. Turnover of MOE personnel poses a dilemma for continuity of the system.

16. Research should focus on realistic issues/recommendations -- it should address problems that can be solved within the existing level of resources.

Planning Sheet
Data Managment Policy Research Initiative
Nepal Meeting

TASK	STATUS
Participants Identified	
Somalia - Ali Gaal	------
Yemen - Kassim Beriyhe	------
Nepal - _____	------
Participants Notified of meeting dates	
Somalia - Telex sent to Berger	------
Yemen - Cable sent of Claffey for Schwartz	------
Nepal - Telex sent to Butterworth	------
Travel reservations made	
Somalia - Ali Gaal	------
Yemen - Kassim Beriyhe	------
Nepal - none needed	--X---
Participants Notified of Travel Arrangements	
Somalia - Ali Gall	------
Yemen - Kassim Beriyhe	------
Nepal - none needed	--X---
Ticket prepayment arranged	
Somalia - Ali Gall	------
Yemen - Kassim Beriyhe	------
Nepal - none needed	--X---
Travel Advance arranged	
Somalia - Ali Gall	------
Yemen - Kassim Beriyhe	------
Nepal - none needed	--X---
AID Missions Notified	
Somalia - Ed Tolle	------
Yemen - Karl Schwartz	------
Nepal - Jean Meadowcroft	------

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RTA's notified

Somalia	- Mark Berger	------
Yemen	- none	------
Nepal	- Barbara Butterworth	------

Hotel Arrangements - Nepal

Chapman	
Windham	------
Gaal	
Beriyhe	

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IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

Second Planning Meeting

Denpasar, Indonesia

20-24 February 1987

NEPAL • SOMALIA • YEMEN ARAB REPUBLIC

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10. Suggested Outline for Final Country Research Report

11. Preliminary Review of Literature on EMIS

12. Bibliography on EMIS-Related Literature

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IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

Second Planning Meeting

Schedule of Activities

February 15 - 20		**Attend IEES Second International Conference**
During this week, Country Team Leaders will hold individual meetings with Chapman and Messec to review their research proposal, research schedule and budget. Necessary revisions should be made during the week, prior to the beginning of the research team meeting.		
February 20	eve.	**Research Team Meeting** Country Research Coordinators will review their research proposal with the full research team. Country Research Coordinators should be prepared to present a 30-minute summary of their research proposal.
February 21	AM	**Financial Management and Accounting Work Session** (a) Guidelines/Procedures for Budget Dispersement (b) Budget Monitoring Forms (c) Progress and Product Reporting Form
	PM	**Research Management Work Session** (a) Review of Flow Chart Activities (b) Intermediate Product Planning Chart (c) Person-by-Task-by-Time Chart
February 22	AM	**Instrument Construction** (a) Outline of Possible Research Issues (b) Example Questionnaire (c) Pros and Cons of Instrument Development
	PM	**Recording and Documenting Data Work Session**
February 23	AM	**Implementation Planning Session** (a) Completion of Milestone/Schedule Chart (b) Completion of Person by Task by Time Chart (c) Adapting Questionnaires and Interview Protocols
	PM	**Final Review/Approval of Country Research Proposals and Budgets with Project Management**
February 24	AM	**Action Steps for Implementation of In-country Research**
	PM	**Design of Intermediate and Final Research Reports**
February 25	AM	**Depart Denpasar**

1. Schedule of Activities

Goals
for the Second EMIS Research Planning Meeting

3.1 EMIS research proposals will be reviewed, modified as necessary, and revised by the end of the research meeting.

3.2 Country research budgets will be reviewed by IEES Project personnel and approved for submission to the AID/Washington contracts office.

3.3 Research and budget disbursement schedules will be reviewed and modified as necessary.

3.4 Contracting procedures for each country will be determined and specific logistical arrangements for the contracting will be finalized.

3.5 Specific plans for implementing the research activities in each country will be reviewed and discussed.

3.6 Country Team Leaders will be provided with materials for training their research teams.

Expected Inputs to the Second EMIS Research Planning Meeting

Each Country Team Leader should complete the following items prior to this research meeting:

4.1 Final draft of EMIS research proposal.

4.2 Proposed schedule of activities.

4.3 Draft budget for research proposal.

(a) Budget items tied to activities described in research proposal.

(b) Disbursement schedule tied to intermediate and final products.

4.4 Bio-data sheets for key personnel.

4.5 USAID Mission approval for budget and salary rates.

4.6 USAID Mission approval for research proposal.

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Summary of the First Research Planning Meeting held in Nepal, November, 1986.

IEES POLICY RESEARCH INITIATIVE

Education Management Information Systems

Summary of First Planning Meeting: Kathmandu, Nepal

November 1986

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Nepal Participation in the Study

New Era, a private consulting firm, was identified by the Nepal MOE and IEES RTA as the most appropriate group to conduct the policy research study. New Era has a staff of about 35 people and a history of working on short-term research and development projects for donor agencies, Nepalese businesses, and government agencies. Madhup Dhungana, a research specialist on the New Era staff, was selected to serve as Country Research Coordinator and attended the planning meeting. Bal Gopal Baidya, Executive Director of New Era, also attended the meeting.

Research Planning Meeting

The first meeting of the Education Management Information Systems (EMIS) research team was held in Kathmandu, Nepal from November 10 to November 17, 1986. David Chapman of SUNYA conducted the meetings, assisted by IEES Research Coordinator Douglas Windham and IEES RTA/Nepal Barbara Butterworth. Country Research Coordinators for EMIS research attending the meeting were: Kassim Berihe of Yemen Arab Republic, Ali Hassan Gaal of Somalia, and Madhup Dhungana of Nepal.

The research team meeting followed the Nepalese workday with work sessions from 10 am to 1 pm and 2 pm to 5 pm. The schedule and a series of handouts used to guide the discussion and planning process were presented to the participants. The first day, November 11, was spent in the following activities:

- introductions,
- history and purpose of the policy research initiative,
- discussion of data collection and analysis in Nepal and Yemen, and
- identification of key issues affecting the use of data.

The initial planning session stressed that:

1. The research is conceived first and foremost as policy research relevant to MOE decisionmakers within each country. The needs of the MOE will define the particular focus of the inquiry.

2. The second purpose of the research is the training it will provide--both to the researchers and to the policy-makers who will use the research activity as a way to more carefully examine their own need for, and use of, a data system.

3. The third purpose of the research is to identify common issues and problems encountered in the design, implementation, and use of data systems.

It was emphasized by the planning group that the first two purposes will take precedance over the third.

The morning of November 12 was spent visiting schools in the suburbs of Kathmandu. The afternoon meeting of the research team was devoted to discussing specific strategy for conducting research on data systems. Discussion centered on:

- the appropriateness of a case study methodology,
- key issues and specific variables that should be addressed in a case study of EMIS,
- varieties of data collection techniques,
- the flexibility available to each country research team to vary the focus and emphasis of the research within their country setting, and
- the stages through which the reserch activities were expected to progress.

The Country Research Coordinators began work on their research proposals on the morning of November 13 and this work continued until the conclusion of the meeting on November 16. The afternoon meeting on November 13 focused on contracting procedures, logisitics, and budget issues. On November 14, the Nepalese preliminary research plan was discussed in detail. This plan was presented in five phases:

I. Preliminary Activities (2 person months-March 1987)

A. Obtain reports, forms & other information; make initial introductions with key government personnel.

B. Prepare protocols and draft interview schedules.

C. Pretest interview schedules.

D. Review and finalize interview schedules.

E. Review documents, forms, and reports.

F. Prepare sampling frame for District Education Offices and schools.

G. Handle logistics for field visits (print interview protocols, etc.)

II. Data Collection Phase

A. Conduct interviews and direct observations.

B. Identify contradictory perceptions and use of data.

III. Data Synthesis Phase

A. Map data flow use patterns.

B. Identify contradictory perceptions.

C. Identify data gaps.

D. Identify data redundancies.

E. Identify unused data.
1. Inportant data collected but not used.
2. Data collected but which has no audience.

F. Prepare and identify issues for Phase IV discussions.

G. Identify feedback items (e.g., forms have no date by which it has to be returned, etc.)

IV. Group Discussion with Relevant Personnel of Issues Identified in Phase III.

A. Clarify and confirm issues identified in Phase III and generate ideas for recommendtions.

B. Workshops and discussions groups will help ensure involvement and participation of government decision-makers in the research and will help disseminate the outcomes of the study.

C. Discussion groups will be kept small; several may run concurrently.

D. Discussion groups will emphasize cross-level participation within each group (e.g., school headmaster, DEO representative, and central MOEC representative in same group).

V. Wrap-Up Phase

A. Prepare reports

B. Formulate recommendations.

C. Identify follow-on studies.

On November 16, Berihe outlined a tentative five-phase research proposal for EMIS research activities in Yemen Arab Republic. The Yemen research will involve an initial preparation phase, followed by an activity to map the data flow in the educational system from initial provider through intermediate level users to top level decisionmakers, The third phase will include both (a) and analysis of the problems in data collection, analysis, and use and (b) a study of existing documents to identify what data is already available. A series of workshops will be conducted in phase four which will involve personnel from different levels of the education system and from other ministries and agencies which generate or use educational data. The purpose of these workshops is to clarify and confirm the problems and isaues identified in the analysis of data flow and use, identify reasons and causes for the problems, and to suggest ideas for recommendations and solutions. These workshops will help assure that a wide constituency is involved in the research and dissemination.

Gaal's arrival for the planning meeting was delayed and he was assisted by the other research team members in work on the research proposal for Somalia. This proposal will be completed prior to the second planning meeting in Indonesia.

A Framework for Conducting Policy Research on Educational Management Information Systems

8.1 Prepare for the EMIS study.

- Identify key policy issues related to the planning, management, and administration of the educational system.
- Trace and document progress of previous research and change efforts on EMIS systems.
- Obtain organizational charts of agencies involved in making decisions regarding the growth, management, and operation of the education system.
- Prepare a preliminary model of the current policy making process related to EMIS.
- Develop a model of the current EMIS system.

8.2 Map the Data Flow System.

Trace the collection of data from the initial provider through the system to intermediate and final points of data analysis interpretation and use. Questions to address include:

- What data are collected at each level of the education system?
- How are they collected at each level of the system?
- From whom are the data collected at each level?
- What happens to the data after they are collected?
- What types of verification occur at each level of data collection and analysis?
- What are the incentives at each level of the system for providing and conveying appropriate, timely, and accurate data?
- How do data providers, data collectors, and data analysts at each level of the system judge the accuracy and quality of the data?

8.3 Identify the Information Needs of Decision Makers.

Determine what types of decisions are made at each level of the education system and by agencies outside the formal education system.

- Identify the key decision makers at each level of the MOE.
- Identify decision makers in other agencies which use education data.
- Specify what types of decisions each is responsible for making.
- Determine what types of data they need to make those decisions.
- Determine what data they currently use in making those decisions.
- Determine what types of data they do not have but want to have available.
- Collect their judgment about the quality of the data available to them. Identify specific examples of data quality.

8.4 Study the Educational Data already Available to Decision Makers.

- What data are available in published form from the MOE?
- What data are available in published form from other public and private agencies?
- What other data are available but have not been published?
- What is the quality of the data provided through these sources in the judgment of the data providers?
- Describe the normal means by which existing sources of educational information are disseminated.
- Who is responsible for publication of the information?
- Who is responsible for dissemination of the information once it is published?
- To what extent are these sources of data available to persons outside the government?

8.5 Identify Issues in Using Computers to Manage and Analyze Data.

- Description of current data management techniques.
- Identification of technical issues and problems encountered in current data management activities.
- Appropriateness of hardware to data management activities.
- Examination of the match between training of EMIS personnel and the data management, analysis, and interpretation needs.
- Development of a model of data management and analysis tasks at the central ministry level.
  - Specification of hardware requirements.
  - Specification of training requirements.
  - Specification of procedures for data management.

8.6 Synthesize Data.

- Develop/revise map of data flow and use patterns.
- Identification of contradictory perceptions.
- Identification of data gaps.
- Identification of data redundancies.
- Identification of unused data.
  - Important data collected but not used.
  - Data collected but which is not important (e.g., it has no audience).
- Analysis of data quality.
- Analysis of data use patterns.
  - Identification of primary uses of educational data.
  - Identification of greatest need for improved data.
- Identification of key constraints in current system of data collection, analysis and use.
- Appropriateness of data analysis procedures relative to the use to be made of the results.
- Adequacy of the technical capacity to analyze the data.
- Adequacy of data interpretation.

8.7 Develop Conclusion and Preliminary Recommendations.

- Formulate a series of preliminary conclusions based on the research findings.
- Formulate a series of preliminary recommendations.
- Preliminary identification of development activities and follow-up studies.
- Conduct a series of conferences of educators and decision-makers from within and outside government to review the preliminary findings and revise/extend the list of recommendations.

8.8 Report Findings.

- Write final report.
- Conduct dissemination conference.
- Finalize recommendations for follow-up development activities and further studies.

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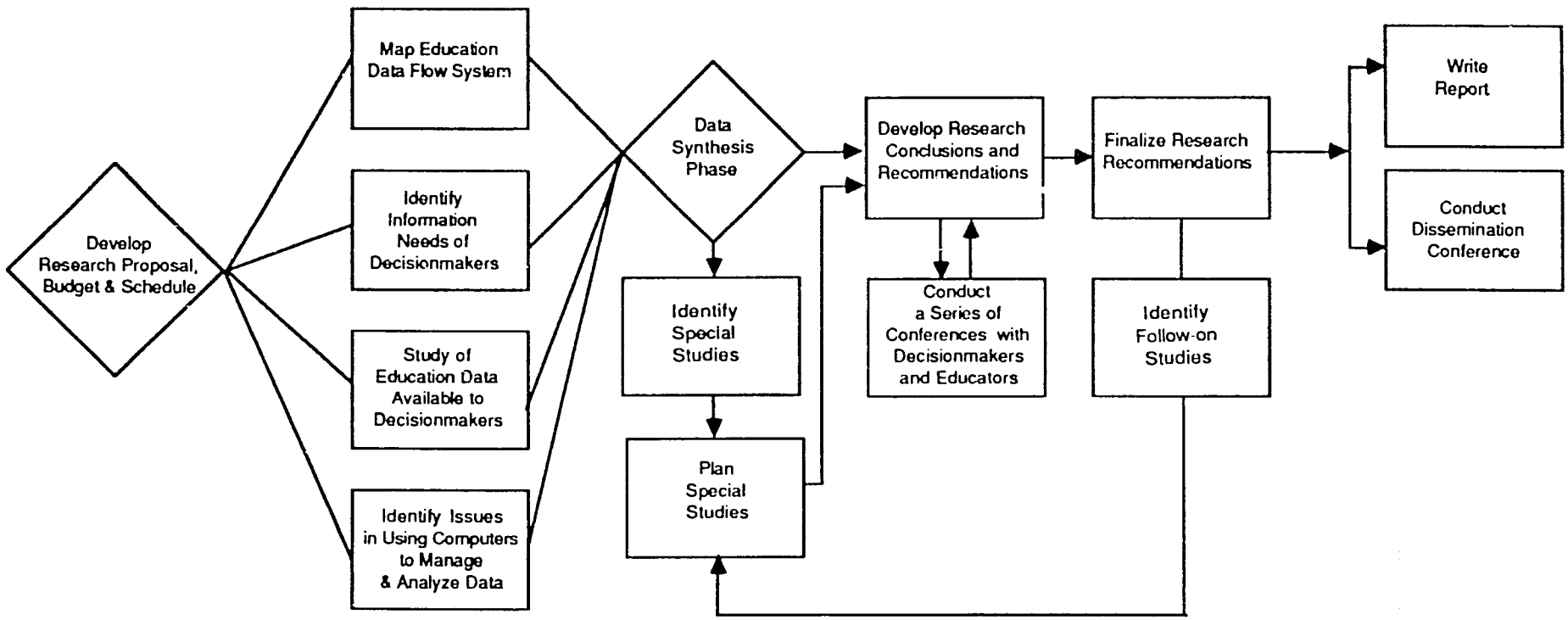
Research Management Materials

9.1

Flow Chart of Research Activities

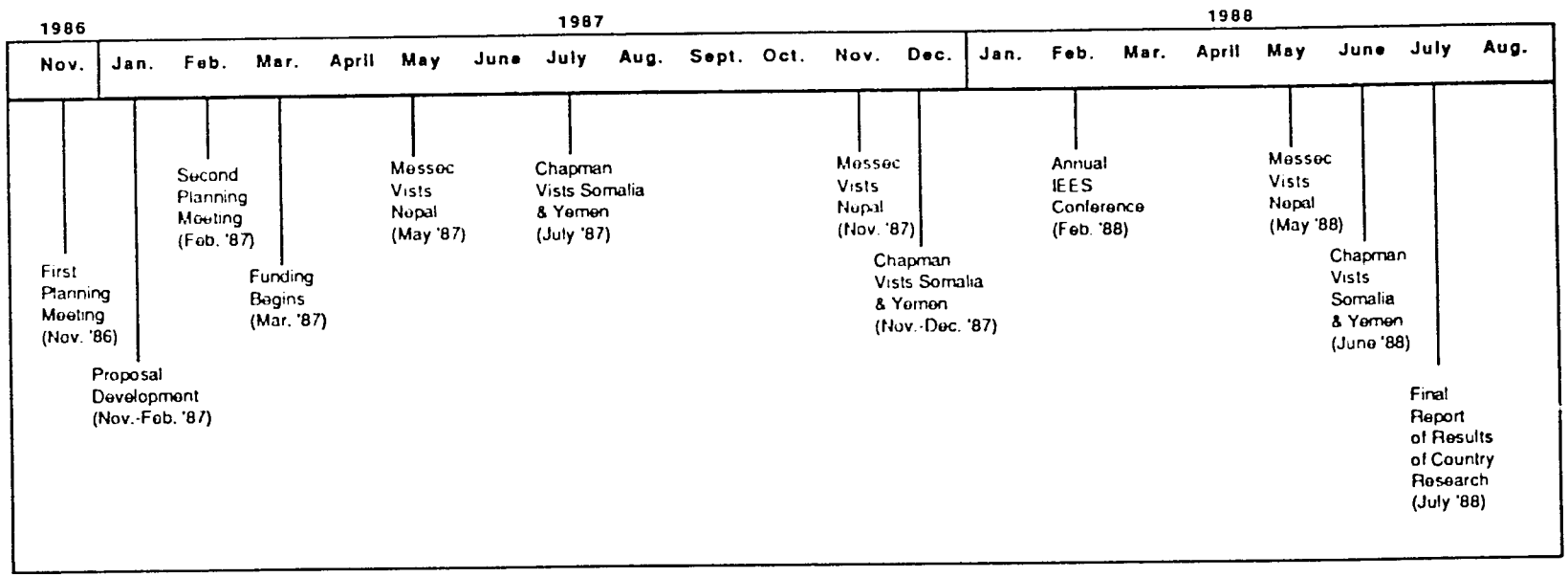
9.1 Flow Chart of Research Activities



9.2

Intermediate Product Planning Chart

9.2 Intermediate Product Planning Chart



Products and progress to be achieved by indicated points in time. Disbursement will be based on achieving these goals.

9.3

Person-by-Task-by-Time Chart

9.3 Person by Task by Time Chart

1986	1987												1988							
Nov.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.

Products and progress to be achieved by indicated points in time. Disbursement will be based on achieving these goals.

9.4

Guidelines/Procedures for Budget Dispersement

9.5

Budget Monitoring Forms

IEES POLICY RESEARCH INITIATIVE
Educational Management Information Systems

Budget Reporting Form

Country: _____

Country Team Leader: _____

Date: _____

1. Date of reporting period: from _____ to _____
   beginning date ending date

2. Amount of money unspent from last report period: (a) _____

3. Total amount of money received for this budget period: (b) _____

4. Total amount available to be spent during this budget period (add lines (a) and (b)): (c) _____

5. Total amont of money actually spent during this budget period: (d) _____

6. Amount available to carry into the next budget period (add lines (c) and (d)): (e) _____

7. Exchange rate during this report period: US $1. = _____

8. Breakdown of expenses during this budget period: (attach additional pages with the following information)

   - **Personnel**: Indicate for each person:
     - the person's name
     - what work they did for the project
     - how many hours/days they worked
     - their rate of pay
     - the total amount they earned
   - **Transportation:** Specify the travel involved.
   - **Materials and Supplies:** Indicate what materials and supplies were purchased.
   - **Other Expenses:** Specify what other expenses were necessary.

TOTAL SPENT DURING THIS REPORT PERIOD: $ _____

9.5 Budget Reporting Reform.

9.6

Progress and Product Reporting Form

Progress and Product Reporting Form

Country: _____

Country Team Leader: _____

Date: _____

1. Date of reporting period: from _____ to _____
   beginning date ending date

2. Project activities worked on during this report period (be as specific as possible).

3. Project activities completed (be as specific as possible).

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

4. Total amount spent during this report period: $

5. Dates of next report period: _____

6. Activities to be conducted during next budget period (available from research planning document).

7. Activities and products to be completed in the next budget period.

   - Anticipated products:

   - Estimated expenditures:

8. Discussion of issues and problems encountered in conducting research.

9. Other comments.

Please attach a copy of all materials/products completed during this report period.

9.6 Progress and Product Reporting Form (cont'd.)

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Suggested Outline for Final Country Research Report

Suggested Outline for Final Country Research Report.

1. **Purpose of Research.**

   - Need and rationale for EMIS in the country.
   - History of EMIS activities.
   - Government plans for EMIS.

2. **Summary of EMIS Research Proposal.**

3. **Methods Used in Conducting Research.**

   - Describe the research methods used in conducting the study.
   - Describe the methods used in analyzing and summarizing the data.

4. **Findings of Each Component of the Study.**

   - Mapping of education data flow.
   - Identification of information needs of decisionmakers.
   - Study of educational data available to decisionmakers.
   - Identification of issues in using computers to manage and analyze data.

5. **Results of the Data Synthesis Phase.**

   - Synthesis of data from the four parts.
   - Summary of overall findings.
   - Identification of policy issues raised by the findings.

6. **Identification of Special Studies.**

   - Description of need for study, method used to conduct the study, and results obtained.

7. Policy Issues Raised by the Research.

- Design of management information system.
- Implementation of management information system.
- Types of data to be collected.
- Appropriate means for collecting and trnsmitting education data.
- Use of quantitative data in education policy making.
- Relationships among users of education data.

8. Conclusions and Recommendations.

- Demonstrate how the conclusions and recommendations relate to the data and findings of the study.

9. Dissemination of Research Findings.

- Conferences and meetings
- Reports

10. Issues and Problems Encountered in Conducting the Research.

11. Final Report of Expenditures for Research Activities.

Expected Products of the EMIS Policy Research Initiative

The intermediate products of the EMIS research include:

5.1 Statement of the problem, policy issues, and research questions.

5.2 Inventory of system characteristics that affect educational management information systems.

5.3 Procedures for collecting data on EMIS.

5.4 Preliminary review of literature on EMIS.

5.5 Bibliography of the literature on EMIS.

5.6 Description and analysis of current EMIS activities in each participating country.

5.7 Descriptions and analyses of the perceptions of EMIS by system by different stakeholders.

5.8 Definition and description of critical features of EMIS.

5.9 Final report on each country study.

5.10 Policy recommendations regarding EMIS for each country.

5.11 Final report synthesizing the findings from the three countries.

5.12 Policy recommendations for EMIS systems in developing nations.

5.13 Report and recommendations on conducting cross-national policy research studies.

5.14 Updated review of the literature on EMIS.

Outcomes of the Research Initiative

One objective of the research initiative is to improve the capacities of research institutions in the collaborating countries.

As a result of participation in this research initiative, individual competencies and institutional capabilities will be strengthened in these areas:

- Policy research design
- Construction of survey instruments
- Data collection
- Data analysis
- Report preparation
- Policy analysis
- Project management
- Collaboration in cross national-policy research initiatives

IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

Issues and Opportunities for Energizing Educational Systems:

Preliminary Review of EMIS-Related Literature

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IEES POLICY RESEARCH INITIATIVE

Education Management Information Systems

Preliminary Review of EMIS-Related Literature

ISSUES AND OPPORTUNITIES FOR ENERGIZING EDUCATIONAL SYSTEMS

Improving the Efficiency of Educational Systems
Florida State University
Howard University
Institute for International Research
State University of New York at Albany

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Policy research is the process of conducting research or analysis on a fundamental social problem in order to provide policymakers with pragmatic, action-oriented recommendations for alleviating the problem.

Ann Majchrzak
Methods for Policy Research

This preliminary review of EMIS-related literature was prepared by the Improving the Efficiency of Educational Systems Project to assist Country Team Leaders for the IEES Policy Research Initiative in designing and conducting their in-country research activities.

Juliet Chieuw of the IEES Educational Clearinghouse at Florida State University provided special assistance in the preparation of the review.

There is another side to the value of information which may benefit an organization. At the organization level, information helps shape the choice of strategic direction and aids in its periodic adjustment and/or possible reconceptualization. ...these conceptualizations may have very different implications for system design and behavior. Information can set the tone for organizational activities, and feedback helps channel motivation and reinforce accomplishment.

At the individual level, information can change the effective attitude toward work. There is an "edge of assimilation," a point at which informational complexity is associated with maximum task interest. If the task presents sufficient assimilation resistance, the individual becomes active and absorbed in the problem.

... if this principle is correct, its application in an information architecture may provide guidelines for job redesign to energize individual commitment and parlay it into institutional momentum.

... Information has the potential to be a catalyst for good intentions and organizational commitment, the prerequisites for a healthy organization.

Conrad W. Snyder, Jr. and Simon S. Ju
ARCHITECTURE FOR PROGRESS Information Architecture and the Ministerial Management of the Liberian Education System

A PRELIMINARY REVIEW OF EMIS-RELATED LITERATURE

1. Definition of Terms

Information. Information is the meaning which data has for us. If the data have no meaning for us, it is not information. Information reduces uncertainty, data--no matter what quantity or quality--do not.

The Systems Approach. The systems approach is based upon two principles: (a) a global perspective of all phenomena of the system being studied, and (b) an emphasis on the linkages between the parts of that system. A systems approach should be--but not always is--distinguished from "a systematic approach." A systematic approach, approaching a problem by a series of sequential steps with nothing omitted, is based on the classical Cartesian approach (Hurtubise 1984). It follows a logic based on a deduction which proceeds from the simple to the complex. Such a procedure is powerful for analyzing simple systems, but becomes increasingly difficult to follow as systems become more complex. It is impossible to apply to the analysis of complex organizations as it provides no criteria for dividing the system into its components, nor does it account for the forces of interaction between the components.

The distinguishing feature of systems analysis is its method which Simon (1977) described as a five-step procedure:

1. define the problem,
2. establish and weight success criteria,
3. generate solutions,
4. evaluate solutions, and
5. select an optimal system.

Computer-Based Information Systems. Computer-Based Information Systems (CBIS) is a generic term. It is applied to a class of systems, the most frequently encountered

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of which are Management Information Systems (MIS) and Decision Support Systems (DSS). Automation Systems and Transaction Processing Systems, both common in the business world, are also well-known examples of CBIS.

Management Information Systems. MIS developed from the data processing systems designed by business and government organizational planners in the United States and Europe in the 1950s and 1960s. As the first data processing systems became commonplace--and as the computer hardware and software became both more powerful and easier to adapt to specialized needs--system designers turned to management uses beyond the automation of routine clerical processes. MIS evolved to meet the information needs of management.

> A Management Information System is an organized set of processes that provides information to managers to support the operations and decisionmaking within an organization.
>
> Donald W. Kroeber and Hugh J. Watson, Computer-Based Information Systems: A Management Approach

Figure 1.1 illustrates the relationship of the terms discussed in the preceding discussion.

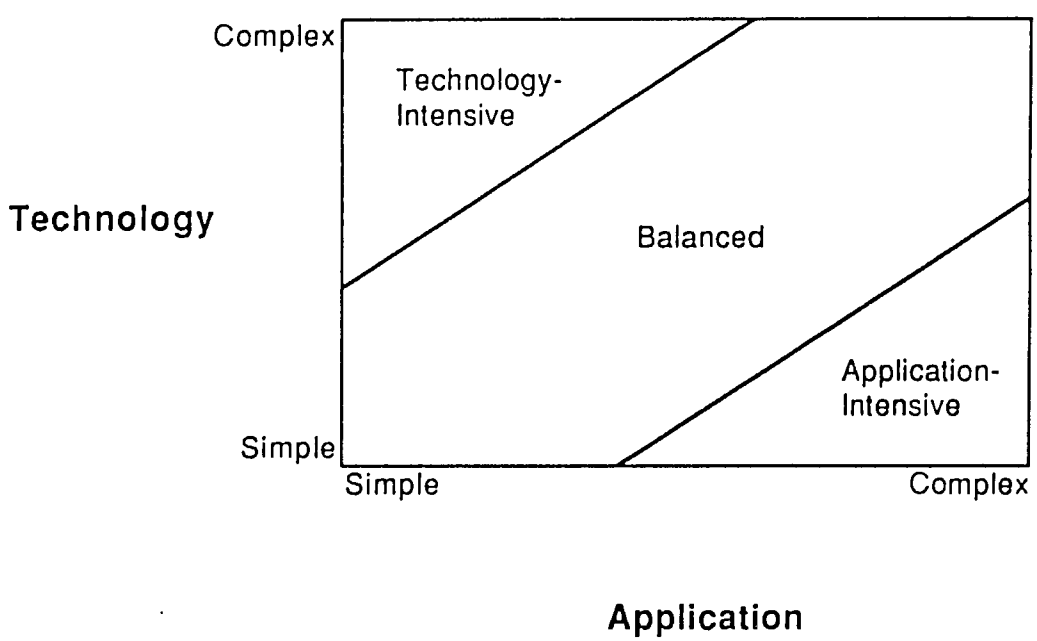

Figure 1.1 Relationship of Terms Used in the Discussion of Systems

Hayman (1974), examining the historical development of MIS in the 1970s, noted that the "third generation" of MIS (related to the so-called third generation of computer hardware then developing) had consolidated the separate functionalized data systems of the previous decade. He also emphasized that, although the third-generation systems had advanced input data formats, flows, and files, there was still relatively little attention to coordination or redesign of output information and end users. The systems, therefore, tended to be weak in terms of their impact on organizational decisionmaking processes. Hayman reminded MIS planners that information is the meaning or intelligence that is derived from data within the context of the system. He urged that "fourth generation" MIS be designed to support management decision and control processes, and through this, to assist in achieving organizational goals.

Mellor (1973) also noted that MIS were capable not only of containing all the data within a total organization, but could also refine and arrange the data so that it becomes meaningful information to the user. Mellor saw the purposes of the developing MIS concept as:

- Delivery of information when and where it is needed in a timely and accurate manner.
- Filtering the distribution of information.
- Efficient assembling of information for special reports.
- Execution, through its internal logic, of as many controls as are feasible.

Stowe (1973) noted the practical considerations which distinguished effective MIS and identified seven characteristics of successful MIS:

1. relevant (targeted on specific decisionmaking processes),
2. timely (produced information upon demand),
3. accurate,
4. comprehensive,

5. concisely packaged (usable by decisionmakers),

6. accessible to those with information needs, and

7. inexpensive (investment and recurrent costs).

By the 1980s, the functions of an MIS were well understood, at least in the literature, if not always in practice. Racippo and Foxley (1980) defined the function of MIS as not only providing all necessary transaction processing for an organization, but also providing information and processing support for management and decision functions. They saw important MIS tasks as not only storing, but more importantly, organizing large amounts of information and also modeling and simulating the operations of organizations.

Clemson (1980) suggests that MIS should follow certain principles:

- an MIS should manage information, not things;
- an MIS--as effective organizations--must be adaptive to needs;
- information via time series (dischronic) is more helpful for an effective MIS than synchronic "snapshots;"
- visual models of MIS have more impact on decisionmakers than numerical models (see discussion of models);
- an MIS should perform major functions of suppression, filtering, and condensation; and
- an MIS should monitor all important variables for unanticipated change.

The introductions of the small, powerful, and inexpensive microcomputers, Apple II in 1977, the Osborne 1 portable computer in 1981, the portable Kaypro II in 1982, and--most importantly--the IBM Personal Computer (PC) in 1981, resulted in the rapid spread of data management systems to both private and public sector organizations. In 1979, VisiCalc became the first electronic spreadsheet program, permitting both Apple and IBM systems to perform what-if analysis easily and quickly. DBase II (originally named Vulcan) was also introduced in 1979 and quickly became the major database program for the new microcomputers. Lotus 1-2-3

soon followed with a powerful spreadsheet, graphics, and database program which became a standard in most information systems. In 1984, the software industry introduced powerful integrated packages, such as Symphony and Framework.

The immediate result of this rapid development of dependable, accessible hardware and software is that the potential for an effective MIS is apparent to most organization. The process for achieving this is seldom so clear.

Education Management Information Systems. Education Management Information Systems (EMIS) are a subset of MIS. They possess the characteristics of MIS and, in addition, are characterized by the particular functions of educational information and data needs and uses within educational systems.

Dembowski (1986) lists the following uses of educational statistics:

- Description of the stock and flow of pupils, teachers, administrators, facilities, materials, etc.
- Comparison of education provision and performance between different educational educational institutions and population groups.
- Monitoring and accounting of day-to-day operations.
- Educational planning.
- Evaluation of the performance of the educational system.
- Educational research investigating the relationship between factors inside and outside the educational system.

2. Issues in the Design, Development, and Implementation of an EMIS

The procedures most commonly followed for the design, development, and implementation of an EMIS are based in part upon the work of Blumenthal (1969). Blumenthal emphasized that information systems could function only when the management and organizational challenges inherent in their design were recognized and successfully met. Previously, most attention had been given to the technical and data-processing operations of information systems; an emphasis which reflected the origins of both the systems and the hardware which had made MIS possible. MIS

began to function effectively when the recognition of their roots in management and organizational theory became widespread.

The rapid vertical and horizontal development of the microcomputer in the late 1970s and early 1980s, however, caused this lesson again to be overlooked by many MIS planners. The glamour of the new microcomputers, their low cost, portability, and the explosion of powerful software programs, caused many to forget that systems cannot be delivered in boxes, but are of necessity born out of the analysis of existing organizations.

Kroeber and Watson (1984) observed that the high-technology computer component of MIS is often fascinating to planners, but cautioned against this fascination. They described, instead, a management approach to MIS design which stressed <u>what</u> the system could provide and not <u>how</u> the system did this. Examining this relationship between technology and applications, Kroeber and Watson constructed a continuous scale of MIS design ranging from simple to complex (Figure 1.2).

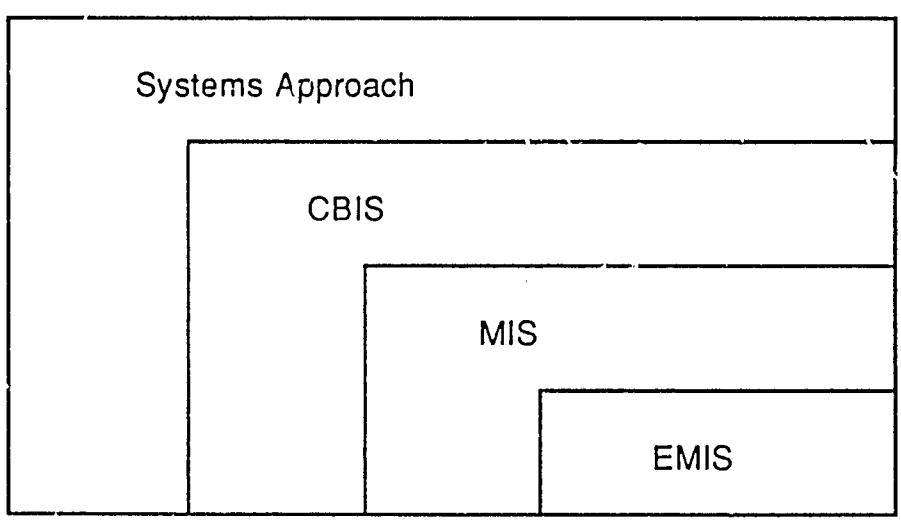

Figure 1.2 <u>A Scale of Technology and Applications in MIS Design</u>
Kroeber and Watson

Designs might be placed on this scale as technology-intensive when complex technology is used to perform simple applications, or as application-intensive when complex applications are performed with simple technology. The other combinations, simple applications with simple technology and simple technology with complex applications with complex technology are presented as examples of balanced design.

Few organizations which have evolved an MIS from data processing systems have achieved this balance. This process of evolution, in organizations where it has occurred over a number of years, typically has begun with a data processing system which was then upgraded as successively more powerful hardware became available. As software applications to support management were developed, these were added to the existing system. A database management system was then installed and the entire system subsequently became identified as an MIS.

This evolutionary process, however, frequently has resulted in inappropriate technology (simple applications performed by complex technology) and a management that does not understand the technological support required for its applications.

Because the nature of the information and processing needs of the organization were not the driving force of the MIS design, the effect of this evolutionary process is likely to limit the range of MIS applications. Clearly, the physical basis of an MIS is much less difficult to describe than the conceptual. For this reason, planners turn to the security of dealing with the physical components of a system. The conceptual components--the information flows, the relationships between functional applications, and the managerial decision processes as they are mapped for each organization--often prove to be too abstract for planners to consider.

Management-based MIS Design. The first task of MIS design is to identify what is expected of the system. This task should be undertaken by a MIS designer without thought of specific models, software, procedures, programs, and forms which

might seem to offer instant solutions. The management of the organization must identify the information needed for decisionmaking. These information needs, when identified and prioritized, will form the basis of the MIS design process.

Problems arise when managers are not able to identify precisely what these information needs are, and the MIS designer must then undertake to assist management in the identification process. Managers may not be accustomed to explicitly identifying the objectives they are seeking. They typically have not made explicit the criteria they use in decisionmaking processes, nor have they examined the processes of analyzing the consequences of their decisionmaking. It thus becomes the task of those designing the MIS to determine and analyze the needs of management within each organization.

Two approaches for carrying out this task are suggested by Hurtubise (1984). One approach (certainly the most common, if not always not the most effective) is for the designer to interview managers in order to determine their responsibilities and decisions. From this interview process, the designer then constructs a list of decisions which are routinely made at each level of the organization. Again working with management, the designer then establishes which informational elements are required to inform the decisionmaking.

This interview approach may result in frustration, however, when managers are unable to describe their work in terms of decisionmaking processes, responsibilities, and reference points (Matthies and Matthies, 1977). Frustrated MIS designers may accuse managers of not adequately understanding their work, while frustrated managers may argue that the designer is not able to comprehend their organization.

The second approach described by Hurtubise concentrates the analysis on the organization and requires the designer to detail its structure and environment, planning, and control processes. From observations, interviews, and documentation, a overall vision of the organization as a system is created. To eliminate the

danger inherent in this approach that the designer will create an MIS based on an overly abstracted vision of the organization, Lucas (1974) urged that the role of the future MIS users should be made explicit in this analysis. He suggested that two committees, each composed of these users, should participate in the design process:

- A priorities committee would assist the designer in making resource allocation decisions and thus avoid conflict between the design of the system and its users. The committee would also bring a better comprehension to the design process of why some projects are undertaken, why others are denied, and how decisions are made for new activities or expansion of existing commitments.

- A user committee would include a large representative group of users and would involve them in the design process. This would result in better informed design and avoidance of possible future conflicts.

The result of the work of these committees would be a participatory design process with increased probability of functioning adequately to meet the informational needs of the organization.

Design and Development Considerations. Those tasked with designing an EMIS must first determine the needs for, the feasibility of, and the overall conceptual design of the system within the framework of the existing organization which it is to serve. Dahl/Kramer (1972) suggested the following framework for undertaking these procedural tasks:

A. Assessment of Information Needs

Purpose: to determine as precisely as possible the information needed for decisionmaking within the organization.

Procedures:

1) general orientation of staff to the concept of information management;

2) guidance in the process of identifying and communicating specific information needs;

3) production of a comprehensive orientation manual for staff;

4) small group orientation sessions for staff;

5) staff identification of information needed for decisionmaking:

- frequency of need,
- proposed use of information,
- probable source of information, and
- ranking of importance of information;

6) interview with each staff member to discuss specific information needs (based on results of process 5) above).

B. Data Availability Analysis

Purpose: to determine those data elements known to be collectible.

Procedure:

1) analysis of availability of each discrete data element (collectible data or doubtful collectibility);

2) sorting of data elements to be collected by questionnaire at school, district, region, or national levels. Student data questions offer three responses:

- data now collected regularly,
- data not now collected--but could be, and
- data cannot be collected; and

3) tabulation of survey results and indication of availability of all data elements needed for information system.

C. Conceptual Systems Design

Purpose: to propose an EMIS design within the existing operations and identified needs of the organization.

Procedure:

1) inspection of data processing environment available to the organization;

2) review of all automated and manual systems now in use;

3) consideration of the frequency and types of information needed; and

4) consideration of alternative types of systems with regard to available data and system requirements.

While this framework may be abbreviated or expanded for developing an EMIS within particular organizations, it does describe a rational process for focusing in a systematic way on information needs and incorporating them into a conceptual system. Dahl/Kramer reported that this framework, when applied to the operations of organizations, had resulted in the following findings:

- complex data storage and retrieval systems were not necessary for an effective EMIS;
- much information, identified as needed by staff for decisionmaking, was already being collected within the organization, but was not known or was not available to staff;
- the primary goal of the EMIS must be to provide useful information to support a rational decisionmaking process;
- flexibility was essential within the system because information needs will change and the system must be able to accommodate this change without great expense; and
- the system must be capable of supplying a variety of information on demand, in addition to producing routine reports.

Experience with EMIS design in the 1970s and 1980s has confirmed that these findings are characteristic of the process. The design of overly complex systems, carried out without awareness of what data was already being collected, and without a clear perception by all of the usefulness of the system, has frequently resulted in useless plans which are both costly and wasteful.

A study in the 1970s of problems in designing an effective EMIS (Gifford 1974) outlined three areas in which EMIS commonly fail. Gifford examined the collection, processing, and dissemination of educational data within a large educational enterprise and reported the following:

A. <u>Problems with EMIS Administration</u>

1) Existing data collection and processing units lack direct contact with management due to organizational fragmentation. This lack of contact with management has two consequences:

- passage of time renders some information obsolete,

- management is frequently faced with needs for information not routinely collected.

2) Data unit operations are too labor-intensive. Specific problems are:

- the manual effort may be extremely time-consuming,
- urgent information needs cannot be met due to time required for collection and processing.

3) Redundant operations are common:

- data units within the organization perform duplicate operations,
- redundant efforts consume staff time which could be directed towards other activities,
- redundant efforts result in a proliferation of differing statistics all purporting to be the same.

B. Problems with Database Structure

1) Decisionmakers are unable to manage and effectively use the data they have available (i.e., data is not provided as information).

2) Separate data files feed into specialized reporting systems. Ability to combine and analyze data elements from separate systems is limited.

3) Data inventory and dissemination procedures are inadequate:

- Delays are common due to inaccessible filing systems,
- Staff are not familiar with the types of data available, and
- Requests for data are often dependent upon the availability of a single individual.

C. Database Standards

1) Fragmented administrative control and inadequate computerization create serious problems for database integrity and security.

2) Data quality control varies greatly, which involves the degree to which the sources of data are held responsible, the clarity of data element definitions, and the extent of edit checks built into the system.

3) Data security standards are inadequate. These ensure that a particular file will be maintained and available for use.

To effectively deal with such problems in the design and development of an EMIS, Coletta (1985) proposed three task groups: an MIS Management Group, a Software Development Group, and an MIS Task Group:

- The MIS Management Group is a departmental level task group whose main functional objectives are to provide managerial assistance and guidance for managerial skill development. The group also deals with such issues as logistics and resources required for the development of MIS Management capacity.

- The Software Development Group is a technical group whose main function is to develop computer software systems to meet data handling requirements (of pilot provinces). The group develops required software based on the task priority dictated by the MIS Management Group.

- The MIS Task Group consists of the MIS core members (in pilot provinces), who are responsible for all MIS activities including data management and MIS skill development.

This strategy ensures that the first two groups, working closely with the local level MIS Task Group, can combine both managerial and technical expertise to create a system carefully fitted to local needs and capacities.

A four-phase procedure for MIS design was proposed by Hurtubise (1984) as follows:

Phase I. <u>The Plan: Goal and Rationales</u>

- Definition of a systems plan.

- Preliminary study of the system (feasibility study).

Phase II. <u>Document and Analyze the Existing System</u>

- Identify information flow circuits.

  - <u>The visual representation panel</u> illustrates the flow of data and information, as well as their sources and destinations within an organization.

  - <u>The data dictionary</u> identifies and characterizes the information, processing, users, and storage within the system.

Phase III. <u>MIS Design</u>

Phase IV. <u>MIS Development, Exploitation, and Management</u>

These four phases correspond to the primary concerns of EMIS development; emphasis on the conceptual approach to EMIS--not on computer hardware, starting with the existing system of data flow and information needs--not with an abstract design, and allowing time for the careful design, development, exploitation, and management of an effective system.

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Educational Management Information Systems

Proposal for the Study of

Education Management Information Systems

in Nepal

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A PROPOSAL FOR THE STUDY OF EDUCATION MANAGEMENT INFORMATION SYSTEMS IN NEPAL

March 1987

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A PROPOSAL FOR THE STUDY OF EDUCATION MANAGEMENT INFORMATION SYSTEMS IN NEPAL

I. BACKGROUND

Nepal is one of the seven developing countries collaborating in the AID-funded Improving the Efficiency of Educational Systems (IEES) Project. The main focus of IEES activities is to improve resource utilization in the education sector. IEES sponsors research studies which have direct relevance to policy issues, particularly with respect to efficiencies in the formal school system. These studies will be conducted in collaborating countries by host country personnel.

The IEES research agenda includes the following research topics:

- Incentive configurations for teacher supply;
- Education Management Information Systems (EMIS) to enhance educational efficiency; and
- Strengthening local support for education capacity.

Nepal, along with Somalia and Yemen Arab Republic, has decided to participate in policy research on the topic of EMIS. The Ministry of Education and Culture (MOEC) has identified New ERA, a private non-profit research organization, to conduct this study in Nepal.

In preparing this proposal, New ERA received substantial help from the staff of the Ministry of Education and Culture.

II. OBJECTIVES OF THE STUDY

The main purpose of the IEES Policy Research Initiative on EMIS is to examine the impact of these systems on national level educational policy formulation in developing countries. In this context the issues of particular interest are:

- To what extent is there congruence between (a) the information MOE decisionmakers say they need, (b) the information currently available to MOE decisionmakers, and (c) the types of data and standards of data quality that the literature says decisionmakers should use.

- To what extent does the development of an EMIS system contribute to greater congruence among these factors.

- To what extent is the development of an education management information system related to increased use of quantitative information in educational decisions at a national level.

During the initial meeting of the EMIS research teams in Kathmandu (November 10-17, 1986), it became apparent that these issues were also pertinent to the Nepalese context. Therefore, the specific objectives of this study are as follows:

- To identify data needs of the MOEC and other agencies involved in the education sector of Nepal;

- To assess quality, coverage, and timely availability of information currently available to decisionmakers at the MOEC and other agencies;

- To examine how currently available educational data are being used by decisionmakers, opinion makers, and others;

- To identify existing data gaps and their effect on the decisionmaking process;

- To identify policy issues related to the development of an EMIS to respond to the data needs of the MOEC and other relevant agencies; and

- To identify issues related to the use of microcomputers in EMIS.

III. RESEARCH PROCEDURES

A. Scope of the Study

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

B. Approach

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

C. Research Activities

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

1. Preliminary phase;
2. Data collection phase;
3. Data analysis and synthesis phase;
4. Dissemination phase; and
5. Policy development phase.

These phases of the research activity are discussed below.

1. Preliminary Phase

Activities in this phase will include:

- Preliminary visits to government offices (MOEC and otherwise) in Kathmandu to obtain existing basic information, reports, and data collection forms;
- Review of all relevant documents collected;
- Preparation of protocols for visits to units involved in data collecting, reporting, and utilization;
- Preparation of draft data collection instruments (e.g., questionnaires and interview schedules);
- Pretesting of data collection instruments;
- Finalization of data collection instruments;

- Detailed sampling design for selecting districts and schools within the districts;
- Printing of data collection instruments;
- Identification of field staff and their training;
- Preparation for field visits; and
- Formation of a research advisory group which will include MOEC staff and other relevant persons.

2. Data Collection Phase

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

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

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

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

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

In collecting each of the above-mentioned types of data, a number of relevant issues will be addressed, such as:

- What data is provided to whom, when, and in what form?
- What procedures are used for collecting data?
- What judgments of data quality are made?
- What problems are encountered in collecting and reporting?

- What incentives are present to provide timely and accurate data?
- How can the system be improved?
- How is data used in the system?
- What authority is present to collect data?

3. Data Analysis and Synthesis Phase

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

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

4. Dissemination Phase

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

5. Policy Development Phase

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

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

D. Sources of Information

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

- MOEC Regional Offices, School Administration Section, Manpower and Statistics Section, Program and Evaluation Section, Teacher Training Section, Personnel Division, Adult Education Section, etc.;
- Curriculum, Training and Supervision Development Center;
- Janak Education Material Center;
- Radio Education Program;
- Primary Education Project;
- Seti Project;
- Technical School Division;
- Controller of Examination;
- Integrated Rural Development Projects (KHARDEP, IHDP, KBIRD, etc.);
- Multilateral Agencies (the World Bank, UNICEF, UNDP, Unesco, etc.);
- Bilateral Agencies (USAID, British Council, etc.);
- Nongovernmental Organizations (CARE, Save the Children Fund, Action Aid, etc.);
- Central Bureau of Statistics;
- National Planning Commission;
- National Commission on Population;
- Finance Ministry;
- National Education Committee;

- Tribhuvan University;
- Center for Education, Research, Innovation, and Development; and
- New ERA.

In addition to the organizations listed above, the District Education Offices (DEO)of the MOEC will be an important source of information for this study. There are several DEOs in each region.* Although we plan to visit all five regions, it will not be possible to visit all the DEOs within a region. We propose to select two DEOs in each region, one which is easily accessible from the regional office and other more remotely located. Accessibility and communication are important determinants of information flow and by selecting one remote and the other fairly accessible district we expect to capture the whole range of problems in the flow of information.

Each district education office supervises several schools--the primary providers of educational information. The number of schools in a district varies from district to district, but it is seldom less than a hundred. The study will select the sample schools from among those supervised by the sample DEOs. School type and remoteness will be main criteria for selecting sample schools. The number of schools to be selected in the sample districts will be between eight to ten. Altogether there will be about 90 schools in the school sample.

E. Research Implementation

Administratively, New ERA will assume overall responsibility of this study. However, the actual research implementation will be a collaborative endeavor between the New ERA research team and the concerned MOEC staff.

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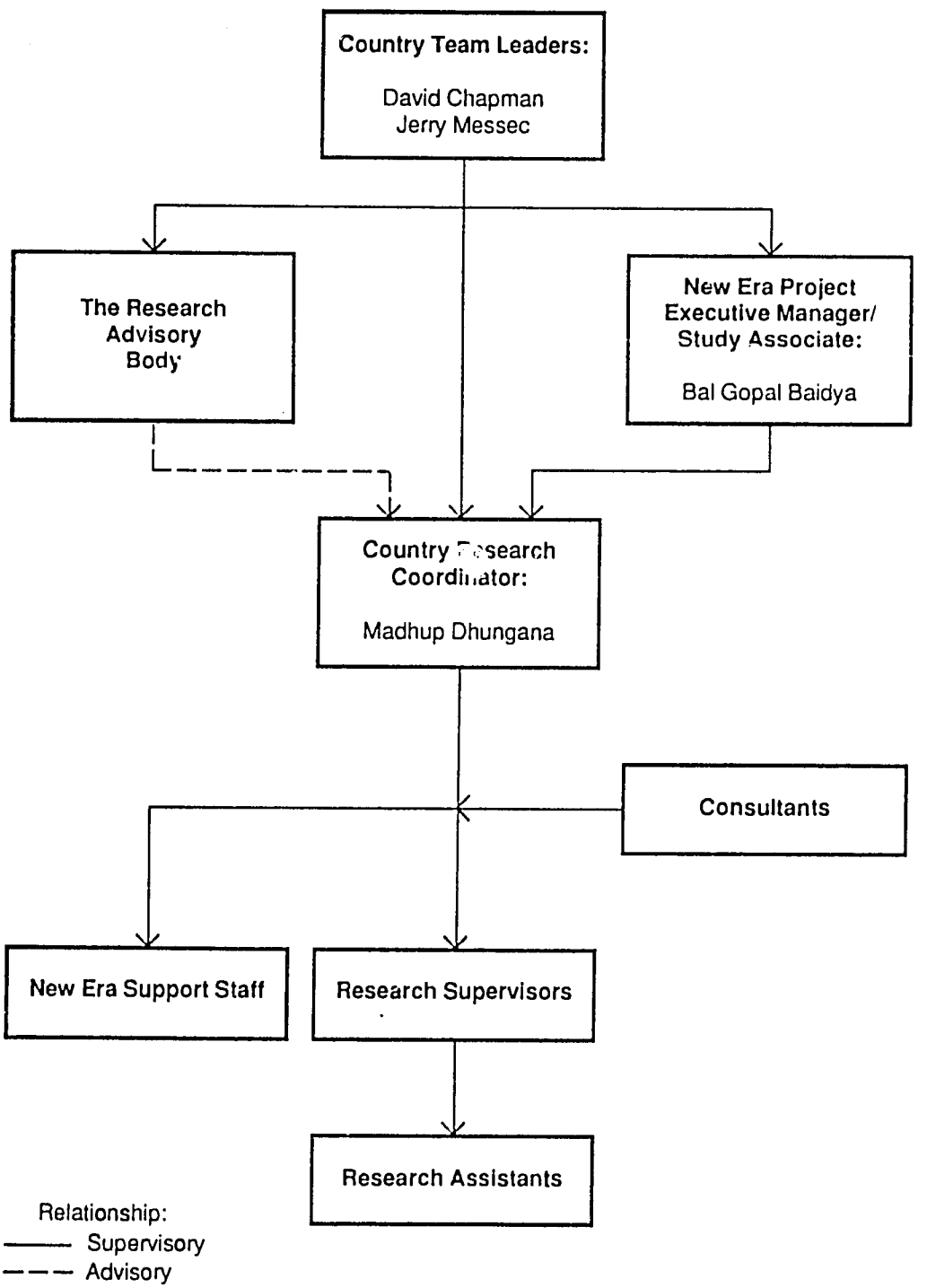
* There are five regions in Nepal and each district education office region is supervised by the Regional Education Directorate in that region.

To ensure continued involvement of the concerned MOEC staff, a Research Advisory Body (RAB), consisting of concerned MOEC staff, IEES Resident Technical Advisor, senior members of the New ERA research team, and other educators who can make significant contribution to the study, will be formed. The RAB will meet regularly (on an average of once a month) to oversee the progress of the study and to provide necessary guidance. During the first and last two phases of the study, this group will need to meet more frequently.

Although this study has already been approved by the MOEC, considerable time will be required to obtain necessary clearances for the formal nomination of the MOEC staff to the RAB. Therefore, we propose to invite the concerned MOEC staff to join the RAB on an individual basis. In this way, we can ensure participation of the appropriate MOEC staff with minimum of bureaucratic complication.

It would be most advantageous to include a MOEC staff member as a regular member of the research team. This person might join the New ERA research team on deputation from the MOEC. This kind of involvement, however, will require formal clearance from the MOEC and, therefore, is contingent upon the approval of the MOEC.

The research implementation structure envisaged for this study is outlined in the chart below:



IV. THE RESEARCH TEAM

To conduct successfully a study of this nature requires a variety of skills. These skills include knowledge of research methods, familiarity with computer hardware and software, familiarity with the education sector of Nepal, and field data collection techniques. The proposed research team collectively possesses all the skills necessary to carry out this study. A brief description of the individual members of the research team and their proposed role in the study is given below:

Mr. Madhup K. Dhungana, Country Research Coordinator/Computer System Analyst

Mr. Dhungana is a computer applications specialist. Before joining New ERA, he worked at the MOEC as a Section Officer. Over the past 12 years he has participated in many studies in the education sector, including Problems of Supply and Utilization of Educational Materials at the School Levels in Nepal (1974), The Impact of Free Textbook Distribution on Primary School Enrollment of Nepal (1977-1979), and Literacy Retention Study (1979). Mr. Dhungana has two M.Sc. Degrees--one in Mathematics from the Tribhuvan University, Nepal, and the other in Computer Application from the Asian Institute of Technology, Bangkok, Thailand.

Mr. Dhungana will be a full-time member of the research team. His responsibilities will include preparation of detailed research design, preparation of data collection instruments, training of field researchers, analysis of data, preparation of a revised data management system, organization of group discussions and workshops, liaison with the MOEC staff, and report preparation.

Dr. Bal Gopal Baidya, Study Associate/Project Executive Manager

Dr. Baidya is the Executive Director of the New ERA and has 14 years of professional experience in designing and implementing research studies in Nepal. Before joining New ERA, he worked as a teacher for several years. Dr. Baidya has a Ph.D. in Economics from University of the Philippines.

As the Project Executive Manager and the Study Associate, he will participate in all aspects of the study and will be responsible for the quality control study. He will be especially involved during the design phase (preliminary phase), data analysis phase, and in report preparation. His total involvement in the first year is estimated to be four months.

Field Research Supervisors

There will be five field research supervisors for the study. Each will be responsible for all aspects of field data collection in one of the five education regions.

One research supervisor will join the research team at the beginning of the study and will assist the senior members of the research team in the preliminary data collection phase, as well as the data analysis and report preparation. The four other research supervisors will be involved only during the field data collection phase.

Professional level New ERA staff members with extensive experience in supervising data collection in the field will be used. The New ERA field research supervisors generally possess post-graduate degrees.

Research Assistants

The main responsibility of the research assistants will be to collect data from schools and other offices in the districts. They will work under the supervision of the field research supervisors. Altogether, five research assistants will be used during the data collection phase of the study. Research assistants generally have college degrees.

Consultants

Services of individuals with specific skills may be required from time to time. They will be hired on an as-needed basis. Provision of five months of consultant time has been included in the budget.

Secretarial Support

Secretarial support to the research team will be provided by the central secretarial pool of New ERA.

V. SCHEDULE OF RESEARCH ACTIVITIES

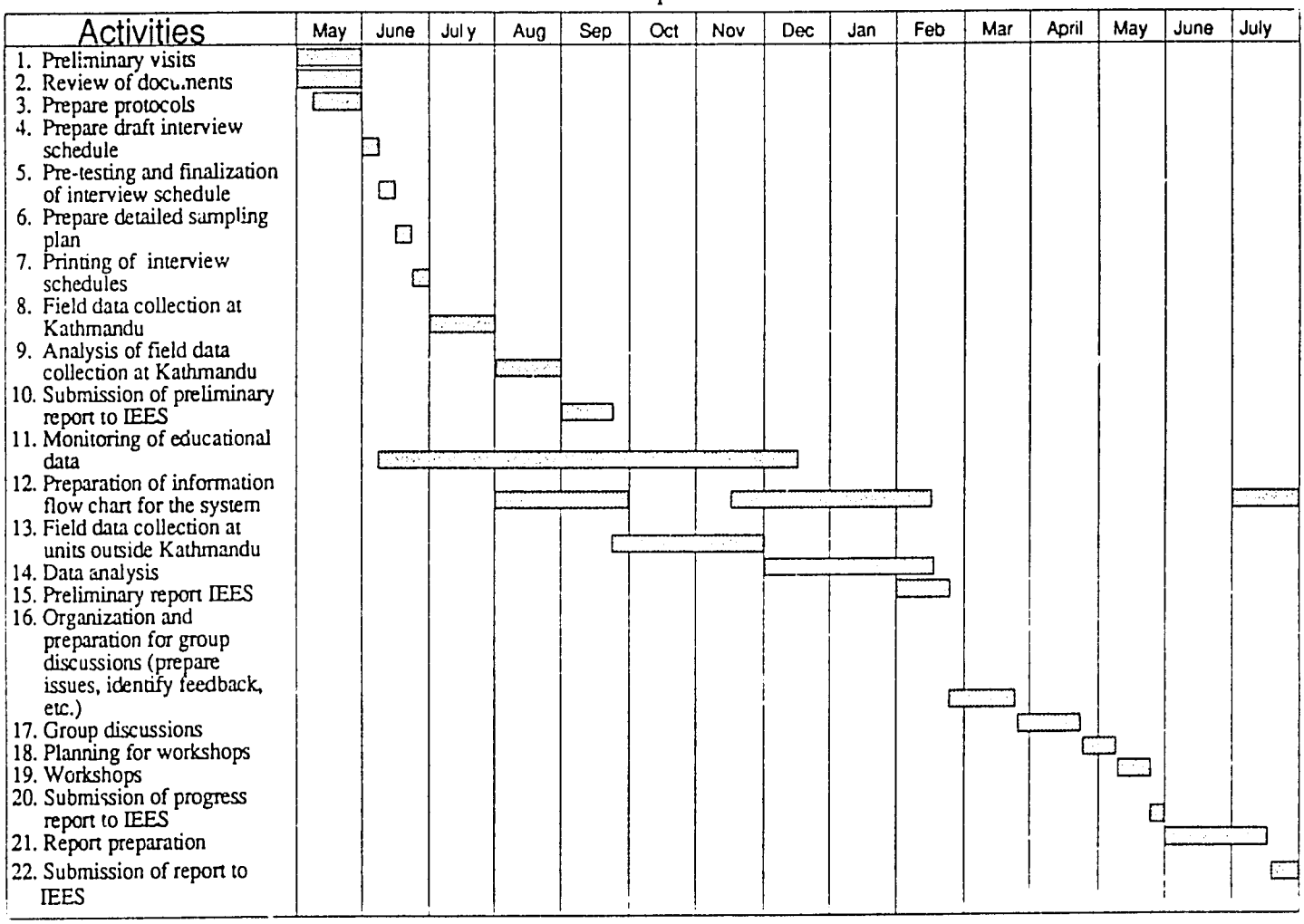
Improving the Effenciency of Eduactional Systems

Policy Research Initiative

Nepal

Education Management Information Systems

Workplan



B. PERSONNEL SCHEDULE

Activities	1987										1988	
	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
1. Country Research Coordinator (Madhup Dhungana)												
2. Study Asociates (Bal Gopal Baidya)												
3. Research Supervisors												
4. Research Supervisors (1)												
5. Research Assistants (5)												
6. Secretarial Support												
7. Project Consultants												

Note: = Full Time
= Discontinuous Involvement

VI. NEW ERA RESEARCH CAPABILITY

New ERA is a private and non-profit research organization. New ERA was established in 1971 with the education sector as its main focus. Its field of interest has broadened since then to include research in other sectors. In the last 15 years, New ERA has conducted over 150 research studies in education and other fields, e.g., population and family planning, agriculture, rural development, communications, etc. New ERA has a current staff of 36 persons, of which 16 are professionals. Currently, New ERA has four microcomputers (2 Apple IIe and 2 IBM compatibles) and a number of software programs, including SPSS, Enable, dBase-III, and Lotus 1-2-3.

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VII. BUDGET

(First Year)

A. Salaries

1.	Country Research Coordinator/System Analyst (1) 12 person months @ $366/month	$ 4,392.00
2.	Project Executive Manager/Study Associate (1) 4 person months @ $711/month	2,844.00
3.	Research Supervisors (5) 24 person months @ $206/month	4,944.00
4.	Research Assistants (5) 13.75 person months @ $137/month	1,883.75
5.	Secretarial Support 4 person months @ $142/month	568.00
6.	Consultants (approx. 100 days @ $25/day)	2,500.00
	Subtotal:	$17,131.75

B. Travel, Local Transportation, and Per Diem

1.	Air Travel (In-Country) Research Team Member - 18 Round Trips @ $50/Trip Workshop Participants - 16 Round Trips @ $50/Trip	$ 1,700.00
2.	Surface Travel	150.00
3.	Local Transportation (Taxis, rickshaws, tangas, etc. @ $200/month)	2,400.00
4.	Per Diem - (760 nights @ $5/night + 64 nights @ $10/night) Research Team Members 10 x 70 = 700 nights @ $5 2 x 30 = 60 nights @ $5 Workshop Participants and Group Discussions 16 x 4 = 64 nights @ $10	4,400.00
5.	Field Equipment Rental (Sleeping bags, rucksacks, etc.) @ $ .50/night	380.00
	Subtotal:	$ 9,070.00

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C. Other Direct Costs

1.	Stationery and office supplies	$ 500.00
2.	Printing of interview schedules	200.00
3.	Report reproduction (50 copies @ $10/copy)	500.00
4.	Computer time	300.00
5.	Computer supplies	200.00
6.	Communications	500.00
7.	Copy/reproduction charges	150.00
8.	Media materials for media monitoring	450.00
9.	Workshop and group discussion space rental	900.00
	Subtotal:	$ 3,700.00
	Total Direct Cost (A + B + C):	$29,901.75
	New ERA Overhead (25% of Total Direct Cost):	7,475.50
	GRAND TOTAL FOR FIRST YEAR	$37,377.25

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IEES POLICY RESEARCH INITIATIVE: EMIS

PROPOSED DISBURSEMENT SCHEDULE

1. New ERA requests US $8,000 as an initial advance, to be maintained on a "rolling wave" reimbursement system until the last three months of the contract, at which time it will be treated on a declining balance schedule. This amount is projected to cover salaries and other expenses for a three-month period. This time period will allow for receipts to be submitted and reimbursement to be received.

2. New ERA requests an additional advance of US $7,000 to be advanced at the beginning of the fourth month of the contract and maintained at that higher level ($15,000) until month seven to cover the higher-than-average expenses during months four through eight (related to field data collection).

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IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

Proposal for the Study of Education Management Information Systems in Somalia

NEPAL • SOMALIA • YEMEN ARAB REPUBLIC

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IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

POLICY RESEARCH INITIATIVE

Education Management Information Systems

A PROPOSAL FOR THE STUDY OF EDUCATION MANAGEMENT INFORMATION SYSTEMS IN SOMALIA

March 1987

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1.0 GOALS OF RESEARCH ACTIVITY

1.1 RATIONALE

The Somali Democratic Republic is committed to improving its educational system. This commitment is expressed as one of the nation's major goals. An essential element in this program is the development of an effective system of data management. The proposed project will enable policymakers to develop an Education Management Information System (EMIS) which will allow decisions to be made on the basis of a comprehensive organization of data.

1.2 OVERALL GOALS

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

1.3 PRODUCTS

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

1. Intermediate products:

   - Preliminary statement of problems, policy issues and research questions
   - Inventory of management system currently operating
   - Design for policy research studies
   - Recommended research procedures
   - Sample questionnaires for collecting data
   - Guidelines and budget worksheets for coordinating the study
   - Description and discussion of existing EMIS

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- Definition and description of critical features of an effective EMIS
- A procedural model for improving data management
- A glossary of terms related to data management

2. Final products:
   - Final report
   - Policy recommendations for developing an effective EMIS
   - Policy recommendations for establishing an effective EMIS

1.4 OUTCOMES

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

- Policy research design
- Construction of survey instruments
- Data collection
- Data analysis
- Report preparation
- Policy analysis
- Project management
- Collaboration in cross-national policy research initiatives

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2.0 RESEARCH STATEMENT

2.1 STATEMENT OF THE PROBLEM

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

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

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

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

The low level of importance attached to the ways in which decisions are implemented in the field is an obstacle to program success. Very often,

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

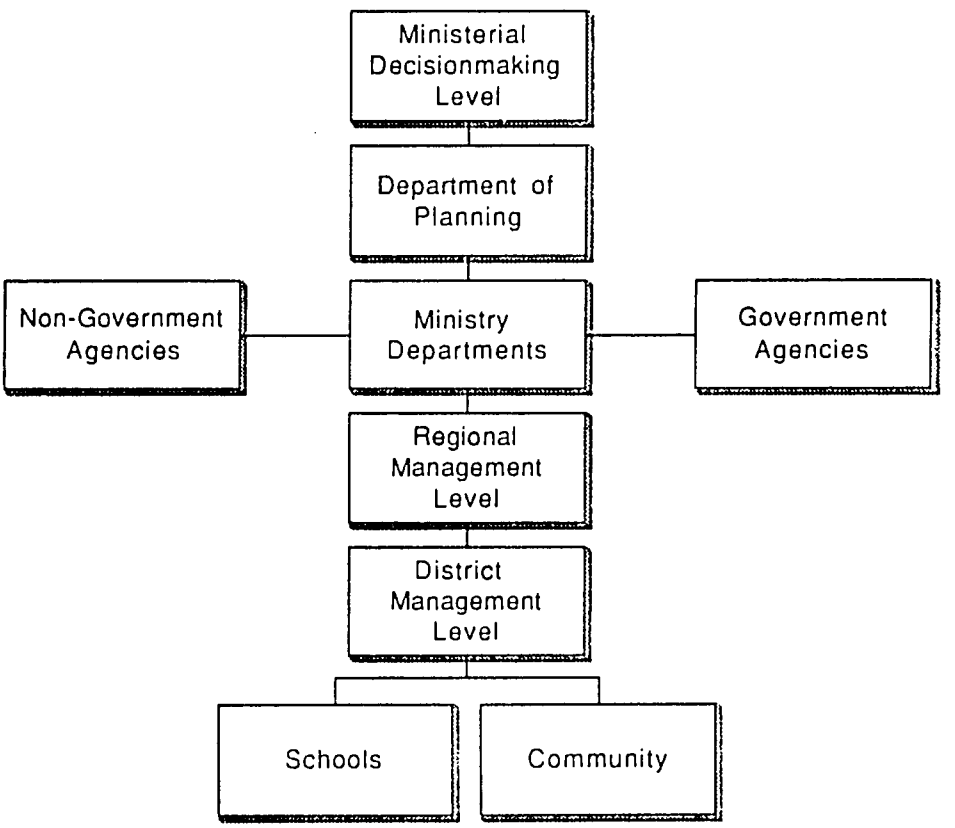
In addition to the MOE's need for reliable and valid information, such data is also needed by donor representatives, who are accountable to their agencies for the results of their assistance.

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

The intention of this study is to evaluate the existing EMIS from the grassroot level to central administration (Figure 1). The processes by which data are organized, coordinated, and transmitted among various levels will be assessed. The kinds of data needed for decisionmaking at each level will be identified. The operational plan of the study covers the flow of data from grassroot level (schools)

FIGURE ONE

Data Flow Chart



to decisionmaking levels (central). Assessments will be made on the kinds of data needed by decisionmakers and the degree of efficiency in obtaining accurate information.

2.2 POLICY ISSUES

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

2.3 RESEARCH QUESTIONS

This section presents an inventory of research questions on an EMIS management information system for Somalia. The organization of these questions is based on parallelism among the four levels of local school/community, district, regional, and central MOE. Within each level, the questions relate to personnel and processes. The personnel include data users, sources, collectors, and analysts; the processes include determining data needs, constructing instruments, collecting data, processing data, analyzing data, reporting data, and making policy recommendations.

2.3.1 The Local School/Community Level

2.3.1.1 Research Questions Related To Personnel

DATA USERS. Who are the major users of data (e.g., headmasters and Community Councils) at this level?

DATA SOURCES. Who are the major sources of data at this level (e.g., students and parents)?

DATA COLLECTORS. Who are the data collectors at this level (e.g., teachers and headmasters)?

DATA ANALYSTS. Who analyzes the data at this level (e.g., headmasters and school clerks)?

2.3.1.2 Research Questions Related To Processes

DATA NEEDS. What are the data needs at the local school/community level?

INSTRUMENTATION. What types of instruments are required (e.g., achievement tests, attitude scales, and interview schedules) for data collection at the local school/community level?

DATA COLLECTION. How are data collected at the local school/community level?

DATA PROCESSING. How are data processed at the local school/community level?

DATA ANALYSIS. How are data analyzed at the local school/community level?

POLICY CHANGES. How are data translated into policy at the local school/community level?

DATA REPORTING. How are data reported at the local school/community level?

2.3.2 The District Level

2.3.2.1 Research Questions Related To Personnel

DATA USERS. Who are the major users of data (e.g., District Educational Officers) at this level?

DATA SOURCES. Who are the major sources of data at this level (e.g., headmasters and teachers)?

DATA COLLECTORS. Who are the data collectors at this level (e.g., District Inspectors)?

DATA ANALYSTS. Who analyzes the data at this level (e.g., District Educational Office staff)?

2.3.2.2 Research Questions Related To Processes

DATA NEEDS. What are the data needs at the district level?

INSTRUMENTATION. What types of instruments are required (e.g., questionnaires and attitude scales) for data collection at the district level?

DATA COLLECTION. How are data collected at the district level?

DATA PROCESSING. How are data processed at the district level?

DATA ANALYSIS. How are data analyzed at the district level?

POLICY CHANGES. How are data translated into policy at the district level?

DATA REPORTING. How are data reported at the district level?

2.3.3 The Regional Level

2.3.3.1 Questions Related To Personnel

DATA USERS. Who are the major users of data (e.g., Regional Educational Officers) at this level?

DATA SOURCES. Who are the major sources of data at this level (e.g., headmasters and District Educational Officers)?

DATA COLLECTORS. Who are the data collectors at this level (e.g., Regional Inspectors)?

DATA ANALYSTS. Who analyzes the data at this level (e.g., Regional Educational Office staff)?

2.3.3.2 Research Questions Related To Processes

DATA NEEDS. What are the data needs at the regional level?

INSTRUMENTATION. What types of instruments are required (e.g., interview schedules) for data collection at the regional level?

DATA COLLECTION. How are data collected at the regional level?

DATA PROCESSING. How are data processed at the regional level?

DATA ANALYSIS. How are data analyzed at the regional level?

POLICY CHANGES. How are data translated into policy at the regional level?

DATA REPORTING. How are data reported at the regional level?

2.3.4 The Central (MOE) Level

2.3.4.1 Questions Related To Personnel

DATA USERS. Who are the major users of data (e.g., Directors at MOE) at this level?

DATA SOURCES. Who are the major sources of data at this level (e.g., Regional Educational Officers)?

DATA COLLECTORS. Who are the data collectors at this level (e.g., MOE personnel and temporary enumerators)?

DATA ANALYSTS. Who analyzes the data at this level (e.g., Planning Department)?

2.3.4.2 Research Questions Related To Processes

DATA NEEDS. What are the data needs at the MOE level?

INSTRUMENTATION. What types of instruments are required (e.g., Primary School Leaving Examination and national surveys) for data collection at the MOE level?

DATA COLLECTION. How are data collected at the MOE level?

DATA PROCESSING. How are data processed at the MOE level?

DATA ANALYSIS. How are data analyzed at the MOE Level?

POLICY CHANGES. How are data translated into policy at the MOE level?

DATA REPORTING. How are data reported at the MOE level?

3.0 METHODOLOGY

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

- Literature Search. Collection of all governmental and non-governmental critiques relevant to the Ministry's data needs and its procedures for the collection, analysis, and reporting of data.
- Information from Relevant Ministry Personnel. In order to arrive at a full understanding of the Ministry's needs, information will be obtained from the current producers and users of the current information management system through interviews, questionnaires, workshops, and direct observation by Planning Department personnel. The extent to which existing data are used and the way they are used by policymakers will be examined.

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

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

Two typical districts, together with their schools and regional planning offices have been tentatively selected as field sites for Phase 2. Since the same sites will be used for the Teacher Incentive Study and the Integrated Strategy, an indepth profile of each district can be developed. The profile will enable the

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identification of new variables critical to policymaking, as well as the relationship among variables best capture the local demand (or lack of demand) for schooling. Possible alternatives are the percent of the population in different occupational categories, the density of the population, the survival rate of schools in the area, etc. Similarly, the detailed information derived from these profiles will permit judgments on the probable direction of casualty. Are schools closed due to lack of demand or lack of teachers or some combination of the two? The third benefit of indepth study is that it will permit observation of the EMIS in action. Reasons for problems in the working of the current system will be confirmed by observation. It is likely that the results of observation will reveal more of the day to day difficulties than will be articulated by central, regional, district, and school personnel.

Phase 3 of the study will consist of the formal analysis of the data collected. The raw data will be organized and summarized, appropriate statistical approaches will be selected for analysis of the problems related to the collection, processing, and reporting of reliable and valid data within and across levels.

An important activity in this phase will be the organization of a National Dissemination Conference for 30 of the key personnel (central, regional, district, and school level) in data management. The purpose of the Conference is to present the findings and elicit feedback on the conclusions drawn and the recommendations for improving the EMIS.

During the final phase (Phase 3) of the study, a report will be prepared which synthesizes the findings of the different phases of the study, as well as the feedback from the National Conference. Alternative methods for improving the system and their costs will be presented.

3.1 LIMITATIONS OF THE STUDY

The limitation of the sample due to resources and the selection of representative districts (with their regions and schools) rather than the random sampling of regions, districts, and schools suggests that the full range of differences in capacities and problems related to the collection of reliable and valid data will not be identified.

It is, however, questionable whether with even a large random sample the full range of differences could be captured. The tradeoff is that with the smaller sample, information needs, uses, and the critical variables are more likely to be discerned.

The study is viewed as an important first step in rationalizing the current system and conceptualizing future directions.

This research study will be implemented in five phases as follows:

Phase 1: Data Status Review. The purpose of this phase is to identify and analyze the status of the current EMIS documents available in Somalia. Activities conducted during this phase include:

- Collection of relevant EMIS documents,
- Interviews of those producing documents,
- Analysis of document contents, and
- Report writing.

Phase 2: Data Needs for Decisionmakers. The purpose of this phase is to identify the information needs of decisionmakers, to determine the discrepancy existing between data availability and data requirements, to identify data redundancy, and to document the problems encountered by MOE personnel in their use of data to formulate policy. Activities conducted during this phase include:

- Development of an interview protocol for MOE,
- Interviews of MOE management personnel,
- Development of an interview protocol for other Somali ministries and agencies,
- Comparison of information available and information requirements of decisionmakers, and
- Reporting of the results of these activities.

Phase 3: Mapping Data Flow. The purpose of this phase of research activity is to map the data flow through the school, district, region, and central levels of the education system. During this phase, activities will examine the data flow, decision points, and filters at all of these levels. Phase 3 activities will include:

- Developing an interview protocol,
- Interview of personnel at all levels of the system,
- Verification of data at each level,
- Analysis of data performed at each level, and
- Reporting of these research activities.

Phase 4: Data Analysis. The purpose of this phase is to analyze the results of the previous three phases of research activities. The activities conducted during this phase include:

- Preliminary analysis and finding,
- Identification of critical needs in the existing EMIS,
- Review of analysis and finding with decisionmakers, and
- Finalizing recommendations for improving the existing EMIS.

Phase 5: Final Report and Dissemination. The final phase of EMIS research activities will focus on final reporting and dissemination of findings. Activities conducted during this phase include:

- Drafting of the final report of research activities,
- Review of findings in final report with decisionmakers,
- Planning and organization of the EMIS National Dissemination Conference,
- EMIS National Dissemination Conference to present research findings and provide a forum for discussion of issues, and
- Printing and dissemination of the final report.

3.1.1 School Sample Frame

The research sample will include 60 schools and several district and regional offices representative of each level of the education system. The schools will be selected randomly from a group of rural, urban, and nomadic.

4.0 PROPOSED MANAGEMENT STRUCTURE

The overall management structure for the Somali EMIS Study is shown in Figure 2. The Country Team Leader has the responsibility for managing the entire project. He receives advice from two groups: the IEES Project Team and the Somali Project Advisory Committee. Four Research Associates help the Country Team Leader to implement different project activities: The Research Associate for Status Review prepares a report on the current status of teacher incentives in Somalia. The Research Associate for Field Work trains the interviewers and coordinates the survey of different groups of primary teachers. The two Research Associates for Analysis coordinate the coding, tabulation, and analysis of all interview data. A Project Secretary carries out clerical and secretarial responsibilities for the project.

4.1 IEES PROJECT TEAM

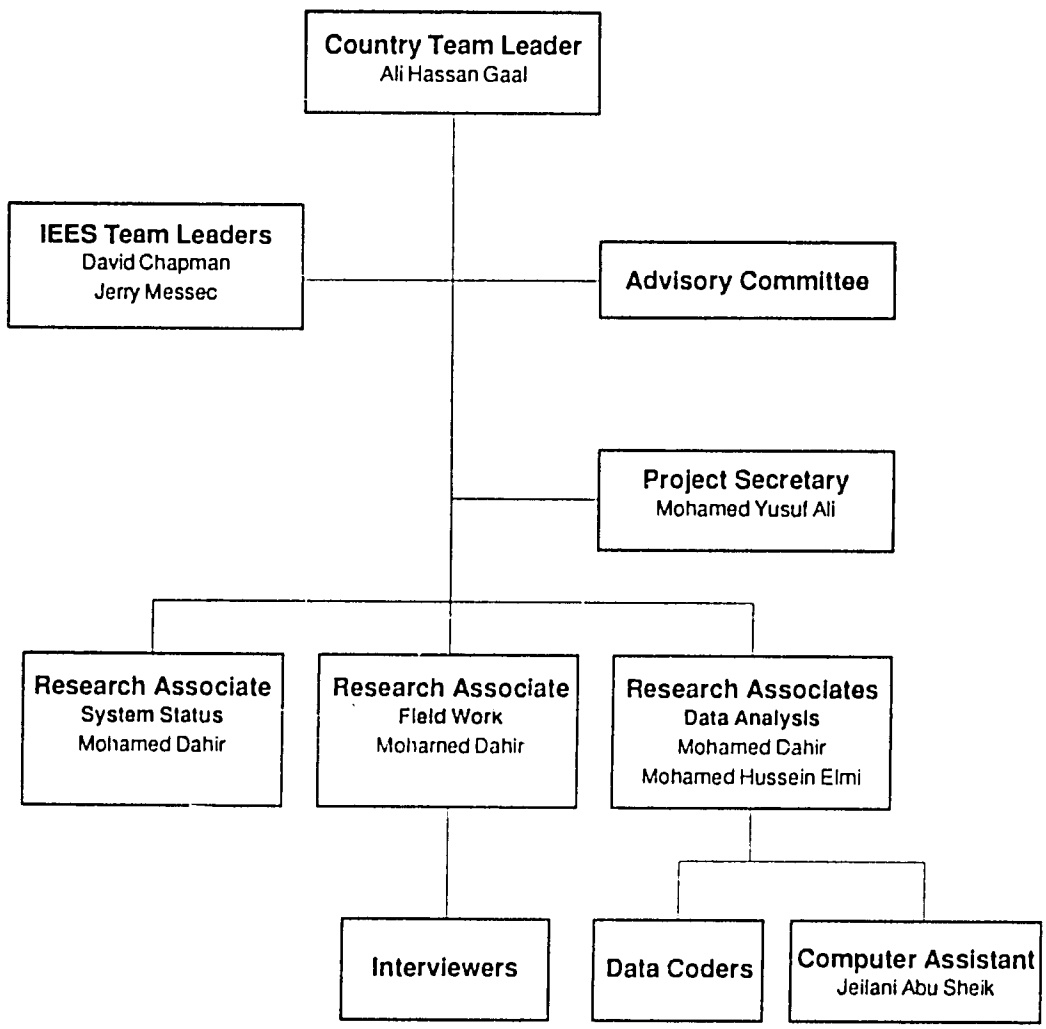
The IEES Project Team provides technical and professional advice to the Somali Project staff. The IEES coordinators visit the project periodically, review the progress, and provide suitable inputs on the technical aspects. They also frequently correspond with the Country Team Leader and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

4.1.1 Project Advisory Committee

Because of the potential national impact and the complexity of the project, an Advisory Committee will be formed to represent different stakeholders and policymakers. During the life of the project, members of this committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be

FIGURE 2

Proposed Project Management Structure



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the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The Advisory Committee will be composed of a representative from each of the following agencies or institutions:

Ministry of Education, Vice Minister

Ministry of Education, Director General for Schools

Ministry of Education, Director of Planning

Ministry of National Planning, Director of Human Resources

Ministry of Finance

Thus there will be a total of five members in the Advisory Committee. During the 2 years of the project, the Advisory Committee will meet six times, at 4 month intervals. Members of the committee will be responsible for the following functions:

- Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory.
- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project.
- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

4.1.2 Country Team Leader

Ali Hassan Ga'al will be the Country Team Leader for the project. He is currently the Director of Planning in the Ministry of Education in Somalia. As Country Team Leader, Ga'al will be responsible for all the processes and products for the project in Somalia. He will work in this capacity for the entire 2 years (24 months) on a half-time basis.

The Country Team Leader will be responsible for the following functions:

- Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the research design and in the construction of the interview protocols. Adapt the research design to suit the needs, resources, and constraints of Somalia while preserving comparability among participating nations.

- Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

- Position description. Identify different positions and describe the functions and responsibilities of each.

- Budget preparation. Prepare a budget for personnel, materials and supplies, in-country travel, and report and instrument preparation related to the research activities.

- Advisory Committee. Identify and select decisionmakers in the MOE, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Somalia.

- Personnel management. Hire appropriate candidates for various position, monitor their performance, and make adjustments as needed.

- Financial management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

- Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

- Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.

- Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

- In-country dissemination. Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums.

4.1.3 Research Associate For The Status Review

Mohamed Dahir, Head of Planning Service, will be the Research Associate for the Status Review. He will work in this capacity for the first 5 months of the project on a half-time basis.

The Research Associate for the Status Review will carry out the following functions:

- Summarize all collected data. Supervise all interviews. Organize and collect all relevant government documents and comparable information from non-governmental agencies and donors.

- Prepare draft and final report on the current status of data management in Somalia.

4.1.4 Research Associate For Field Work

Mohamed Dahir, Head of Planning Service, will be the Research Associate for Field Work. He will work in this capacity from month 6 through month 17 (12 months) of the project on a half-time basis.

The Research Associate for Field Work will be responsible for the following functions:

- Develop the criteria for the selection of interviewers.

- Select interviewers.

- Prepare appropriate training materials and train interviewers.

- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.

- Develop guidelines for conducting the interviews.

- Arrange logistical support for the interviewers.

- Develop a time table for administering the interviews.

- Monitor and supervise data collection in the field.

- Collect all completed interviews.

- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

4.1.5 Research Associates For Data Analysis

Mohamed Dahir, Head of Planning Service, and Mohamed Hussein Elmi, Head of School Construction and Mapping Service will be the Research Associates for Data Analysis. Mohamed Hussein Elmi and Mohamed Dahir will work for a period of 5 months (month 17 through month 22) on a half-time basis.

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The Research Associates for Data Analysis will be jointly responsible for the following functions:

- Train data coders.
- Monitor and supervise the coding of all completed interview forms. Analyze data from the interview forms.
- Prepare a draft and final reports of the analysis.
- Integrate the status report, interview report, and the analysis report into a final project report.

4.1.6 Computer Assistant

Jeilani Abu Sheikh, Head of Statistical Service, will work for 4 months on a half-time basis from month 15 through month 19.

4.1.7 Other Staff

Other Project Staff will include Mohamed Yusif Ali as project secretary and typist on a half-time basis for 2 years (24 months). Fifteen (15) members of the Central Inspectorate will be used for interviewing and data coding.

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5.0 BUDGET

Personal Services Contract Personnel

Country Team Leader (24 mos @ .5 FTE	US$4,018
Research Associate for Field Work (12 mos @ .5 FTE)	1,172
Research Associate for Status Review (5 mos .5 FTE)	558
Research Associate for Analysis I (5 mos @ .5 FTE)	558
Research Associate for Analysis II (5 mos @ .5 FTE)	558
Computer Assistant (5 mos @ .5 FTE)	558
Project Secretary/Typist (24 mos @ .5 FTE)	3,014
TOTAL PERSONAL SERVICES CONTRACT PERSONNEL	10,436

Other Personnel

Advisory Committee (stipend for 8 people for 8 meetings @ 11.15 per person per meeting)	714
16 interviewers (6 days training plus 18 days in field @ 12.09 per person per day)	4,643
10 coders (3 days @ 11.15 per person per day)	335
TOTAL OTHER PERSONNEL	5,692

Materials and Supplies

Stationery and computer supplies	1,674
TOTAL MATERIALS AND SUPPLIES	1,674

In-Country Travel

Travel for 16 persons @ 55.81 per trip	893
Per diem	
Country Team Leader (18 days @ 22.33)	402
Field Director (18 days @ 22.33)	402
Interviewers (16 persons for 18 days @ 11.16)	3,215
TOTAL IN-COUNTRY TRAVEL	4,912

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Translation

Status Report (50 pages @ 10.04 per page)	502
Interview forms (40 pages @ 10.04 per page)	402
Final Report (200 pages @ 10.04 per page)	2,009
TOTAL TRANSLATION	2,913

Photocopying and Printing (all @ .22 per page)

Status Report, Somali language (30 copies of 50 pages)	335
Status Report, English language (15 copies of 50 pages)	167
Interview forms (555 copies of 10 pages)	1,239
Final Report, Somali language (100 copies of 200 pages)	4,465
Final Report, English language (50 copies of 200 pages)	2,232
Coding sheets, Somali language (6,000 copies)	1,339
Other	1,116
TOTAL PHOTOCOPYING AND PRINTING	10,893

Dissemination Conference in Mogadishu (all for 3 days)

Stipends (25 persons from Mogadishu @ 20.09 per day)	1,507
Stipends (17 persons from outside Mogadishu @ 16.74 per day)	854
Per diem (17 persons @ 22.33 average)	1,139
Travel (17 @ 55.82 average)	949
Other Conference costs	1,005
TOTAL DISSEMINATION CONFERENCE COSTS	5,454

Special Studies Research

Special Studies Research (as identified)	5,000

Contingency Funds	3,025
GRAND TOTAL	49,999

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Personal Services Contract Payments

Position	Person	Annual 1. FTE	Daily 1. FTE	Monthly .5 FTE	MOS	Total .5 FTE
Country Team Leader	Ali Hassan Ga'al	4,018.00	15.44	167.41	24	4,018.00
Research Assoc Field Work	Mohamed Dahir	2,344.00	9.00	97.66	12	1,172.00
Research Assoc Stat Review	Mohamed Dahir	1,339.20	10.28	111.60	5	558.00
Research Assoc Anlys I	Mohamed Hussein Elmi	1,339.20	10.28	111.60	5	558.00
Research Assoc Anlys II	Mohamed Dahir	1,339.20	10.28	111.60	5	558.00
Computer Asst	Jeilani Abu Sheikh	1,339.20	10.28	111.60	5	558.00
Proj Secretary	Mohamed Yusif Ali	3,014.00	11.58	125.58	24	3,014.00

SIX-MONTH ESTIMATE OF NON-PSC EXPENDITURES

No.	Month	Year	Estimated non-PSC Expenditures
1.	March	1987	US$90.00
2	April	1987	1,039.00
3.	May	1987	445.00
4.	June	1987	90.00
5.	July	1987	1,011.00
6.	August	1987	6,010.00

TOTAL SIX-MONTH NON-PSC EXPENDITURES: US$8685.00

Total Budget:	US$49,999.00
Total PSC:	10,436.00
Total Non-PSC:	39,563.00

6.0 SIX-MONTH SCHEDULE OF ACTIVITIES

IEES Policy Research Initiative

Education Management Information Systems
Somalia

Six Months Schedule of Research Activities
March 15, 1987 - September 15, 1987

Activity	Date	Deliverable
1. Appointment of research staff 2. Training of EMIS research staff 3. Review of EMIS documents 4. Design of Interview instrument 5. Pre-test of interview instrument 6. Advisory committee meeting	March 15 - May 15, 1987	1. Research staff list 2. Staff training materials 3. EMIS documents 4. Document review 5. Interview instrument 6. Revised instrument 7. Minutes
1. Draft report on collected documents 2. Interview a sample of decision makers 3. Organization of 3-day workshops 4. Workshop report writing 5. Study of data use of decision making 6. Advisory committee meeting	May 15 - July 15, 1987	1. Report 2. List of interviewees 3. Workshop matertials 4. Report 5. Report 6. Minutes
1. Completion of status review report 2. Selection of field sample (schools) 3. Design of interview instrument 4. Six days training for enumerators 5. Draft report on data needs for decision making 6. Prining of data coding sheets	July 15 - September 15, 1987	1. Report 2. Sampling 3. Interview instrument 4. Training materials 5. Report 6. Data coding sheets

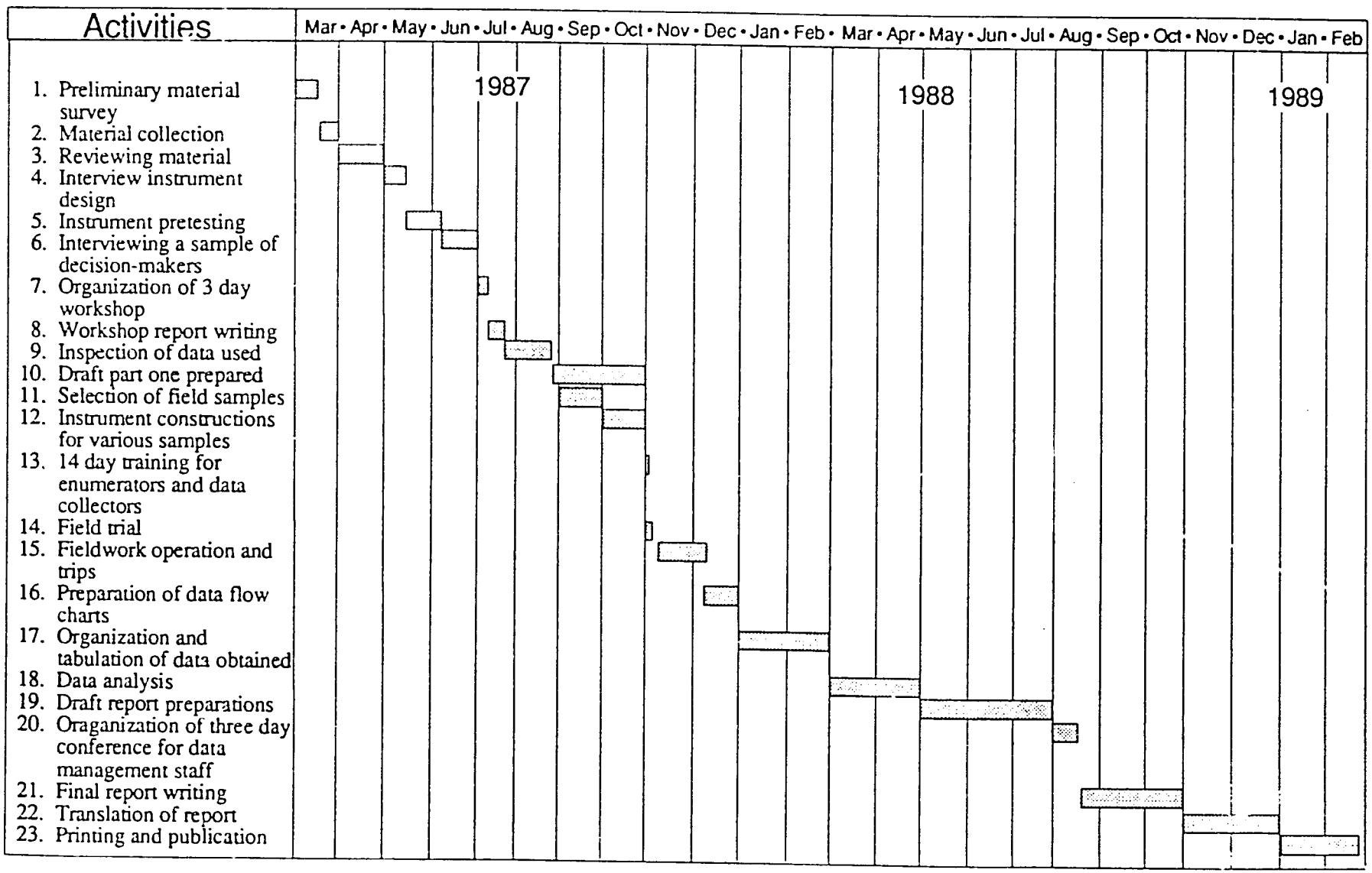
7.0 TWO-YEAR SCHEDULE OF ACTIVITIES

IEES Policy Research Initiative

Education Management Information Systems

Somalia

Schedule of Activities



IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

IEES POLICY RESEARCH INITIATIVE

Educational Management Information Systems

Proposal for the Study of

Education Management Information Systems

in the Yemen Arab Republic

NEPAL • SOMALIA • YEMEN ARAB REPUBLIC

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IMPROVING THE EFFICIENCY OF EDUCATIONAL SYSTEMS

POLICY RESEARCH INITIATIVE

Education Management Information Systems

A PROPOSAL FOR THE STUDY OF EDUCATION MANAGEMENT INFORMATION SYSTEMS IN THE YEMEN ARAB REPUBLIC

March 1987

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1.0 STUDY OVERVIEW

1.1 RATIONALE

The educational system in the Yemen Arab Republic is in a period of rapid expansion. Since 1980, school enrollments have increased over 235 percent and are expected to increase another 152 percent by the end of the decade. Such rapid growth poses a challenge to the Ministry of Education (MOE) in monitoring current activities and planning for future growth. Indeed, one constraint on the development of the Yemen educational system is the limited ability of the MOE to obtain and use current information for educational planning.

The MOE recognizes the need for more timely, accurate, and usable information to support planning and administrative decisionmaking. Improvement of the MOE Educational Management Information System (EMIS) is, therefore, a critical component for improving national educational planning.

1.2 OVERALL GOALS

The overall goals of the research outlined in this proposal are to improve the educational planning capability of the MOE through (1) systematic analysis of the Ministry's current use of educational data in planning, and (2) the development of a set of recommendations for improving the present system.

The analysis of the present MOE information system will include:

- tracing the flow of data through the system from the initial provider to the final user;
- identifying the information needs of key decisionmakers at various levels in the system;
- documenting the extent and type of educational data presently available;
- identifying existing information gaps between reported information needs and availability of data; and
- discussion of issues related to computer usage in managing and analyzing data at the MOE.

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1.3 PRODUCTS

Several products will be produced during and after the EMIS research study. The intermediate products include:

- statement of the problem, policy issues, and research questions;
- inventory of characteristics that influence the various aspects of the EMIS;
- procedures for collecting data on EMIS;
- description and analysis of current EMIS activities in Yemen;
- description and analysis of the perceptions of EMIS by various stakeholders;
- definition and description of critical features of an EMIS in Yemen.

The final products include:

- a final report;
- policy recommendations regarding EMIS in Yemen; and
- policy recommendations for EMIS systems in developing nations.

1.4 OUTCOMES

A prime intention of the Improving the Efficiency of Educational Systems (IEES) Policy Research Initiative is to improve the capabilities of research institutions in the collaborating countries. As a result of participation in this research initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

- policy research design
- construction of survey instruments
- data collection
- data analysis
- report preparation
- policy analysis
- project management
- collaboration in cross-national policy efforts

As a result of the research study in Yemen, it is expected that both the need for an efficient EMIS and the procedures necessary to meet that needd will be better understood.

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2.0 DEFINITION OF AN EDUCATIONAL MANAGEMENT INFORMATION SYSTEM

An effective EMIS must provide decisionmakers with information which is timely, relevant, reliable, and--most importantly--usable. The system should have the capacity to provide information in response to questions of routine importance and interest, as well as having the capability to meet specific information needs which may arise. A number of steps are necessary to develop an educational information system which will meet these criteria. First, the information needs of policymakers at various levels in the educational system must be identified. Step two involves the selection of appropriate indicators or variables which will meet those information needs. The third step involves the identification of the appropriate person(s) or source(s) from which the desired information may be obtained. Fourthly, it is necessary to develop procedures for collecting, coding, and storing the data. In step five, appropriate data analyses to answer the desired policy questions will be identified and performed. The final step involves the interpretation and reporting of results (in appropriate form) to the appropriate persons so that they may be applied to the policy issue under discussion. For systems which are computerized, decisions regarding hardware and software requirements are also involved. Additionally, personnel must be trained in computer usage and software applications. To the extent that any of these steps are missing, the utility of the EMIS may be severely limited in reaching the goal of effective and efficient information utilization for policymaking.

3.0 RESEARCH STATEMENT

3.1 PROBLEM STATEMENT

Yemen, typical of nations in a similar stage of development, has yet to develop an EMIS that satisfactorily meets the increasing information needs articulated by planners, policymakers, and practitioners. In order that the MOE

can move expeditiously toward establishing an efficient and comprehensive EMIS, it is necessary to complete a systematic analysis of: (1) data flow through Yemen's educational system; (2) information needs of policymakers; (3) educational data currently available; (4) information gaps between the needs of decisionmakers and the present availability of data. This research initiative is designed primarily to meet objectives identified above, and to develop a set of recommendations which, if implemented, will assist in improving the quality and availability of information for policy debate.

3.2 POLICY ISSUES

The Yemen Arab Republic (YAR) is presently faced with a number of key educaional policy issues which require extensive study and planning. Two of the most pressing are:

1. Meeting the needs of a rapidly expanding educational system; Primary school enrollment in Yemen has increased 269 percent over the last five years from 335,249 to 901,898 students. Likewise, the number of primary school teachers has risen 235% from 6,767 to 15,898 during the same period. Projections for the next five years suggest that this rapid growth will continue.

   As a result, the MOE is faced with the major task of providing districts with teachers, materials, and facilities. The MOE ability to systematically plan for the future is directly linked to its capability to attain reliable information in a timely fashion. It is anticipated that the results of this study will facilitate improved data collection and analysis.

2. Maximizing access to education within the fiscal constraints of the national budget.

If recent educational expenditure projections are correct, the educational sector in YAR will steadily claim an increasing proportion of the government's total recurrent budget. If, as expected, the rate of growth continues in this sector, it is estimated that the cost could constitute as much as 45% of the total recurrent government expenditures by 1992. Given the rapid expansion of education,

and increasing fiscal need in other sectors, it is most unlikely that such a high level of expenditure can be made.

The primary cause of the increase in recurrent costs is attributable to the expense of increasing the size of the nation's teaching force. The problem is exacerbated by the heavy reliance on expatriate teachers, whose payment has a direct impact on the country's hard currency reserves. In response to this concern, the YAR has begun to explore means to reduce the demand for non-Yemeni teachers while continuing to meet the increasing demand for teachers.

The success of the MOE in responding to these issues is limited by the ability of decisionmakers to attain accurate and current information. The proposed study of the current data management system and identification of existing and potential data requirements should result in recommendations that will assist in developing an EMIS that will permit the MOE policymakers to more effectively and efficiently plan to meet local, regional and national needs as they arise.

3.3 RESEARCH QUESTIONS

The overall goal of the EMIS study is to enhance national educational policy formulation in the YAR by improving the quality of information readily available to decisionmakers.

In order to reach this objective a number of broad research questions need to be addressed. They are:

1. What is the current status of the EMIS in YAR?
   - What kind of data are collected?
   - How are data collected?
   - When are data collected?
   - Who completes the data request?
   - Are the data verified?
   - What categories of information are requested but are unavailable?

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- Where are completed data request sent?
- How are the data analyzed?
- How is the information used at various levels in the system?

2. How effective and efficient is the present EMIS?
   - How timely are questionnaires received from schools?
   - To what extent are data collected but not utilized?
   - Do data needs exist which are not met? WHat are they?
   - How reliable are the data collected?
   - What type of information is most frequently incomplete, incorrect, or missing?
   - What problems constrain high quality data collection and use?
   - How long does it take to analyze and publish the results?
3. To what extent are data used in by MOE personnel?
   - What data are most frequently used?
   - For what decisions are data used?
   - What additional information is required to improve decisionmaking and planning?
   - Do decisionmakers perceive a need for modifications in the existing EMIS?

4.0 LIMITATIONS OF THE STUDY

As with all studies, limitations exist. The following is a discussion of the two primary limitations of the proposed EMIS study.

1. The EMIS study is restricted to certain levels of the educational system. Included in the study will be schools on the primary level, preparatory level, and secondary level. Other educational levels such as illiteracy programs, non-formal, and teacher training institutes are excluded.

2. The findings of this research may not be easily generalizable to countries other that Yemen because of the nation's unique characteristics.

5.0 METHODOLOGY

5.1 FORMAT OF THE STUDY

The study will be divided into six phases. Phase one will be the organization phase. The purpose of this phase is to organize and refine the specific project activities and develop a time table of completion dates. Activities in this phase include:

- Selecting staff
- Training staff
- Developing the sampling frame
- Developing an interview schedule
- Printing materials needed for the research
- Printing materials needed for the research
- Logistical arrangements
- Preparing an accounting system

Phase two is designed to map the data flow through the educational system. During this phase, information will be collected to trace the original data request from the MOE to the schools, as well as the flow of the data from the school level back to the MOE and other government agencies. The data collected will include the number of times information is transferred from one form to another, who records the information, when the informations is reported, and to whom. The activities in this phase include:

- Developing an interview protocol
- Interviewing persons at each level of the educational system
- Verifying the information
- Analyzing the data
- Developing an information flowchart
- Writing a report on information flow

Phase three involves a systematic analysis of the current educational management information system. The purpose of this phase is to determine the type of information currently available, the quality of these data, and how they are maintained and reported. Specific activities in this phase include:

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- Reviewing the literature on EMIS
- Compiling a bibliography of EMIS literature
- Hiring and training interviewers
- Developing an interview protocol
- Interviewing school personnel
- Coding and analyzing the data
- Reporting the results

Phase four will focus on the data needs of planners and decisionmakers. The purpose of this phase is to identify the information needs of decision makers, determine the gaps existing between data needs and availability, identify data redundancy, and document the problems encountered by MOE personnel in their use of data to formulate policy. Specific activities in this phase include:

- Developing a protocol for MOE personnel
- Interviewing MOE management staff
- Comparing data presently collected with information decisionmakers require
- Reporting the results

The purpose of phase five is to develop a set of recommendations regarding modifications of the present educational information management system. The activities in this phase include:

- Clarifying and confirming preliminary findings
- Identifying barriers in the present EMIS
- Reviewing recommendations with policymakers
- Finalizing recommendations

The sixth and final phase of this project involves information dissemination. The activities in this phase are:

- Drafting the final report
- Revising the final report
- Coordinating an in-country seminar to present and discuss the study
- Presenting the results at an international conference

5.2 SAMPLE AND SAMPLE SELECTION

Inclusion of all schools in the country is impossible due to both fiscal and time constraints. A typical procedure in conducting research is to select a sample in a manner which will be representative of the population as a whole. After

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consultation with the Statistics and Planning Office at the MOE it has been determined the 30 schools will be selected using a stratified random sampling procedure.

All schools in the country will first be stratified on three variables:

1. School Location - two levels, Urban, and Rural;
2. School Enrollment - three levels, Small, Medium, and Large, and
3. School Level - three levels, Primary, Preparatory, and Secondary.

Schools will then be randomly selected from each of the resulting 18 strata, yielding the 30 schools to be included in the study.

Urban and rural school location will be determined by local population densities determined for census data. School size will be determined by student enrollment figures. One-third of the schools with the largest enrollment will comprise large schools, 1/3 of the schools with the second largest enrollment will comprise mid-sized schools, and 1/3 of the schools with the smallest enrollment will comprise small schools. School level will be determined by MOE records. Schools having more than own level will be placed in each category. Thus, it would be possible for the same school to be selected twice (e.g., Urban/Large/Primary and Urban/Large/Preparatory).

6.0 MANAGEMENT STRUCTURE

6.1 MANAGEMENT STRUCTURE OVERVIEW

The management structure of the EMIS research project is presented in Figure 1. The project management structure consists of the following individuals:

1. Dr. Kassem Berihe is the Country Team Leader (CTL)
2. Mr. Hamud Naji is the Research Associate for Analysis
3. Mr. Ali Mohammed Al-Kouri is the Research Associate for System Status

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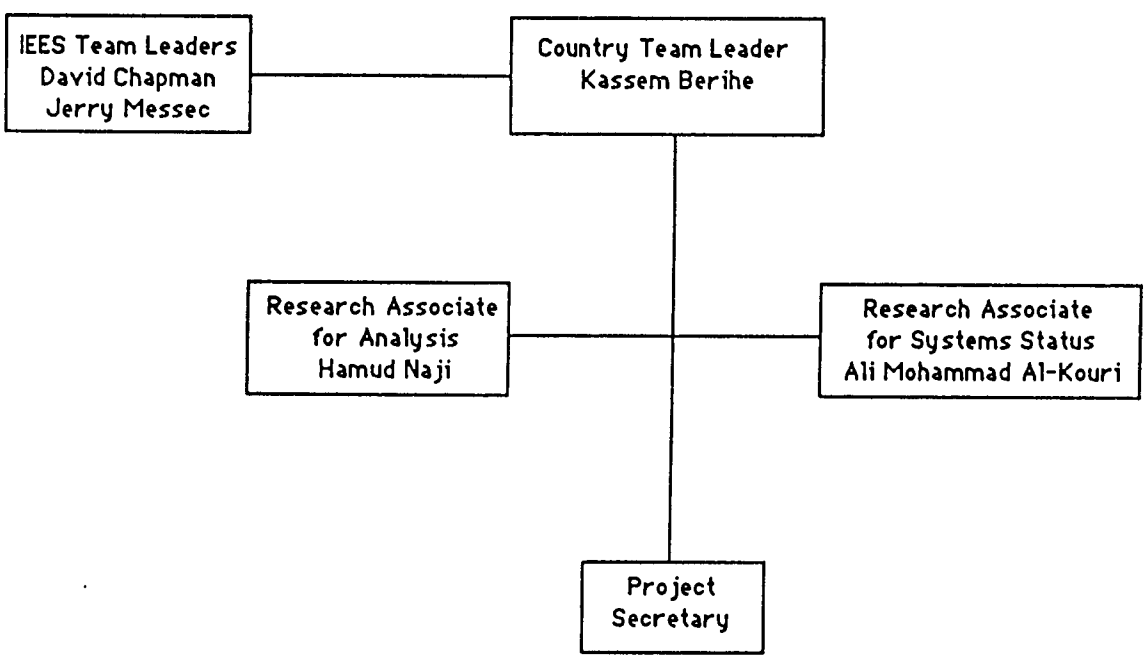
FIGURE 1

IEES POLICY RESEARCH INITIATIVE
Education Management Information Systems

Yemen Arab Republic



4. Project Secretary

5. Twelve interviewers for administering the questionnaire. (They will be university students)

6. Six data coders from the MOE

The management structure for the EMIS research places the CTL with the responsibility for managing and coordinating all aspects of the research project. Responsibility for implementation of specific research activities will be divided among the CTL and the two research associates. Each research associate will be charged with overseeing the completion of specific project activities under the supervision of the CTL.

The IEES Project is expected to provide needed technical and professional advice to the CTL. The assistance will include suggestions related to the research design, questionnaire construction, and data analysis. Reference materials on management information systems will also be provided.

6.2 RESPONSIBILITIES OF THE COUNTRY TEAM LEADER

The CTL will be Dr. Kassem Berihe. As country team leader he will devote 50% of his time to this project for a period of 24 months. Dr. Berihe will be responsible for:

1. Proposal Development - The CTL with collaboration from the IEES Project, has designed and developed the research proposal which includes: 1) a statement of the problem; 2) the research design, research questions, and an appropriate methodology; 3) the project management structure outlining the division of labor and responsibilities for project personnel; 4) proposed budget documenting cost for personnel, travel, materials, and report preparation.

2. Staff Supervision - The CTL is responsible for developing the selection criteria and hiring the 12 interviewers and six data coders. He will also coordinate the activities of the two research associates. The CTL assumes responsibility for the timely and acceptable completion of the project personnel's duties.

3. Deliverables - the CTL is responsible for submitting the intermediate and final products, previously described, to the IEES coordinators, David

Chapman and Jerry Messec. In addition, he assumes responsibility for completion and revision of the final report on the EMIS research initiative.

4. Cost Accounting - The CTL is responsible for developing a comprehensive project accounting system and will document and verify expenditures in each budget category and devise a procedure for reporting these expenditures to the IEES Coordinator on a eight-week basis.

5. Data Flow mapping Survey - the CTL is responsible for the activities related to the EMIS mapping activity. Specific responsibilities include:

    - hiring and training interviewers
    - developing, pilot testing, and revising interview protocol
    - o developing guidelines for conducting interviews
    - o developing a time table for data collection
    - o arranging logistical support for interviewers
    - o integrating the status report, interview report, and analysis report into the final report.

6. Information Dissemination - The CTL is responsible for writing and submitting interim reports as requested and the final report to the IEES Project, translated into English, at the completion of this study. In addition he will coordinate an in-country conference, at which time the results of the research effort will be presented. The CTL, in collaboration with the IEES Project will present the results of the study and the suggested recommendations at an international conference hosted by the IEES Project.

6.3 RESPONSIBILITIES OF THE RESEARCH ASSOCIATE FOR STATUS REVIEW

Mr. Ali Mohammed Al-Kauri, who presently works in the Planning Office at the MOE, will be the Research Associate for Status Review. Mr. Al-Kauri's level of effort will be 50% for a period of six months. The responsibilities of the position are as follows:

1. Summarizing the History of EMIS - The Research Associate for Status Review will be responsible for documenting the development of EMIS in the YAR. This activity will provide a historical account of earlier data management procedures, documentation of reasons why an EMIS is thought to be needed, and the identification of the internal and external sources of support for improving the EMIS in YAR.

2. Describing Current Organization of EMIS - The Research Associate for Status Review will be responsible for identifying the present organization of the EMIS in Yemen. This activity will identify persons at the MOE who are responsible for data management, their level of training, how the data is reported and to whom, and how an EMIS fits into the administrative structure of the Ministry of Education.

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3. EMIS Utilization - The Research Associate for Status Review will be responsible for identifying and documenting the present use of information by planners, policy makers, and practitioners. This will include the ways in which educational data are used to monitor progress, develop policy, and plan for the future.

4. Report Preparation - The Research Associate for Status Review will be responsible for writing and revising a final report on the current status of EMIS in YAR.

In all of these activities the Research Associate for Status Review will receive support, assistance and guidance from the CTL.

6.4 RESPONSIBILITIES OF THE RESEARCH ASSOCIATE FOR ANALYSIS

Mr. Hamud Naji, Head of the Planning and Statistics Office at the Ministry of Education will be the Research Associate for Analysis. He will devote 50% of his time to this project for a period of 24 months. His responsibilities relate to the data analysis of this research projects. Specific activities include:

1. Train Data Coders - The Research Associate for Analysis will be responsible for developing and conducting a training program for the 12 data coders. The purpose of the program is standardize the data collection procedures.

2. Monitor Data Collection - The Research Associate for Analysis is responsible for the accurate data collection by the twelve interviewers. As part of this responsibility, he will make field decisions regarding data collection, ensure acceptable data collection procedures are followed, and verify the accuracy of the information collected.

3. Analysis of Interview Data - The Research Associate for Analysis will be responsible for developing a data coding system, supervising the data coding, and analyzing the interview data.

4. Report Preparation - The Research Associate for Analysis will draft and revise a report on the EMIS survey. The report will include sections on the training of the data coders, survey design, data collection techniques, data analyses, and results.

5. Final Report Preparation - The Research Associate for Analysis will assist the CTL in drafting the final project report. His primary responsibility will be to integrate the status and analysis reports into the final report.

In all of these activities the Research Associate for Analysis will receive support, assistance, and guidance for the CTL.

6.5 RESPONSIBILITIES OF OTHER STAFF

1. Project Secretary - The Project Secretary will be responsible to the CTL for all clerical duties associated with the research project. Specific duties include: typing of questionnaires, training materials, recording and filing project expenditures and assisting the CTL with logistical arrangements. The project secretary will work for 24 months at 50% time.

2. Interviewers - Twelve college students will be employed each for 10 days. They will conduct the school site visits and record the desired school level information. The interviewers will report to the Research Associate for Analysis.

3. Data Coders - Six data coders will be hired for six days each to coded the school level data and assist the Research Associate for Analysis in the analysis and reporting of results.

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7.0 PROPOSED BUDGET

Personal Services Contract Personnel	
Country Team Leader (24 mos @ .5 FTE)	US$12,121.20
Research Associate for Analysis (24 mos @ .5 FTE)	5,505.04
Research Associate for Status Review (6 mos @ .5 FTE)	1,376.26
Project Secretary (24 mos @ .5 FTE)	4,040.40
TOTAL PERSONAL SERVICES CONTRACT PERSONNEL	23,042.90
Other Personnel	
12 Interviewers (2 days training plus 8 days in field @ 25.25 per day)	3,030.30
6 Data Coders (2 days training plus 6 days coding @ 16.83 per day)	808.08
TOTAL OTHER PERSONNEL	3,838.38
Materials and Supplies	
Office supplies	1,056.39
Equipment rental (1 typewriter for 24 mos)	974.32
TOTAL MATERIALS AND SUPPLIES	2,030.71
In-Country Travel	
Country Team Leader	
Air travel (4 trips @ 43.35 per trip)	173.40
Land travel (12 trips @ 70.28 per trip)	843.43
Research Associate (data collection)	
Air travel (4 trips @ 43.35 per trip)	173.40
Land travel (12 trips @ 70.28 per trip)	843.43
Interviewers	
Land travel (48 trips @ average 25.25 per trip)	1,212.00
TOTAL IN-COUNTRY TRAVEL	3,245.66

Per Diem

Country Team Leader (26 days @ 33.67 per day)	875.42
Research Associate (Data Collection) (26 days @ 33.67 per day)	875.42
Interviewers (12 persons for 16 days @ 33.67 per day)	6,464.64
TOTAL PER DIEM	8,215.48

Translation

Status Report (100 pages @ 8.42 per page)	842.00
Survey forms (4 forms of 12 pages each @ 8.42 per page)	404.16
Final Report (200 pages @ 8.42 per page)	1,684.00
TOTAL TRANSLATION	2,930.16

Photocopying

Status Report (20 copies of 100 pages @ .15 per page)	300.00
Survey forms (200 copies of 48 pages @ .15 per page)	1,440.00
Final Report (20 copies of 200 pages @ .15 per page)	600.00
TOTAL PHOTOCOPYING	2,340.00

Special Studies (as identified)

Special Studies	2,500.00

Contingency Funds

Contingency Funds	1,856.71

GRAND TOTAL	50,000.00

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Personal Services Contract Payments

Position	Person	Annual 1. FTE	Daily 1. FTE	Monthly .5 FTE	MOS	Total .5 FTE
Country Team Leader	Kassem Berihe	12,121.20	46.62	505.05	24	12,121.20
Research Assoc --- Analysis		5,505.04	21.17	229.37	24	5,505.04
Research Assoc --- Status		5,505.04	21.17	229.37	6	1,376.26
Proj Secretary ---		4,040.40	15.54	168.35	24	4,040.40

FIRST YEAR QUARTERLY ESTIMATE OF NON-PSC EXPENDITURES

Qtr No.	Dates	Year	Estimated non-PSC Expenditure
1.	March 15-June 15	1987	US$2,180.27
2.	June 15-September 15	1987	353.70
3.	September 15-December 15	1987	4,787.56
4.	December 15-March 15	1988	5,652.30

TOTAL FIRST YEAR ESTIMATE OF NON-PSC EXPENDITURES:12,973.83

Total Budget: US$50,000.00
Total PSC: 23,042.90
Total Non-PSC: 26,957.10

IEES Policy Research Initiative

Education Management Information Systems
Yemen Arab Republic

First PSC Period
March 1987 - February 1988

First Quarter

Activities	Date	Deliverable
1. Logistic arrangements	March - May 1987	1. Report on logistic arrangements and accounting system
2. Accounting system		2. Interview protocols for a. school level b. government level c. central level
3. Developing interview protocol mapping data flow (school level, government level and central level)		3. Report on the pre-testing results of the interview protocol (determine data flow)
4. Pre-testing of the three level interviews		

Second Quarter

Activities	Date	Deliverable
1. Development of an interview protocol for delivering what data is now available	June - August 1987	1. Interview protocol for available data
2. Reviewing of currently available data		2. List educational data currently available
3. Analyze available data		3. Final report of study of what data is available to decision makers
4. Write report on what data is available to decision makers		4. List of staff of data flow mapping
5. Select staff for data flow mapping		5. Materials for training and report of training staff for data flow mapping
6. Train staff for data flow mapping.		6. Budget report

Third Quarter

Activities	Date	Deliverable
1 Write revisions to final status report of what data is available	September - November 1987	1. Revisions to report on the study of what data is available
2. Conduct interviews at the school level (data flow)		2. List of interviews conducted

Fourth Quarter

Activities	Date	Deliverable
1. Conduct interviews at the governmental and central level (data flow)	December 1987 - February 1988	1. Draft report on data flow
2. Collect and analyze the data flow activity		2. Analyze data flow interviews
3. Code and analyze the data flow		3. Budget report
		4. Final report on data flow activities

IEES
POLICY RESEARCH INITIATIVE

Teacher Incentives Project

Initial Research Design Meeting

Sana'a, Yemen Arab Republic

November 22 - 26, 1986

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IEES POLICY RESEARCH INITIATIVE
TEACHER INCENTIVES PROJECT

GOALS, PRODUCTS, AND OUTCOMES

The overall goal for the teacher incentives project is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to strengthen the teacher incentive system to achieve improved recruitment, increased retention, and effective instruction and, thereby, improve the quality of education in the nation's schools.

DESIGN REQUIREMENTS

In the proposed structure for IEES policy research initiative, Windham lists the following five structural design requirements. Each requirement will be met in the teacher incentives project:

- Collaboration - host country participants are to be full partners in the design, conduct, and evaluation of all IEES research activities.

- Comprehensiveness - IEES research activities will be designed and conducted within the context of the full EHR system and with attention to the wider social and economic determinants of EHR policy development.

- Coordination - the research projects will attempt to promote coordination among the IEES countries, within and among government agencies, and between the IFES project and other major development initiatives within the donor community.

- Continuity - through the utilization of the resident technical advisors, the recurrent use of IEES and host-country personnel, and the establishment of an integrated research management structure, the project will establish and maintain its commitment to each of the selected research topics.

- Conceptual base - the research activities of the IEES Consortium will be informed by a common methodology that will be designed, implemented, and evaluated through the joint efforts of IEES and host-country personnel.

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PRODUCTS

Several products will be produced during and after the teacher incentives project. Here are the expected intermediate products:

- Preliminary statement of the problem, policy issues, and research questions.
- Inventory of system characteristics that affect teacher incentives.
- Design for policy research studies on teacher incentives.
- Recommended research procedure.
- Sample questionnaires for collecting data on teacher incentives.
- Guidelines and budget worksheets for coordinating the study.
- Preliminary review of literature on teacher incentives.
- Bibliography of the literature on teacher incentives.
- Descriptions and discussions of major teacher incentive strategies.
- Descriptions and analyses of current incentives and disincentives in each cooperating country.
- Descriptions and analyses of the current policy-making mechanisms in each cooperating country.
- Descriptions and analyses of the perceptions of teacher incentive systems by different stakeholders.
- Definition and description of critical features of teacher incentives systems.
- A procedural model for improving teacher incentive systems.
- A glossary of terms related to teacher incentive systems.

Here are the expected final products:

- Final report on each country study.

- Policy recommendations regarding teacher incentives for each country.

- Final report synthesizing the finding from the three countries.

- Policy recommendations for teacher incentive systems in developing nations.

- Report and recommendations on conducting cross-national policy research studies.

- Updated review of the literature on teacher incentives.

OUTCOMES

A major objective of the policy research initiative is to improve the capacities of research institutions both in the host countries and among the members of IEES Consortium. As a result of participating in this research initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

- Policy research design

- Construction of survey instruments

- Data collection

- Data analysis

- Report preparation

- Policy analysis

- Project management

- Collaboration in cross-national policy research initiatives.

What Is a Teacher Incentive System ?

The dictionary defines an incentive as "that which encourages action." An *incentive* (or a reward or a reinforcer) is anything that influences people to act in certain ways. An *incentive system* is a collection of reinforcers and a set of procedures for using them. Institutions use these systems to motivate their employees. A *teacher incentive system* is used by educational institutions to motivate teachers to efficiently carry out their responsibilities.

Common Elements of a Teacher Incentive System

All incentive systems, by definition, should have the seven common elements listed in Figure 1. Each common element is briefly discussed below with reference to teacher incentive systems.

Common Elements	Intentional nature
	External source
	Target employees
	Target tasks
	Incentives
	Relationships
	Standard procedure

Fig. 1. Common Elements

Intentional nature. Most actions of an employee at work is followed by consequences that reward and punish the employee. Some of these consequences are deliberately designed to improve the employee's performance (e.g., bonus for regular attendance or fines for being absent) while others (e.g., praise from a customer or complaints from the public) do not have such intent--even though they may also affect the employee's performance. All incentive systems should provide rewards with the intention of influencing employee performance. In a teacher incentive system, for example, an annual salary increase may be used to maintain the teacher's classroom performance and an educational allowance, to improve it.

External source. Consequences of professional activities can be classified into four categories according to the source of incentives:

- internal to the employee (e.g., sense of accomplishment, feeling of pride, increased self confidence)
- internal to the group of workers (e.g., approval of colleagues)
- external, from clients or customers (e.g., appreciation letter from a satisfied customer)

- external, from higher levels of administration (e.g., praise from a supervisor or increased salary from the employer)

While effective incentive systems take into account incentives from all four categories and attempt to systematically organize the latter three, all incentive systems should employ the category of external incentives, from higher levels of administration. Thus a teacher incentive system should specify incentives from headmasters and educational officers.

Target employees. All incentive systems should identify a specific group of employees who are to receive the incentives. Clear identification of the employees will permit us to select the most appropriate incentives and procedures. In the case of a teacher incentive system, the target employees are obviously teachers. In a comprehensive system, we may include the administrators (e.g., headmasters) and support staff (e.g., librarian).

Target activities. All incentive systems should identify specific activities and work performances to be rewarded. This will permit us to reward the most critical and desirable activities. In a teacher incentive system, for example, such specific tasks could include coming to school on time and preparing lesson plans.

Set of incentives. All incentive systems should obviously include a set of incentives for rewarding the employees for performing the specific activities. In a teacher incentive system, monthly salaries and community recognition are two examples of such incentives.

Relationships. All incentive systems should have a logical relationship among the target employees, target activities, and the set of incentives. The incentives should be suitable for the type of employees and should be capable of influencing the target activities. For teachers, for example, a monetary bonus for regular attendance is an effective incentive for coming to school.

Standard procedure. All incentive systems should specify a set of rules to determine such things as who is to be rewarded by whom with what incentives and how often. For example, a standard procedure in a teacher incentive system may require that the teacher who was absent for the least number of days during the school year will receive a bonus payment from the District Educational Officer during the Founder's Day celebration.

Variable Elements of a Teacher Incentive System

While all incentive systems should include the seven common elements identified above, different types of incentive systems may be designed to meet different needs. Elements of incentive systems which may vary from one institution sto another are also listed in Figure 2. Each variable element is briefly discussed below.

Comprehensiveness of the system. Incentive systems may differ with respect to the number of factors they attempt to organize and to control. Professional activities are followed by positive and negative consequences which determine the morale of employees. As we saw earlier, some of these consequences are internal to the employee (e.g., sense of accomplishment), internal to the group (e.g., approval from colleagues), external from customers (e.g., letter of appreciation from a satisfied client), and external from supervisors and employers (e.g., salary raises). At a minimum, incentive systems should organize and control the last category of consequences. They may also attempt to identify, organize, and control the earlier categories. A simple teacher incentive system may specify the procedure for salary scales and steps. A comprehensive teacher incentive system will mobilize such factors as employee motivation, collegial relationship, and participation by students, parents, and the community.

Level of employees. Incentive systems may be established for employees at various levels ranging from the lowest peon to the highest executive. Teacher incentive systems may include different types of teachers with different levels of educational background and experience. It may also include administrators in the school (e.g., headmaster) and support personnel (e.g., librarian).

Subgroups. Incentive systems may treat all employees the same or provide different rewards for specific subgroups. In teacher

Variable Elements	Comprehensiveness of the system
	Level of employees
	Subgroups
	Individuals or groups
	Maintenance or improvement of performance
	Performance or results
	Types of incentives
	Positive or negative incentives
	Number of incentives
	Direct and indirect relationships
	Comprehensiveness of the incentive procedure
	Number of incentives
	Direct and indirect relationships
	Comprehensiveness of procedure

Fig. 2. Variable Elements

incentive systems, for example, those working in remote rural areas may receive a hardship allowance which is not paid to teachers in cities; teachers of mathematics and science may receive additional rewards compared to those teaching other subject areas.

Individuals or groups. Incentive systems may reward individual employees or groups. Teacher incentive systems, for example, may reward the single teacher who produced the best results in a national examination or the entire staff for the same achievement. The effects of individual and group incentives differ not only with respect to the target activities but also with respect to the levels of cooperation and competition among teachers.

Type of activity. Incentive systems may be used to influence a variety of physical, intellectual, and social activities. In teacher incentive systems, the activity being rewarded can be a one-time task (such as joining the teaching profession) or repetitive task (such as teaching in the classroom every day).

Maintenance or improvement of performance. Incentive systems may focus on maintaining a behavior (such as coming to work regularly) or on improving it (such as becoming more efficient). Examples from teacher incentive systems include maintaining the behavior of keeping records of student absence and improving the behavior of writing lesson plans. In general, incentives required for maintaining

a behavior usually differ from those required for improving it.

Performance or results. Incentive systems may reward the employee's performance or the outcomes of such performance. For example, teacher incentive systems may reward the classroom performance of the teacher or the learning gains of his or her students.

Types of incentives. Incentive systems may use a variety of rewards. These may include direct monetary incentives such as salary, allowances, and bonuses; indirect monetary incentives such as free housing or meals; and nonmonetary incentives such as job satisfaction, professional support, and recognition in the community. The types of incentives which may be included in a teacher-incentive system are listed in Figure 3.

Positive or negative incentives. In addition to rewarding employees for desirable activities, incentive systems may punish people for undesirable activities. These punishments are called disincentives. For example, in a teacher incentive system, those who are frequently absent may have a part of their monthly pay withheld; others whose students perform poorly in the examinations may be reprimanded by the headteacher.

Number of incentives. Incentive systems may include any number of incentives. Most systems attempt to influence employee activities through the control of salaries. However, the more incentives a system brings within its control, the more effective it is likely to be. Successful teacher incentive systems incorporate a variety of monetary and nonmonetary incentives.

Direct and indirect relationships. Some incentive systems may direct link the rewards to specific activities or result. For example, teachers may be given a bonus based on the number of days they come to school or on the number of students passing an external examination. Other incentive systems may have less direct links between teacher activities and the rewards. For example, teachers may receive an annual increase in their salaries whether or not they have performed efficiently during the school year. In general, clear-cut links between activities and rewards are more effective in improving employee performances.

Comprehensiveness of the incentive procedure. Incentive systems may differ in the level of detail of the specification of their standard procedures. For example, one system may merely state that a trophy is to be awarded to the most outstanding employee while another may specify such details as which group of employees are eligible, what criteria are used for judging their activities, which judges will select the most outstanding employee, what form the award will take, how frequently it will be given, and so on. Clear, specific, and public information will ensure the effectiveness of the incentive system.

Critical Elements of an Effective Teacher Incentive System

A teacher incentive system may include all the common elements and could still be ineffective. In the discussion of the variable elements, we identified certain factors that appear to contribute to the effectiveness of incentive systems. From our analyses of different types of teacher incentive systems, especially those for primary schools in developing countries, we have identified five critical elements that are associated with effective results. These five are listed in Figure 4 (page 6) and discussed below.

Efficiency. Efficiency refers to the least costly method of achieving a particular goal or the most productive method of using a given amount of resources. To be efficient, an incentive system should contain clear statements of both goals and means. The system should also have consistency between the goals and the means: For example, the goal of recruiting talented youth to primary school teaching can be achieved only if such means as compensations are comparable to those provided by alternative employment opportunities in other sectors. Further, there should be consistency among the means used to achieve different goals of the teacher incentive system. For example, the promise of automatic college entrance after two years of primary school teaching may be a powerful means for achieving recruitment goals.

- Access to administrative information
- Additional teaching job
- Ample supplies
- Beginning salary
- Bonus for regular attendance
- Bonus for student achievement
- Cafeteria in the school
- Community recognition
- Community support
- Compatible colleagues
- Compatible management
- Cost-of-living allowance
- Distance education
- Educational allowance
- Evening classes
- Examination grading job
- Examination supervision job
- Family allowance
- Free books
- Free housing
- Free meals
- Free periods
- Good blackboards
- Good textbook
- Hardship allowance
- Health insurance
- High status in the community
- High-ability students
- Housing near school
- Increased school enrollment
- Inservice training
- Instructional materials
- Job in the Ministry of Education
- Job on educational projects
- Library facilities
- Life insurance
- Low-interest loans
- Medical assistance
- Merit pay
- National awards for teaching excellence
- Paid leave
- Participation in student promotion decisions
- Part-time job
- Participation in decisionmaking
- Pension
- Performance appraisal
- Playground facilities
- Plot of land
- Political recognition
- Positive collegial relationship
- Positive home-school relationship
- Professional conferences
- Project grants
- Recognition by headmaster
- Reduce number of dropouts
- Regularity of salary payments
- Respect from students
- Salary
- Salary increases
- Salary scales
- Scholarship
- Sharing of incentives
- Sick leave
- Small class size
- Small number of students
- Student selection
- Subsidized housing
- Subsidized meals
- Suitable school calendar
- Suitable school schedule
- Suitable teaching load
- Supervisory guidance
- Teacher's room
- Teacher-community compatibility
- Team spirit among teachers
- Textbook writing job
- Training allowance
- Transportation allowance
- Transportation facilities to school
- Travel allowance
- Tutoring job
- Useful teacher's guides
- Useful teaching aids
- Well-behaved students
- Well-furnished classrooms
- Well-lighted classrooms

Fig 3. Sample Incentives for Teachers

Critical Elements	Efficiency
	Equity
	Adequacy
	Professional support
	Career growth

Fig. 4. Critical Elements

However, it is an incompatible means for achieving the equally important retention goal of keeping primary teachers in classroom service for at least five years. Responsibilities for recruitment and retention are usually the domains of different units within the Ministry of Education. Unless administrators interested in achieving these different goals work together to ensure internal consistency, the results will be counterproductive.

Equity. Incentive systems only work if they are perceived as fair. Equity requires similar incentives for equals and different incentives for unequals. In teacher incentive systems, employees may be differentiated in terms of levels of education, experience, and scope of responsibility. Thus secondary graduates are generally paid a higher salary than primary graduates, experienced teachers are paid a higher salary than beginning teachers, and headteacehers are paid a higher salary than regular teachers. However, many teacher incentive systems are ineffective because they ignore the troublesome task of differentiating among so-called "equals." If all teachers with the same training and experience receive the same compensation but some work harder than others, morale will deteriorate. A number of solutions have been offered to this problem. The first is to compensate teachers on the basis of the success of their students on examinations. Technical problems related to measuring the value added by a particular teacher, as well as the temptation to teach to a particular test rather than for acquisition of a broad range of cognitive and affective goals make it difficult to effectively employ this solution. More acceptable approaches involve recognizing individual teachers' contributions to the school, regular attendance, and effort.

Adequacy. An effective incentive system should provide adequate compensation for the employees. The concept of adequate compensation is a relative one. It is defined by the opportunity costs related to choosing a particular profession. If alternative employment opportunities are available which provide higher salaries and status, then individuals would prefer them to the teaching profession. While few nations can successfully compete against the salaries offered by private sector employers, many can offset the disincentive of low salaries by providing free or subsidized housing, food, or transportation. In addition to indirect monetary incentives, nonmonetary incentives may be designed to effectively enhance the overall compensation package. Exemption from military service, choice of location for the next assignment, and recognition of effort and excellence are examples of nonmonetary incentives.

Professional support. An effective incentive system should provide the facilities, tools, materials, and guidance for carrying out professional responsibilities. Job satisfaction, which is related to conducive environments and to participatory decisionmaking, is a major motivator in all professions. In teacher incentive systems, such job factors include those items listed in Figure 5.

WORKLOAD

- Appropriate teaching load
- Appropriate administrative workload
- Appropriate extracurricular workload
- Fair distribution of workload
- Suitable school schedule
- Suitable annual calendar
- Released time

PARTICIPATION IN SCHOOL MANAGEMENT

- Access to administrative information
- Participation in management decisionmaking
- Participation in student promotion decisions
- Participation in student assignment decisions
- Participation in classroom assignment decisions
- Participation in subject-area assignment decisions

STUDENTS

- Respectful students
- Responsible students
- High-ability students
- Students of similar age range
- Low student absenteeism
- Low student dropout rate

COLLEAGUES AND SUPERVISORS

- Regular performance appraisal
- Feedback and guidance from headmaster
- Recognition by headteacher
- Regular classroom inspection
- Feedback and guidance from school inspectors
- Recognition from school inspectors
- Frequent visits from community leaders
- Recognition from community leaders
- Team spirit among teachers
- Compatible colleagues

OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

- Inservice training workshops
- Evening classes
- Distance education
- Staff meetings
- Professional conferences

SCHOOL LOCATION

- Housing near school
- Meals at school or near school
- Transportation facilities near school
- Medical facilities near school
- Postal facilities near school

SCHOOL FACILITIES

- Preferred size of school
- Preferred type of school
- Well-furnished teachers' room
- Adequate school library
- Adequate playground facilities

CLASSROOM FACILITIES

- Large classroom
- Good lighting in classroom
- Good ventilation in classroom
- Good roofs and walls in classroom
- Adequate furniture
- Ample blackboards
- Ample classroom supplies
- Good textbooks
- Useful teacher's guides

Fig. 5. Teacher Support Factors

Career growth. An effective incentive system should provide opportunities for promotion and professional development. Educational systems with few such opportunities are perceived as dead-ends. Teachers who work in such systems often invest more of their energy in looking for other jobs and in attempting to obtain release from the teaching service than in developing their teaching skills or in contributing to school improvement. Opportunities for promotion provide effective incentives, but promotions should carry not only more status but involve greater rewards. Similarly, professional development activities should clearly result in improved skills, increased status and enhanced benefits. The selection process for the distribution of promotion and professional-development opportunities should be clearly explained and perceived as fair. Teachers should be involved in specifying and implementing this process.

Conclusion

Teachers are the most important resource governments provide to schools. Where teachers are well-motivated, competent in the presentation of curriculum, and able managers of other classroom resources, students attend regularly and learn. By the same token, where teachers are distracted from their task by the need to supplement their income, have little in the way of collegial and materials support, and are unprepared to manage heterogeneous groups of students, little learning takes place. An effective incentive system can go a long way toward improving teacher motivation and morale and hence the quality of education.

How To Improve a Teacher Incentive System

An incentive system consists of (1) a set of inducers, facilitators, and rewards and (2) a set of implementation procedures designed to increase institutional effectiveness. All educational systems have a teacher incentive system: Salaries and instructional materials (a teacher's "tools") are examples of monetary and nonmonetary incentives, respectively, intended to induce individuals to join and remain in the teaching force and facilitate their effectiveness in the classroom. All educational systems also have procedures for the distribution of incentives , if only by default.

Not all teacher incentive systems, however, are equally effective. Some evolve as a result of ad-hoc policies of educational administrators responding to meet some special demand (such as teachers in remote regions) or in reaction to some special situation (such as a recruitment in times of teacher shortages). This type of crisis approach often results in teacher-incentive systems that are inefficient and inconsistent. Any teacher incentive system can be improved, however, by analyzing the goals and means and by bringing more of the factors related to teacher performance under systematic control.

This paper presents a procedural model for improving teacher incentive systems. The model synthesizes effective practices reported in the literature on incentive systems in general and teacher incentive systems in particular.

There are two basic requirements for any attempt to improve the existing teacher incentive system (or to design a new one): The procedure used should be both systemic and systematic. A systemic procedure looks at the total incentive system rather than at a specific component (see the list of teacher incentives categorized by type in the Inventory of Teacher Incentive Variables). The systemic procedure requires careful consideration not only of monetary incentives but also the nonmonetary ones. It takes into account the formal and the informal incentives provided by the national government, the regional government, and the local community. It examines the complete employment cycle of a teacher, beginning with recruitment and proceeding through preservice training, assignment, probation, promotion, and termination. It takes into account the goals of recruitment, retention, and instructional efficiency. It explores and integrates the administrative, budgeting, training, and implementation components. It focuses on the needs of different regions, different types of teachers, and different curricular areas.

It is difficult to keep track of all the different variables in the systemic approach without a systematic approach. An overview of a systematic procedure is shown as Figure 1.

As Figure 1 indicates the three major stages in improving a teacher incentive system are analysis, development, and implementation. The figure implies that these stages are discrete activities following each other in a linear fashion. In reality, however, the stages frequently merge with each other, occur simultaneously, and require revision of earlier activities.

During the analysis stage, system needs and characteristics are examined, summarized, and prioritized. Different types of analysis help identify which incentives are best suited for which type of teachers to achieve which goals. The results of the analysis activities is a set of goals and objectives for the teacher incentive system.

During the design stage, the incentives and strategies most likely to achieve efficient, equitable, and adequate results are selected.

Analysis	Project team formation
	Needs analysis
	Policy analysis
	Systems analysis
	Target population analysis
	Task analysis
	Incentive analysis
	Goals specification
	Review and revision
Design	Strategies selection
	Research and revision
	System specification
	Documentation
	Review and revision
	Pilot testing
Implementation	Implementation design
	Information dissemination
	Manuals preparation
	System installation
	System maintenance
	Institutionalization

FIGURE 1. A PROCEDURAL MODEL FOR INCENTIVE SYSTEMS

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Standard procedures governing the distribution of incentives are documented. The result of this stage is a prototype version of the revised teacher incentive system. During the implementation stage, this revised system is installed in the educational system. This involves planning, training, implementing, troubleshooting, evaluating, and adapting it to better achieve its goals, and institutionalizing the new procedures through revision of rules and regulations.

In most systems-approach models (of which the model shown in Figure 1 is a variant), evaluation is included as a separate and critical stage, usually between the design and the implementation stages. In our model, evaluation is treated as a continuous, built-in component in all three stages: For example, in the analysis stage, the initial statement of goals and objectives undergoes a critical review and revision. Similarly, in the design stage, the teacher incentive system is piloted and revised on the basis of the evaluation data. Finally, in the implementation stage, data on the effects of the system are continuously collected and used to maintain its cost-effectiveness.

ANALYSIS

The nine steps in the analysis stage of the model are listed in Figure 1 (page 2). Each step is briefly discussed below.

Project Team Assembly.

During this step, a project team is formed which will take primary responsibility for analyzing the existing teacher incentive system and for designing and implementing an improved version. Consultants and teachers are identified to provide feedback to the team on the attractiveness of alternative proposals. The number and type of people both on the project team and consulting with it will depend on the scope and the budget for the project.

Guidelines

- The team should include policymakers, researchers, and economists. Make sure all team members are familiar with the educational system, curriculum, teacher training program, and administrative regulations.
- Once the team is established, ask its members to identify an interdisciplinary group of consultants. The division of responsibilities between the project team and consultants will depend on the scope of the project. Ask the team to identify suitable representatives from the target population (e.g., different types of teachers) and implementers (e.g., Ministry of Education personnel, District Educational Officers, and headmasters).
- Improving the existing incentive system is a political and sociological activity. To ensure comprehensive collection of inputs, ask the project team to select representative stakeholders--people who are likely to be directly or indirectly affected by the changes in the incentives system (such as students and parents) and people who are likely to influence the policy (such as legislators, journalists, and civil service administrators).
- Brief all consultants and representatives on the purpose and the process of the project so that they could participate productively at appropriate stages.

Needs analysis.

During this step the various needs for improving the teacher incentive system are identified, defined, and arranged in order of priority. The result of this step is a prioritized list of different types of needs.

Guidelines

- Even the most powerful incentive system will be ineffective if certain basic needs in the educational system are fulfilled. For example, an incentive system cannot be used in lieu of an instructional system for training teachers. Hence, the first step in the needs analysis involves checking to see if there are major deficits in

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other areas of the educational system that would impair the efficiency of the incentive system.

- The next step is to identify the main goals for improving the incentive system. In general, the goals for a teacher incentives system falls within the three categories of recruitment, retention, performance improvement. Recruitment involves attracting more and better candidates to enter the teaching force. Retention involves encouraging better teachers to stay in the teaching profession for a longer time (and encouraging marginal teachers to leave the profession). Performance improvement involves motivating teachers to become more efficient and effective in producing learning among students. In some countries, some regions (e.g., remote rural areas), some schools (e.g., for nomadic children), and some situations (e.g., low enrollment of girls), the major problem may be a lack of teachers. Then the primary need for the incentive system is recruitment. In other cases, teachers turnover may be the major problem. This suggests retention as the primary need. In some other cases, low quality of education may be the major problem. This suggests the need for improving teacher effectiveness which may range from encouraging them to come to school regularly to enabling them to be more competent teachers.
- Another set of needs for the teacher incentive system is related to its equity. The system should have both horizontal equity--same incentives for performing the same job--and vertical equity--different incentives for different levels of effort (e.g., part time versus full time teachers), different types of environments (e.g., urban classrooms versus remote-area classrooms), different levels of experience (e.g., beginning teachers versus teachers who have been in the school for 10 years), and different educational attainments (e.g., primary school graduates versus secondary school graduates). Pinpoint the situations where the incentive system could be implemented in a more equitable fashion.
- Summarize the results of this step by clearly defining the various needs in order of priority

Policy analysis.

The improvement of a centralized incentive system for all teachers in a country usually involves major changes in the governmental policy. Even improving the incentive system in a small private primary school involves policy changes. In this step of policy analysis, the administrative framework by which policies are developed, revised, and implemented is examined. The results of this analysis ensure that the improved incentive system will meet the requirements of acceptable policy and will not contradict existing policies or explicit regulations.

Guidelines

- Incentive system policies are likely to be related to other policy areas such as guaranteed employment, civil service regulations, and the role of teachers in national development. Identify the context within which teacher incentive policies (especially monetary incentives) are to be studied.
- Analyze the history of the current legislation regarding the salaries and other incentives for the teachers.
- The Ministry of Education and other Ministries (such as Finance and National Planning) have formal and informal policies affecting the incentives for teachers. Identify these policies.
- Finally, identify the major stakeholders--people who are influenced by (and who influence) changes in the teacher incentive system.
- Summarize the information collected during this analysis in the form of a report on the policymaking procedure. Highlight all aspects of the procedure which are likely to affect the revision of the teacher incentive system.

Systems analysis.

During this step various needs, inputs, processes, outcomes, elements, relationships, opportunities, and constraints related to the educational system are identified. The results of this analysis permit design of an incentive system which is compatible with all other subsystems such as those dealing with instruction, evaluation, or teacher supervision. The Inventory of Systems Characteristics provides a convenient checklist for conducting the systems analysis.

Guidelines

- Begin this step by identifying the characteristics of the larger educational system of which the teacher incentive system is a part.
- Identify parallel subsystems (within the educational system) that interact with the teacher incentive system, and analyze their characteristics. For example, teacher supervision is a subsystem that interacts with the teacher incentive system.
- Go beyond the educational system and identify the relevant characteristics of the society and of the local community. Decide what resources and constraints from the society and the community may affect the operation of the teacher incentive system. For example, the inability or unwillingness of the community to collect money from parents to support the school will affect the teacher incentive system if the design requires such support. It is also important at this stage to identify any unintended consequences of the new system. To use the same example, a requirement of community support may financially overburden some communities to the point where they are forced to give up the school .
- Return to the teacher incentive system and identify the people involved in implementing the existing system and their characteristics. For example, educational administrators responsible for preparing payrolls and disbursing teacher salaries are key actors in implementation. If the incentive system is to work the difficulties they face in fulfilling their job responsibilities must be addressed.
- Identify the major constraints in the system which have to be taken into account in revising the teacher incentive system. These include recurrent cost allocations, annual schedules, available and required number of teachers, and transportation and communication facilities.
- Summarize the results of the systems analysis by highlighting information that has to be considered carefully in improving the teacher incentive system.

Target population analysis.

The group of employees whose activities are to be influenced by an incentive system are referred to as the target population. In a teacher incentive system, the target population is obviously teachers. During this analysis, the important characteristics of the target population are identified and an effort is made to discover teachers' perceptions of existing incentives and disincentives. The results of this analysis will ensure that the improved incentive system will suit the needs of the teachers.

Guidelines

- Begin by identifying the general characteristics of teachers. Find out what educational qualifications, teacher training, and experience they have. Prepare a list of these general characteristics and of the types of incentives they would like to receive (and disincentives they would like to avoid).
- The effects of the salary and of other monetary incentives depend on the opportunity cost: what the teachers are likely to receive in available alternative employment. Find out about these opportunity costs.
- Not all incentives are equally effective for all. Information is needed about the different needs of different categories of teachers. Through interviews and sur-

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veys, find out the differences in the incentives preferred by men and women; teachers of language and teachers of mathematics; teachers in well-equipped urban schools and teachers in impoverished rural schools; young and old teachers; beginning and experienced teachers; elementary and secondary teachers; and unqualified and qualified teachers.

- Find out various factors which are perceived to be disincentives by all teachers and by special subgroups of teachers. These disincentives are usually associated with living conditions and job conditions. The removal of disincentives are sometimes more important than the addition of new incentives, especially in recruiting teachers for (and retaining them in) remote areas.
- Summarize the results of the target population analysis by preparing a table of suggested incentives for all teachers in general and each special subgroup of teachers in particular.

Task analysis.

During this step the various functions, jobs, and tasks performed by teachers are identified and their interaction with incentives are analyzed. The results of this step enable identification of those tasks which are intrinsically rewarding (e.g., participation in making important decisions related to the school) and intrinsically punishing (e.g., collecting donations from unwilling parents or teaching unmotivated students).

Guidelines

- Observe the teachers inside and outside their classrooms. Interview them about their typical and unusual activities. Analyze the information to identify various roles, functions, and tasks.
- Classify teacher tasks into such functional areas as instruction, evaluation, classroom management, participation in school management, and preparation of instructional materials. Subdivide each function into specific tasks and subtasks. For example, the instructional function consists of the two tasks of lesson preparation and lesson presentation. Lesson preparation, in turn, consists of the subtasks of selecting the lesson topic, specifying the instructional objectives, preparing or collecting visual aids, sequencing the contents of the lesson, and estimating the time required; lesson presentation consists of presenting information, asking questions, and providing feedback.
- For each major function, identify those tasks which are perceived to be rewarding and those which are punishing. Analyze the tasks to find out what makes them rewarding or punishing.
- Analyze the stages in the career of a teacher and identify critical activities in each. A typical teacher goes through recruitment, training, initial assignment, induction, probation, tenure, transfer, promotion, and termination. Identify the positive and negative factors associated with each of these stages.
- Observe and interview head teachers and other administrators in the school. Identify their functions and tasks and rewards and punishments.
- Summarize the results of the task analysis by preparing a table of career stages, functions, and tasks for different types of teachers and the incentives and disincentives associated with each.

Incentive analysis.

During this step various incentives and disincentives which currently influence the teachers' behaviors are identified and analyzed. The results of this analysis help build upon existing effective incentives and reduce the effects of various disincentives. Procedures used in this step involve a review of documents specifying various policies, regulations, and standard procedures related to teacher incentive systems and interviews with teachers, headmasters, and educational administrators.

The Inventory of Teacher Incentives provides a convenient checklist for conducting this analysis.

Guidelines

- Begin by identifying monetary incentives. These include salaries, allowances, bonuses, and other benefits which can be directly converted into money. Compare these monetary incentives with the cost of living for typical families of teachers and with the monetary incentives for alternative employment.
- In most developing countries, teachers supplement their income through additional jobs. Through sensitive interviews and careful observations, identify the nature of these jobs.
- Identify additional employment opportunities for teachers within the educational system. These opportunities could include teaching in evening classes for adults, tutoring, writing textbooks and other instructional materials, and participating in educational development projects. Estimate the proportion of teachers who could be provided additional employment in these jobs.
- Identify major nonmonetary incentives. Begin at the national level and analyze the opportunities for political recognition, instructional support (e.g., teacher's guides) and professional development (e.g., inservice training workshops).
- Move to the community level and identify nonmonetary incentives in the areas of community relationship (e.g., status of teachers in the community) and quality of life at the school location (e.g., transportations facilities near the school).
- Move to the school level and identify nonmonetary incentives related to administration (e.g., participation in school decision-making), workload (e.g., flexibility of schedules), colleagues (e.g., positive peer relationships), and facilities (e.g., well-stocked libraries).
- Move to the classroom level and identify nonmonetary incentives related to environmental quality (e.g., lighting and ventilation), materials (e.g., teachers' guides), and students (e.g., well-behaved children).
- Summarize the results of the incentives analysis by preparing a balance sheet of incentives and disincentives which currently influence the recruitment, retention, and performance of teachers.

Goals Specification.

During this step, the information collected through the earlier analyses are used to specify the goals and objectives for the revised teacher incentive system. These specifications ensure that the design the improved incentive system is based on relevant data.

What is needed is not a single overarching goal for the entire teacher incentive system, but a series of goals that take into account different needs of different types of teachers.

Guidelines

- Begin with a statement of long-term goals for the teacher incentive system. Think in terms of 10 or more years and specify the outcomes to be achieved by the incentive system. Then think of a series of short-term goals to meet the urgent needs in the educational system.
- Some goals should relate to outcomes (e.g., retention of teachers) while others relate to the process (e.g., all salaries are paid within the first five working days of each month).
- Specify the monetary goals for maximizing the incentive value of the recurrent budget and nonmonetary goals for maximizing the effects of such variables as job satisfaction, feedback, and opportunities for professional growth.
- Specify different goals for different types of teachers and different stakeholders. For example, the goals for rural teachers may differ from those for urban teachers; those for women teachers may differ from those for male.

- Specify narrow goals limited to a specific subgroup such as rural primary teachers. A narrow goal may be to discourage primary teachers from becoming secondary teachers. Balance these goals with broad goals that deal with the entire educational system. From this perspective, we may look upon primary and secondary teachers as coming from the same pool of human talent and encourage free mobility between these two sectors.
- Summarize the results of this step by producing a list of goals for the teacher incentive system.

Review and revision.

During this step the goals which reflect the results of the earlier analyses are critically examined and revised. The result of this step is a final set of goals that best reflect the needs of the teacher incentive system.

Here are some guidelines for conducting this review and revision:

- Begin by circulating the statements of goals from the previous step to your consultants and representative stakeholders. Ask them for their inputs and feedback.
- Supply a checklist to your reviewers to help them critically examine each goal and to evaluate its potential efficiency, equity, adequacy, professional support, and opportunities for career growth, and any unintended consequences.
- Have your reviewers compare the goals for internal consistency. Have them identify and revise the goals which contradict each other.
- Have your reviewers examine the goals for their feasibility within the financial and personnel constraints of the educational system.
- Summarize the feedback from the reviewers and use the information to revise the goals to make them more consistent, equitable, feasible, and effective.

Design.

The six steps in the design stage of the procedural model are listed in Figure 1 (page 2). Each step is briefly discussed below.

Strategies Selection.

During this step appropriate incentives and procedures to meet the goals (identified earlier) are selected.

- Guidelines. Begin by selecting monetary incentives. In most cases you have to reexamine the salary system for rewarding primary teachers. Depending upon your major focus (recruiting, retaining, or improving teachers) a number of strategies are available. In exploring the salary you will have to ensure that it is adequate to attract or retain competent people given other jobs available to them. You will have to examine the starting salaries, various skills and steps in the salary organization, annual raises, merit increases, deductions from the salaries, and regularity of salary payment. Related to the salary are such issues as allowances, bonuses, and benefits (paid holidays and medical aid). If the level of the salary is likely to be low, attempts should be made to employ the teachers officially in additional teaching jobs (in adult education, for example), or other jobs related to primary education (such as administering and grading national examinations, and writing textbooks). If such profession-related activities are not appropriate for some reason, identification of part-time jobs in national developmental projects could prove a powerful incentive. Another approach to improving monetary incentives is to shift part of the cost of such incentives away from the public sector to community and/or private individuals. For example, members of the community can contribute to a school fund and use the money to provide additional monetary rewards to teachers or they may provide housing to teachers.

- Nonmonetary incentives should also be considered. These incentives can be identified from analyzing the data collected earlier in the incentives analysis stage. In general, the following strategies appear to be appropriate and elective nonmonetary incentive systems:
- A. Instructional support systems. This type of incentive is especially suited to encourage increased effectiveness of teacher performances. The incentive involves providing the teacher with appropriate tools, materials, and equipment. For example, this incentive strategy requires that students are supplied with textbooks and notebooks and classrooms are provided with blackboards and chalk. In addition, teachers are provided with guides (to help them plan and deliver their lessons) and teacher aids (maps, charts, and models). A library of reference books and supplementary materials both for the teachers and for the students represents another form of instructional support.
- B. Feedback systems. Giving information to the teacher on the effectiveness of his performance will contribute to the improvement of the performance. Feedback on a person's performance is usually found to be effective because it indicates how well that person is performing and how the performance can be improved. Such feedback can be from the students, parents, fellow teachers, headmasters, inspectors, and outside evaluators. To use a feedback system as an incentive, a number of activities including the clear specification of teacher functions and tasks are required.
- C. Inservice training. Training may also be used as an incentive. It provides additional skills and competencies to the teacher and appropriate training can improve the efficacy and the self-confidence of the teachers.
- D. Job enrichment or redesign. Assuming the analysis step lead to a description of teacher tasks and functions in the classroom, it is possible to identify those activities which teachers dislike, that is, consider to be disincentives. The teacher's task can be appropriately modified and tasks which are considered dull, boring, or mechanical tasks may be redistributed to other people. For example, drill and practice activities and classroom maintenance functions which require administrative chores such as filling out forms and collecting monies can be intrusted to volunteer helpers and to others. Another approach to the redistribution of teacher's tasks might include cross-age peer tutoring in which monitors and students from higher grades are entrusted with helping younger students.
- E. Community participation. The community can play an important role in providing a number of nonmonetary incentives to the teachers. School management committees consisting of members of the community can recognize and award outstanding teachers by publicizing their performances in the local newspapers or in local meetings. A special teacher recognition week may be celebrated during which outstanding teachers are recognized for their contributions to the community. The community can also find various ways of increasing the importance of the teacher vis a vis community life.
- In reviewing possible incentives it should be remembered that each incentive (monetary or nonmonetary) has a minimum threshold level. In other words, the incentive loses all meaning if it does not teach that level and, in fact, constitutes a disincentive. This is true with areas including respect to compensation, instructional support, participation in the school management, and other job factors. Although the selected strategy may focus on one or two specific monetary or nonmonetary incentives, care should be taken to ensure that no major disincentive exists or no major factor related to teacher performance is below the minimal level.

- F. Team building. A number of approaches can be used to improve the cohesiveness among teachers, the principal, and other staff members in a primary school. For example, by using team teaching more than one teacher can be responsible for a given grade. Similarly, a number of school management decisions are more readily implemented if teachers are involved in the decision-making than if they are not (e.g., student discipline decisions).

Research and revision.

The combination of incentives selected in the previous step is carefully studied and revised during this step.

- Guidelines For any given incentive strategy, there is available research data from other developing nations where it has been used. Even if these data are not directly applicable to your country, they may suggest a number of alternative approaches. In addition, within the country some information may be available on similar incentives systems at other levels of education (e.g., secondary education) or in other types of jobs (e.g., civil servants at a comparable level). This information should be carefully collected, synthesized, and analyzed to suggest appropriate approaches to the generation of new incentives schemes. Based on the information, the original ideas can be modified and made more effective.

Systems Specification.

During this step the policies and the regulations related to the new teacher incentives system have to be specified and the following policy issues addressed:

- Whose performance is to be rewarded? Whether the incentive system will serve all teachers or a subset of teachers, or trainees, or headmasters needs to be specified. At the same time, decisions must be made about the treatment of individuals with similar and different characteristics in each subgroup.
- What are the criteria for evaluating teacher performance? What types of performance are to be rewarded in the incentives system? The performance could be a simple one of joining the teaching force (if the goal is recruitment) or a passive one of coming to school regularly (if the goal is to reduce teacher absenteeism), or an active one of conducting classes to the satisfaction of the principal, or improving student scores on reading tests.
- Who will evaluate teacher performance? A system for evaluating teacher performance must be developed and monitored. Responsibility must be assigned to the headmaster, peers, a community steering committee, inspectors from the Ministry of Education, or some combination of the above.
- What types of incentives are to be used? Who will provide the incentives? Is the teacher to receive incentives from the Ministry of Education (as in the case of salaries), from the headmaster (e.g., special letter of commendation for above average work) or from members of the community (e.g., Outstanding Teacher of the Year Award).
- How frequently are the incentives awarded? Careful consideration needs to be given to the duration for teacher's performance, the frequency (monthly or annually) with which incentives will be provided, and the delay between the performance and the award of the incentives.

Documentation.

In this step the policy and the standard procedures related to the new incentives system are written down. These documents are used both for receiving expert review and feedback and also for the actual implementation of the system. The documents will include an administrative manual which will explain exactly how the new procedure is to be implemented and various informational materials which will incorporate the

collaboration of teachers, school personnel, and members of the community. The documents will be written in appropriate language with step-by-step instructions for implementing the procedure and a number of examples for clarifying such concepts such as the type of behaviors and the type of incentives. They will be edited by various language editors to ensure the final informational package is presented in a clear and attractive fashion.

Review and Revision.

The new system, in the shape of various documents, will be given next to a group of experts for their review and comments. These experts will include teacher trainers, ministry personnel, educational economists, representative teachers, and government officials. The experts will be provided the most relevant documents, a background rationale, and a checklist outlining the types of feedback required from them. The experts will analyze the new system from their particular perspectives and predict potential consequences of implementing the new system. In their analyses they will focus not only on the anticipated positive comments but also on various potential unanticipated negative consequences. The experts will further study the effect of the new incentive system on other aspects of teacher performance. For example, rewarding teachers after two years of their service by admission to the national university may act as a strong incentive for recruitment but may actually serve as a disincentive for the remaining in primary teaching. The experts will also estimate the feasibility of implementing the strategies and indicate areas where they have doubts of some ideas being implemented. After these expert reviews are completed and their feedback collected, the teacher incentive strategy must be revised to take into account such feedback.

Pilot testing.

In this step the teacher incentives system will be tested out on a small scale to determine its feasibility and to streamline its implementation procedure. An evaluation design will be prepared which will specify how the system will be tried out, and how both process and outcome data will be gathered to see how effectively the system is being implemented and how effectively it achieves the desired goals. The design may involve comparing a set of schools or regions with the new incentives system and comparable schools as control groups without the incentives system. Based on this design suitable schools or regions will be selected for experimental purposes. The new incentives system will be implemented for a school year or more depending on the nature of the system and on its potential impact. Data will be collected on how well the system is being implemented in comparison to the standard procedures and also on its effect on the teachers both in terms of the intended outcome of the teacher incentives system as well as in other areas. Both teacher performances and attitudes will be the foci of these data collection activities. Additional data may also be collected in terms of student performances, headmaster and other school personnel complaints and preferences, and the perceptions of the community. These data will be analyzed to identify the strengths and weaknesses of the new system. Appropriate strategies will be devised to accentuate the former and to reduce the latter. The system which is revised on the basis of the evaluative feedback may undergo another round of pilot testing before being implemented on a larger basis.

IMPLEMENTATION

The six steps in the implementation component of our procedural model for establishing a teacher incentives system is given in Table 3. During this step the new incentives system which has been pilot tested and appropriately revised will be implemented on a large scale. Here are some guidelines for each stage of the process:

Implementation Design.

Even before the development of the system and of its evaluation, a number of analysis activities will be undertaken to identify factors which can influence the way in which the new system will be implemented. The target population analysis will provide the ministry with information about the teachers' attitudes toward changes in their incentives system. The systems analysis will yield information on where various institutions are situated and how they will react to change in their activities. The decision-making processing, institutional receptivity to new ideas, conflict resolution procedures, and communication channels within and among various schools will be identified. In addition, the relationship between communities and schools and the potential acceptance to communities to increased participation in teacher incentives will be identified. The characteristics of the new teacher incentives system and the implementation procedure will also be analyzed when they are specified. This analysis will focus on such factors as simplicity, visibility, divisibility, compatibility, cost, and relative yield of the new system. Based on this analysis, prepare a general diffusion strategy for the new teacher implementation system. This strategy will have to be modified to accommodate the special needs of different regions, different types of schools, and different types of leaders.

Information Dissemination.

Individuals and institutions who are likely to participate in the implementation of the new teacher incentives system should be informed of the plans, progress, and problems associated with the new approach. The type and amount of information and the way in which it is to be presented will be matched to various stages of adoption. In the early stages, for example, long before the system is ready for implementation, brief descriptions of the system will be distributed to various educators, headmasters and teachers to increase the level of awareness of the new approach. This information can be disseminated through newspapers and other media. Another type of activity to increase the awareness of future implementers will be to send them a questionnaire to solicit information about the needs and concerns of various stakeholders. At a later date, information related to various actual or anticipated concerns of teachers and school personnel should be distributed. This could be in the form of a brochure in a question and answer format and written to identify and to accept concerns and to provide realistic answers to promote continuing discussions. This may be followed by another document with more detailed information about the system and the results of various evaluative studies. Not all of the information needs to be disseminated in a printed format. Radio announcements, and videotape demonstrations can be used in different stages to provide information. Demonstration in the pilot schools can also be a major source of information about the new teacher incentive system. Educators from other regions may be encouraged to visit these schools and observe effects of the new teacher incentive strategy.

Manuals Preparation.

The administrative manuals for the implementation of the new teacher incentives system are to be prepared next. Such a manual has been developed in the previous stage, but it has to be revised on the basis of the pilot test. Different types of people have to be oriented and trained to implement the new teacher incentive system. MOE officials, district and regional educational officers, the school manager, the head master, community steering committees, other school personnel, parents, and students--all have to be informed, prepared, and trained to accept and benefit from the new incentive system. Orientation materials for all of these groups have to be prepared.

System Installation.

Successful and systematic installation of the new teacher incentives system will significantly contribute to its effectiveness. Before the new system can be installed, schools have to be

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carefully prepared. One aspect of this preparation will relate to physical facilities, materials, and equipment (if instructional support is a major element of the new incentives system). Another aspect is related to informing, orienting, persuading, and training different people. The project staff will work closely with school personnel in these preparatory activities. They will especially instruct headmasters and others who are involved in the day-to-day maintenance of the system. During the first few critical weeks of implementation, the project staff will carefully observe what is happening in different regions and provide appropriate corrections if various problems arise in the field.

System Maintainenance.

The new teacher incentives system should be monitored carefully during the first few months to collect information on local problems, adaptations, and improvements. Problems in different schools and regions have to be anticipated and appropriate technical assistance should be provided to improve the local implementation of the system. During the first year additional information should be provided and the ministry should fulfill a clearinghouse function of sharing information related to the improvement of the activities.

Institutionalization.

The ultimate goal of the activity is not only to implement the system but also to institutionalize it so that it becomes routine and self-supporting. Toward this goal, before the termination of the project, a plan for such institutionalization should be prepared by the actual implementers of the system with the project staff just providing technical assistance. The staff will then gradually withdraw external monetary support and technical assistance. School teachers and existing ministry officials will then be able to implement the new system efficiently and effectively. Provisions should be built into the system, however, so that it is dynamically upgraded and updated to keep responsive to new and unique demands.

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A SUGGESTED PROCEDURE FOR CONDUCTING POLICY RESEARCH IN TEACHER INCENTIVES

I. PREPARE FOR THE TEACHER INCENTIVE STUDY

Identify key policy issues related to teacher incentives

Trace progress of previous research and change efforts on teacher incentives

Obtain organizational charts of agencies involved in making decisions regarding teacher incentives

Prepare a model of policymaking process related to teacher incentives

Identify and Interview stakeholders in teacher incentives

Summarize the information

II. CONCEPTUALIZE THE TEACHER INCENTIVE STUDY

Develop a preliminary model of teacher incentives

Formulate specific research questions related to teacher incentives

Select important aspects of teacher incentives
- Identify malleable variables related to teacher incentives

III. CONDUCT THE STUDY

Operationalize teacher incentive variables

Design methodology for the teacher incentive study
- Survey research
- Focused synthesis
- Secondary analysis
- Field experiments
- Qualitative methods
- Case studies
- Cost analyses

Specify the target population for the teacher incentive study
- Identify key groups
- Specify sampling procedures

Prepare Instruments for the teacher incentive study
- Use existing instruments
- Adapt existing instruments
- Prepare new instruments, if needed

Collect data on teacher incentives
- Collect existing data
- Collect new data

IV. ANALYZE THE DATA

Code instruments as the results come in

Record results from each instrument

Select appropriate statistical analyses

Analyze the data

Draw conclusions

Present the results in tables and charts

Prepare tentative set of recommendations

V. ANALYZE STUDY RECOMMENDATIONS

Analyze implementation parameters
- Analyze stakeholders in teacher incentives
- Identify stakeholders
- Identify magnitude of support or opposition of each stakeholder to the recommended changes in the teacher incentive system
- Estimate probable support of decisionmakers to the implementation of recommended changes in the teacher incentive system
- Analyze organizational parameters
- Analyze organizational structure for changing the teacher incentive system
- Analyze amount of resources needed for changing the teacher incentive system
- Analyze policy mechanism needed to encourage changes in the teacher incentive system

Predict potential consequences of changing the teacher incentive system

- Predict intended and unintended effects of changes in the teacher incentive system
- Predict possible interactive effects of changes in teacher incentive system and other MOE policies and programs
- Predict possible consequences of not implementing the recommended changes in the teacher incentive system

Estimate probability of implementing the recommended changes

Prepare final set of recommendations for changing the teacher incentive system

VI. PREPARE A FINAL REPORT

RESEARCH STATEMENT

Statement of the Problem

Nations at every level of development are debating issues related to incentives for teaching. The current discussion of teacher incentives is reflective of a profound concern with the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while, at the same time, the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited in teaching. In developing nations, however, where school systems are still expanding, infrastructures (communication, roads, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of a much greater magnitude than it is in countries where both human and material resources are not so sharply constrained.

The research on incentive systems suggests that effective reform of an existing system must be consistent with the goal of improving teacher performance. The danger, evidenced in a great deal of the literature, is reduction of the goal to one or more subgoals, such as recruiting higher quality individuals into teaching or increasing retention. Reductionism is a danger particularly where responsibility for teachers is divided among units within a ministry or among ministries. Discrete treatment of subgoals generally leads to overall inconsistency in the system, while integration of recruitment and retention subgoals into a long term plan for improving teacher effectiveness produces a more flexible and effective system.

One advantage of emphasizing teacher effectiveness in discussions of incentives is that it forces the debate beyond the narrow interests of particular units responsible for one aspect or another of the teacher service. This, in turn, may generate greater support both within the ministry and across ministries for strengthening incentives for teaching. A second and more important advantage is that each incentive will be measured directly against the value it will potentially add to improving teacher performance over time. Such procedure makes explicit the tradeoffs between the goals and means related to recruitment and those related to retention and therefore maximizes the set of options available to policy-makers .

Policy Issues

If the problem is how to improve teacher productivity (that is, how to help teachers facilitate student learning), given current resource constraints, the major policy issues are who is to be recruited at what price, and who is to be retained at what price. Price, in this context, connotes the total package of rewards, including both direct and indirect monetary and non-monetary benefits. In many countries, the price of recruitment includes both preservice training and beginning teachers salaries while the price of retention includes not only salary and allowances but also inservice training, headmaster and inspectors' time devoted to supervision, etc. The magnitude of these investments in both salary and training require justification in terms of their efficiency in producing the desired teacher behaviors.

If, for instance, a significant portion of those trained for teaching never teach or leave the service before government has realized a sufficient return on its investment in training, a hard look has to be taken at the characteristics the system is recruiting for It may well be that entry characteristics are too high relative to the compensation package . If this is the case, one option is to reduce the entry requirements (and possibly salaries) and provide greater inservice training and instructional support for teachers. Thus, if the target group for recruitment consists of secondary graduates, government may decide to temporarily admit secondary dropouts to teacher training until market conditions or government fiscal capacity changes.

Similarly, if teacher behaviors do not meet the minimal standards of performance, such as regular attendance at school and in the classroom, both the compensation package and the rules and regulations for tenure and promotion need to be examined.

Obviously, the first step in addressing issues related to providing incentives for teacher productivity is to define the minimal acceptable behaviors for payment of salary and those set of behaviors which will be rewarded beyond salary (by promotion, inservice opportunities, public recognition, etc.).

This requires a conceptualization of the factors influencing different levels of teacher performance.

Theoretical Framework

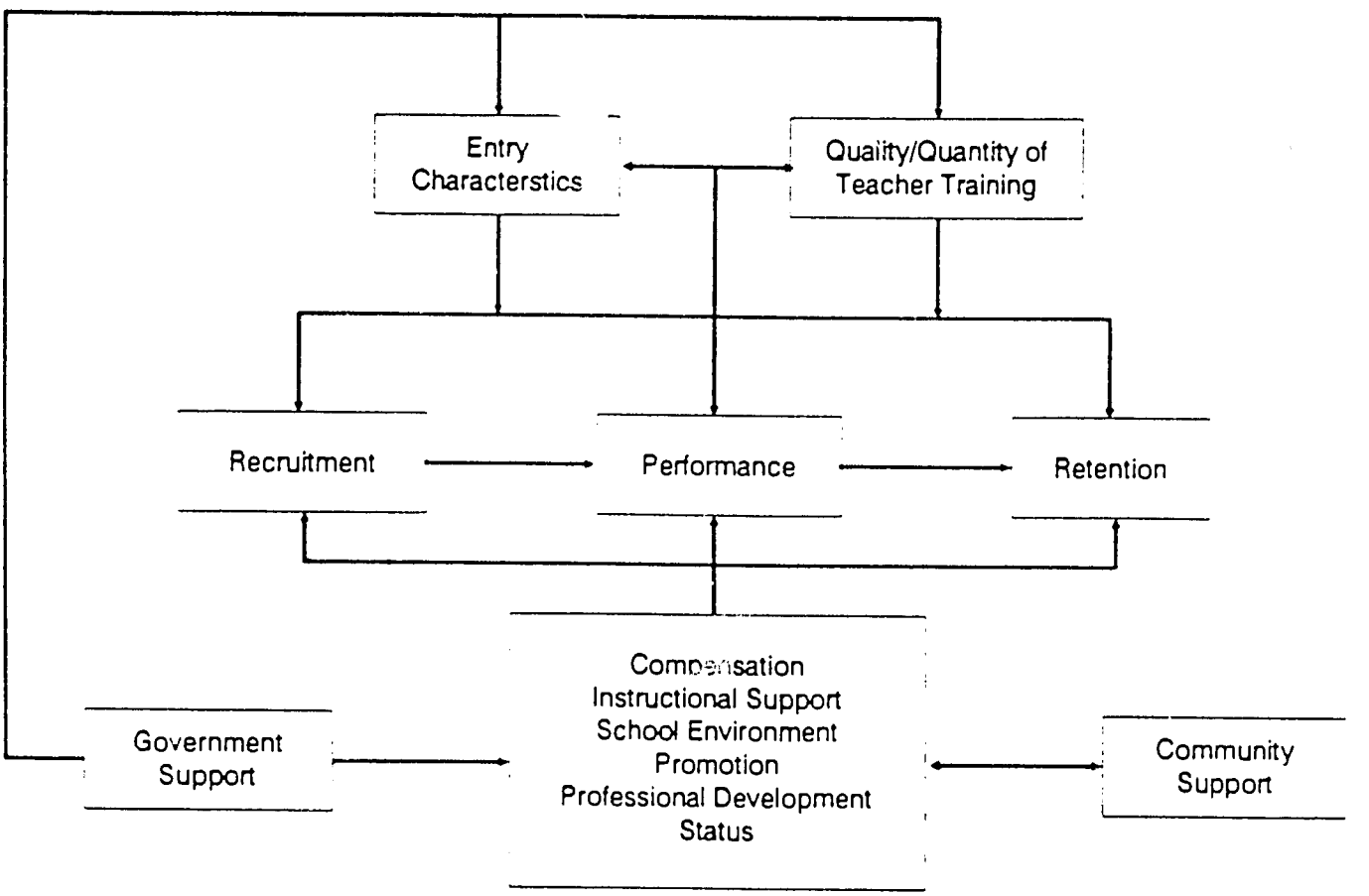
Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and guidance. Outside the classroom, teachers are often typically expected to participate in school level decisionmaking, assist each other and meet with parents. The literature suggests that the factors which influence teachers' willingness and ability to carry out their responsibilities effectively are as follows:

- entry characteristics (academic ability, the quantity and quality of their prior schooling);
- nature and type of teacher training;
- adequacy of the compensation package;
- quantity and quality of instructional support (texts, materials, and supervision);
- opportunities for promotion and advancement;
- quality of the school environment (colleagues, students, management structure, and facilities); and
- status in the community.

The relationships between these factors and teacher performance is shown in Figure 1.

As Figure 1 suggests, there is an identity between the factors that affect performance and those which affect the subgoals of recruitment, and retention. Teaching is one of the few professions in the modern sector that the school going public is familiar with. Individuals who have gone to school know the status of the teacher in the community, the salaries of teachers, and their working conditions. This knowledge, as well as their own experiences in school, determines, to a large extent, their perception of teaching as an attractive occupation. The status of the school system thus feeds back into the ability of the teacher service to recruit new teachers. In addition, there is also considerable research which suggests that the individual's perception of the quality of his/her first teaching assignment (school environment, opportunities for promotion and professional development, status in the community, instructional support), as well as his/her sense of success in teaching

Figure 1. Teacher Incentive Model



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also affects decisions related to exiting or staying in the teaching service.

Limitations of the Study

The complexity of the relationships described in Figure 1 suggest that no single study can examine all the factors influencing teacher performance. Consideration, for instance, of the efficiency of teacher training and, therefore, both its absolute value and its relative value as an incentive for performance would obviously require a separate study. By the same token, since teacher incentives vary with the school level, it would be difficult to deal with more than one level at a time. For these reasons the study is limited to the investigation of the efficacy of the current incentive system for primary teachers and alternatives for strengthening it.

Research Questions

The overall goal of the teacher incentives project is to provide relevant data, background information, systematic procedures, policy recommendations, and analysis of alternatives so that policy makers can select and implement appropriate strategies to strengthen the incentive system for teacher performance. In order to achieve this goal, information will be gathered from policy makers, present teachers, and former teachers on their perceptions of current incentives and their suggestions of how these incentives could be made more effective. In addition, background information on the school system and the teaching force is necessary to set the context for analyzing the responses. These information needs are summarized below in the form of sets of questions.

1. Current Status

- What are the characteristics of currently serving teachers (educational attainment, age, gender, marital status, national origin, part time/fulltime, etc.)
- How many teachers are actively teaching and how much do they get paid?.
- How much could be saved by removing non-active teachers from the payroll?

2. **Recruitment for Teacher Training**

- What is the teacher turnover rate (national, regional, district)?
- What are the opportunity costs for primary teaching for each level of educational attainment of recruits and different types of teachers?
- What are the per-student costs of teacher training?
- How many years of teacher service are required to realize a return on investments in training?
- Is teacher training considered an incentive for entering the teaching service?
- Are there alternative forms of training which might be less costly (e.g., a concentration in primary education at the secondary level or programmed teaching)?
- How closely does the teacher training curriculum relate to the realities of primary school teaching?
- What are the dropout and graduation rates in teacher training institutions?
- What proportion of those who graduate actively serve as teachers?

3. **Teacher Retention and Attendance**

- How are teachers assigned to schools?

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- What length of time is the usual period of assignment?
- How long does the average person remain in primary school teaching?
- What factors influence teacher persistence and exit?
- How regularly do teachers attend school?
- What factors encourage high attendance rates?
- How do rates of teacher attendance vary with teacher characteristics, region, type of school (complete/incomplete), or location of school (urban/rural remote)?

4. Teacher Income

- What strategies do teachers use to supplement their income?
- How do these strategies differ according to the location of the school and the gender of the teacher?
- Which supplementary income strategies are officially sanctioned?
- What are the effects of secondary employment on teachers' effectiveness in the classroom?
- What types of secondary employment are complementary to teaching?
- What are the possibilities for government employment of teachers in second jobs (i.e., work at the MOE, work in the village as an adult education specialist)?

5. School Income Generation Activities

- What are the current sources of income for primary schools (e.g., government aid, private contributions, tuition, fees, etc.)?
- What school income generation activities are appropriate for different regions?
- What strategies have been tried in which locations with what results?
- What alternative approaches are available for distributing additional income among teachers?
- What are the advantages and disadvantages of alternative income sharing approaches?

6. Perceptions of Incentives

- What do teachers, former teachers, teacher trainees, administrators, educator, and public perceive as incentives and disincentive for the recruitment, retention, performance of teachers?
- How do these perceptions differ from one group to another?

7. Remote Area Teaching

- What are the incentives and disincentives for teaching in remote areas?
- What are alternative strategies for increasing incentives and/or decreasing the disincentives?
- What are the likely costs and benefits of these alternative strategies?

8. Community Participation

- What is the extent of current community support for teachers' food and housing?
- What types of teacher incentives are best provided by parents and the community?

- How should the government formalize community participation in the support of schools?

9. Evaluation and Feedback Systems

- What types of formal evaluation of teaching performance are undertaken?
- What is the relationship between formal evaluation of performance and tenure, promotion, and salary increases?
- What types of formal and informal feedback do teachers receive from headmasters, inspectors, students, parents, and community leaders?.
- What is the effect of recognition, indifference, and/or criticism on teacher performance and morale?.
- What formal mechanisms can be used to increase the frequency of feedback and to make it more objective?

10. Instructional Support

- Do teachers perceive instructional materials as an incentive?
- What are the relative incentive values of textbooks for students, teacher's guides, programmed teaching modules, and teaching aids?
- What are the costs of these materials?
- How can their life be extended and their costs be (at least partially) recovered?
- What is the relationship between the availability of instructional materials and teacher attendance?

11. Teacher Status

- What is the public perception of the status of primary school teachers?
- What is the effect of such perception on the morale of teachers?
- How can the status of teachers be enhanced?

12. Opportunities for Professional Development and Promotion

- What types of inservice training programs are available for the professional development of teachers?
- Are inservice training activities perceived by teachers as incentives?
- What opportunities for promotion currently exist?

13. School Characteristics and Job Satisfaction

- Do the characteristics of schools (e.g., size, enrollment, location, complete/incomplete cycle, etc.) affect teachers' job satisfaction?
- How are classrooms, students, and workloads assigned to teachers?
- Do teachers perceive workloads as being distributed equitably?
- To what extent do teachers participate in the school management and administration?

Methodology

The study of teacher incentives is primarily a descriptive one. First, the current status of the system will be presented. Secondly, current rules and regulations affecting primary teacher will be summarized. Third, relevant policy makers, serving teachers, former teachers, and potential teachers will be interviewed.

The selection of current primary teachers will be based on a stratified random sample. The identification of sample size and the stratifiers will be an outcome of the teacher incentive meeting in Sana'a. The most straight-forward approach to selection of former teachers is by referral. Each of the current teachers interviewed will be asked to name three or four former teachers.

Descriptive statistics will be used to summarize the information collected from each of the sample sub-groups. Sub-group data will then be compared using the Chi-square test to determine whether the different groups share similar views of: (1) the effectiveness of the current incentives and (2) priorities for change.

IEES Policy Research Initiative
Teacher Incentives Project

Inventory of System Characteristics

I. System status

Number of Teachers Actively Teaching

Time
- Full time
- Part time
- More than full-time

Educational attainment
- Less than primary
- Primary graduate
- Some secondary
- Secondary graduate
- Additional education

Teacher Training
- One year of teacher training
- Two years of teacher training
- More than two years of teacher training
- Specialized training

Experience
- No experience
- One year experience
- Two years experience
- Three years experience
- Four years experience
- Five years experience
- More than five years experience

Current Assignment
- Grade Level
- Subject Area Specialization
- Region
- Location

Demographic characteristics
- Age
- Gender
- Marital Status
- Ethnicity
- Language
- Home region

II. Teacher Salaries

Number of Teachers Actively Teaching

Time
- Full time
- Part time
- More than full-time

Educational attainment
- Less than primary
- Primary graduate
- Some secondary
- Secondary graduate
- Additional education

Teacher Training
- One year of teacher training
- Two years of teacher training
- More than two years of teacher training
- Specialized training

Experience
- No experience
- One year experience
- Two years experience
- Three years experience
- Four years experience
- Five years experience
- More than five years experience

Current Assignment
- Grade Level
- Subject Area Specialization
- Region
- Location

Demographic characteristics
- Age
- Gender
- Marital Status
- Ethnicity
- Language
- Home region

III. Opportunity Costs

Number of Teachers Actively Teaching

Time
- Full time
- Part time
- More than full-time

Educational attainment
- Less than primary
- Primary graduate
- Some secondary
- Secondary graduate
- Additional education

Teacher Training
- One year of teacher training
- Two years of teacher training
- More than two years of teacher training
- Specialized training

Experience
- No experience
- One year experience
- Two years experience
- Three years experience
- Four years experience
- Five years experience
- More than five years experience

Current Assignment
- Grade Level
- Subject Area Specialization
- Region
- Location

Demographic characteristics
- Age
- Gender
- Marital Status
- Ethnicity
- Language
- Home region

IV. System Needs

Turover Rate
- National
- Regional
- District

Teacher Training
- Intake
- Curriculum
- Training process
- Graduation
- Initial assignment
- Costs

V. System Regulations

Recruitment procedures
- Recruiting agency
- Job requirements and qualifications
- Application procedures
- Selection procedures

Initial assignment
- Region
- School
- Grade(s)
- Subject area(s)
- Length of initial assignment

Induction procedure
- Assistance in relocating
- Orientation to school
- Orientation to community

Job requirements
- Workload
- Schedule
- Salary
- Holidays and leave
- Supervision

Tenure
- Length of probationary period
- Tenure procedure

Promotion
- Career ladder
- Promotions out of primary schools
- Promotion out of classroom teaching

Transfer
- Frequency
- Region
- Grade(s)
- Subject area(s)
- Length of new assignment

Termination procedure
- Dimissal
- Resignation

IEES Policy Research Initiative
Teacher Incentives Project

Inventory of Incentives

MONETARY INCENTIVES

SALARY

- Salary
- Beginning salary
- Salary increases
- Salary scales
- Salary deductions
- Regularity of payment
- Merit pay

ALLOWANCES

- Materials allowance
- Cost-of-living allowance
- Family allowance
- Hardship allowance
- Training allowances
- Professional development/educational allowance
- Travel allowance

IN-KIND SALARY SUPPLEMENTS

- Free housing
- Subsidized rental
- Free meals
- Subsidized meals
- Plots of land
- Scholarships
- Low-interest loans
- Free books

BONUSES

- Bonus for regular attendance
- Bonus for student achievement
- Grants for school projects

BENEFITS

- Paid leave
- Sick leave
- Health insurance
- Medical assistance
- Pension
- Life insurance

ADDITIONAL EMPLOYMENT

- Additional teaching jobs
- Tutoring jobs
- Proctoring jobs
- Examination grading jobs
- Textbook writing
- Educational projects jobs
- Ministry of Education jobs
- Nonteaching job opportunities

NONMONETARY INCENTIVES

NATIONAL RECOGNITION

- National evaluation
- Awards for teachers
- Political recognition

INSTRUCTIONAL SUPPORT

- Instructional materials
- Supervisory guidance

PROFESSIONAL DEVELOPMENT

- Inservice training
- Distance education
- Professional meetings

COMMUNITY RELATIONSHIP

- Community support
- Status in the community
- Home-school relationship
- Community recognition
- Community compatibility

QUALITY OF LIFE AT SCHOOL LOCATION

- Transportation facilities
- Communication facilities
- Housing
- Food
- Entertainment facilities
- Secondary education facilities
- Medical facilities

SCHOOL CHARACTERISTICS

- Size
- Type
- Sources of funding

SCHOOL ADMINISTRATION

- Compatible values
- Performance appraisal
- Recognition by headmaster
- Access to administrative information
- Participation in school decisionmaking
- Student selection

WORKLOAD

- Teaching load
- Administrative workload
- Extracurricular duties
- Fair distribution of workload
- Schedule flexibility
- Free periods
- Schedule preferences
- Time for lesson preparation

COLLEAGUES

- Positive peer relationships
- Compatible peers
- Sharing of incentives

FACILITIES

- Number of classrooms
- Library facilities
- Teacher's room
- Cafeteria

CLASSROOM: ENVIRONMENTAL QUALITY

- Well-lighted
- Well-ventilated
- Well furnished

CLASSROOM SUPPLIES

- Good blackboard
- Ample supplies (chalk, etc.)
- Good textbooks
- Useful teachers' guides
- Variety of teaching aids

STUDENTS

- Small number of students
- Age range of students
- Types of students
- Promotion procedure
- Low student absenteeism
- Low dropout rate
- Respect from students
- Well disciplined

CURRENT PRIMARY TEACHER INTERVIEW PROTOCAL

Interviewer:_____ Date:_____

Hello, my name is _____. The Ministry of Education is interested in providing better incentives for teaching in order to attract and keep the best teachers in our schools. We would like your help in identifying what you like most about teaching and what factors encourage you to remain or leave teaching. The information you give will be considered confidential and your name will not appear on the interview form.

From Observation: Respondent sex

___ male
___ female

1. How many years have you been teaching?

_____ years

(Interviewer: If more than 3 years, stop interview)

2. Do you work in an urban or rural school?

_____ urban
_____ rural

3. How many class periods do you teach a week?

4. Are you considered a full time teacher or a part-time teacher?

5. How many students are typically in your class?

6. Do you have students from more than one grade in your class?

7. How many other teaching posts have you served at? Where were they?

1. _____ urban _____ rural
2. _____ urban _____ rural
3. _____ urban _____ rural
4. _____ urban _____ rural

8. When you decided to become a teacher did you have any other employment opportunities? If so what were they?

_____

_____

9. Looking back what do you think were the most important factors in your decision to become a teacher?

_____

_____

10. Compared to what you expected before you went into teaching, did you find the (READ EACH ITEM) to be better than you expected, about the same as you expected worse than you expected?

Personal satisfaction	__Better__Same__Worse
Textbooks/ instructional materials	__Better__Same__Worse
Status in the community	__Better__Same__Worse
Status in the school	__Better__Same__Worse
Quality of your colleagues	__Better__Same__Worse
Support from the headmaster	__Better__Same__Worse
Support from the community/parents	__Better__Same__Worse
Opportunities for professional development	__Better__Same__Worse
Salary	__Better__Same__Worse
Regularity of payments	__Better__Same__Worse
Allowances	__Better__Same__Worse
Job security	__Better__Same__Worse
Number of students in a class	__Better__Same__Worse
Ability of students	__Better__Same__Worse
Classroom conditions (e.g. light, ventilation, furniture, roof, and walls)	__Better__Same__Worse
Location of school	__Better__Same__Worse

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11. Overall, how would you rate your satisfaction as a teacher?

_____ Extremely satisfied
_____ Very satisfied
_____ Satisfied
_____ Neither satisfied nor dissatisfied
_____ Not very satisfied
_____ Very unsatisfied
_____ Completely disatisfied

12. Name the two things you find most satisfying about being a member of the teaching profession?

_____

_____

13. Name the two things you find least satisfying about being a member of the teaching profession.

_____

_____

14. What "tools" are important to you in teaching? What I mean is what "thing" - textbooks, instructional aids - really make a difference in the kind of job you do?

_____

_____

15. What difference does the presence or absence of (READ answer above) make to you as a teacher?

_____

_____

16. Have you ever left teaching?

_____

_____

17. If yes, for how long?

18. Could you tell me why you left and why you returned to teaching?

19. What is the highest grade you completed?

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20. Do you have any preservice training. How long was the program?

21. Do you think the training adequately prepared you for teaching?

22. Name two specific ways the training helped you.

23. Name two ways in which you think it could be improved.

24. Have you ever had any any inservice training? If so what was the content and how long was the training?

Content	Duration

25. Are you likely to return to teaching in the next five years?

_____ Yes
_____ No

26. If no, what would it take to get you to return to teaching?

_____

_____

27. I'll now read you some steps that might be taken to encourage good teachers to remain in the teaching profession. For each step, please tell me whether you think it will help a lot, help a little, or not help at all to keep good people in teaching.

(READ EACH STATEMENT)

Providing higher salaries

____Help a little ____Help a lot ____Not help at all

Providing appropriate allowances for urban, rural, remote teaching

____Help a little ____Help a lot ____Not help at all

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Providing salaries on time

____Help a little ____Help a lot ____Not help at all

Providing housing

____Help a little ____Help a lot ____Not help at all

Providing better textbooks and instructional materials

____Help a little ____Help a lot ____Not help at all

Supplying textbooks/materials on time

____Help a little ____Help a lot ____Not help at all

Having students who are more motivated to learn

____Help a little ____Help a lot ____Not help at all

Improving the status of the teacher in the community

____Help a little ____Help a lot ____Not help at all

Providing a greater role in the management of the school

____Help a little ____Help a lot ____Not help at all

Reducing discipline problems

____Help a little ____Help a lot ____Not help at all

Reducing unnecessary rules and regulations that waste teacher's time

____Help a little ____Help a lot ____Not help at all

Reducing class size

____Help a little ____Help a lot ____Not help at all

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Having more parental involvement with schools

____Help a little ____Help a lot ____Not help at all

Providing better classroom faciilities

____Help a little ____Help a lot ____Not help at all

Providing more opportunities for inservice training

____Help a little ____Help a lot ____Not help at all

Providing more opportunities for promotion

____Help a little ____Help a lot ____Not help at all

Reducing the age range of the students in the classroom

____Help a little ____Help a lot ____Not help at all

Providing opportunities for teachers to work more collaboratively in the schools

____Help a little ____Help a lot ____Not help at all

Changing the school schedule and calendar to better meet the needs of the teachers and students

____Help a little ____Help a lot ____Not help at all

Providing more support from the headmaster

____Help a little ____Help a lot ____Not help at all

Encouraging greater support from the community and parents

____Help a little ____Help a lot ____Not help at all

Providing bonuses and allowances

____Help a little ____Help a lot ____Not help at all

Making only the deserving teachers permanent

____Help a little ____Help a lot ____Not help at all

28. Which three of these do you think are the most important? Name them in order of importance.

29. Do you have other sources of income? If yes, what are they?

30. Do you have any other jobs in addition to teaching? What are they, how much do you get paid, and how many hours do you spend at them a week

Job	Salary	Hours per week

31. Is there anything else you would like to tell us about your experience as a teacher?

Thank you very much for taking the time to share your experience.

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Teacher Incentives Survey

Former Primary Teacher Interview Protocol

Interviewer:

Interview Date:

Hello, my name is _____. The Ministry of Education is interested in providing better incentives for teaching in order to attract and keep the best teachers in our schools. We would like your help in identifying what you liked most about teaching and what factors made you leave teaching. The information you give will be considered confidential and your name will not appear on the interview form.

From Observation: Respondent sex ___ male ___ female

1. How many years has it been since you left teaching? (Interviewer: If more than 3 years, stop interview)

2. In your last teaching job did you work in an urban or rural school? ___ urban ___ rural

3. How many class periods did you teach a week?

4. Were you considered a full time teacher or a part-time teacher? ___ full-time ___ part-time

5. How many students were in your class?

6. Did you have students from more than one grade in your class? ___ yes ___ no

7. How many other teaching posts did you serve at? Where were they?
   1. ___ urban ___ rural
   1. ___ urban ___ rural
   1. ___ urban ___ rural
   1. ___ urban ___ rural

8. When you decided to become a teacher did you have any other employment opportunities? If yes, hat were they? ___ yes ___ no

9. Looking back what do you think were the most important factors in your decision to become a teacher?

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10. Compared to what you expected before you went into teaching, did you find the (READ EACH ITEM) to be better than you expected, about the same as you expected worse than you expected?

Personal satisfaction	___ better	___ about the same	___ worse
Textbooks/ instructional materials	___ better	___ about the same	___ worse
Status in the community	___ better	___ about the same	___ worse
Status in the school	___ better	___ about the same	___ worse
Quality of your colleagues	___ better	___ about the same	___ worse
Support from the headmaster	___ better	___ about the same	___ worse
Support from the community/parents	___ better	___ about the same	___ worse
Opportunities for professional development	___ better	___ about the same	___ worse
Salary	___ better	___ about the same	___ worse
Regularity of payments	___ better	___ about the same	___ worse
Allowances	___ better	___ about the same	___ worse
Job security	___ better	___ about the same	___ worse
Number of students in a class	___ better	___ about the same	___ worse
Ability of students	___ better	___ about the same	___ worse
Classroom conditions (e.g. light, ventilation, furniture, roof, and walls)	___ better	___ about the same	___ worse
Location of school	___ better	___ about the same	___ worse

11. Overall, how would you rate your satisfaction as a teacher?

___ Extremely satisfied
___ Very satisfied
___ Satisfied
___ Neither satisfied nor unsatisfied
___ Not very satisfied
___ Unsatisfied
___ Very unsatisfied
___ Completely dissatified

12. Name the two things you found most satisfying about being a member of the teaching profession?

_____

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13. Name the two things you found least satisfying about being a member of the teaching profession.

14. What "tools" were important to you in teaching? What I mean is what "thing" - textbooks, instructional aids - really made a difference in the kind of job you could do?

15. What difference did the presence or absence of (READ answer above) make to you as a teacher?

16. Why did you leave teaching?

17. What is the highest grade you completed?

18. Did you have any preservice training? ___ yes ___ no
How long was the program?

19. Do you think the training adequately prepared you for teaching? ___ yes ___ no

20. Name two specific ways the training helped you.
1.
2.

21. Name two ways in which you think it could be improved.
1.
2.

22. When you were a primary teacher, did you ever have any any inservice training? ___ yes ___ no
If so what was the content and how long was the training?

Content	Duration

23. Are you likely to return to teaching in the next five years? ___ yes ___ no

24. If no, what would it take to get you to return to teaching?

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25. I'll now read you some steps that might be taken to encourage good teachers to remain in the teaching profession. For each step, please tell me whether you think it will help a lot, help a little, or not help at all to keep good people in teaching.
(READ EACH STATEMENT)

Providing higher salaries	___ help a little	___ help a lot	___ not help at all
Providing appropriate allowances for urban, rural, remote teaching	___ help a little	___ help a lot	___ not help at all
Paying salaries on time	___ help a little	___ help a lot	___ not help at all
Providing housing	___ help a little	___ help a lot	___ not help at all
Providing better textbooks and instructional materials	___ help a little	___ help a lot	___ not help at all
Supplying textbooks/materials on time	___ help a little	___ help a lot	___ not help at all
Having students who are more motivated to learn	___ help a little	___ help a lot	___ not help at all
Improving the status of the teacher in the community	___ help a little	___ help a lot	___ not help at all
Providing a greater role in the management of the school	___ help a little	___ help a lot	___ not help at all
Reducing discipline problems	___ help a little	___ help a lot	___ not help at all
Reducing unnecessary rules and regulations that waste teacher's time	___ help a little	___ help a lot	___ not help at all
Reducing class size	___ help a little	___ help a lot	___ not help at all
Having more parental involvement with schools	___ help a little	___ help a lot	___ not help at all
Providing better classroom facilities	___ help a little	___ help a lot	___ not help at all
Providing more opportunities for inservice training	___ help a little	___ help a lot	___ not help at all
Providing more opportunities for promotion	___ help a little	___ help a lot	___ not help at all
Reducing the age range of the students in the classroom	___ help a little	___ help a lot	___ not help at all
Providing opportunities for teachers to work more collaboratively in the schools	___ help a little	___ help a lot	___ not help at all

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Changing the school schedule and calendar to better meet the needs of the teachers and students	___ help a little	___ help a lot	___ not help at all
Providing more support from the headmaster	___ help a little	___ help a lot	___ not help at all
Encouraging greater support from the community and parents	___ help a little	___ help a lot	___ not help at all
Providing bonuses and allowances	___ help a little	___ help a lot	___ not help at all
Making only the deserving teachers permanent	___ help a little	___ help a lot	___ not help at all

26. Which *three* of these do you think are the most important? Name them in order of importance.

1.

2.

3.

27. When you were a teacher did you did you have other sources of income?
If yes, what were they?

___ yes ___ no

28. Did you have other jobs while you worked as a teacher?
What were they, how much did you get paid, and how many hours did you spend at them a week

___ yes ___ no

Job	Salary	Hours per week

29. Are you currently employed?
If yes, what is your current occupation and salary and allowances?
(NOTE: if a primary teacher has become a secondary teacher this should be considered a new occupation)

___ yes ___ no

30. Did you need any additional training for your new job?
If so what type of training did you receive?

___ yes ___ no

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31.. We would like you to rate some of the aspects of your present job com ared to teaching. Is the (READ EACH ITE. better in your present job than it was in primary .eaching.

Salary	___ yes	___ no
Allowances	___ yes	___ no
Personal satisfaction	___ yes	___ no
Materials and supplies you have to work with	___ yes	___ no
Status in the community	___ yes	___ no
Quality of the colleagues you work with	___ yes	___ no
Job security	___ yes	___ no
Opportunities for secondary employment	___ yes	___ no
Control of your own work	___ yes	___ no

32. All in all, how satisfied you are with your present job? ___ yes ___ no

35. Since you left teaching, how many different jobs did you have?

36. Is there anything else you would like to tell us about your experience as a teacher?

Thank you very much for taking the time to share your experience.

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IEES
POLICY RESEARCH INITIATIVE

TEACHER INCENTIVES PROJECT PROPOSAL

MINISTRY OF EDUCATION
MONROVIA, LIBERIA
DR. ALBERT COLEMAN

DECEMBER 3, 1986

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INTRODUCTION

Liberia, as many other third world countires, has realized the importance of embarking on a tremendous effort for social, economic and political improvement of its people. If education is defined as a process that effects change in behavior, then education becomes the sine-qua-non for national development as well as the hallmark for socio-economic and political growth in any nation. Education provides both a manpower infrastructure and superstructure within any society. If this is accepted as true, then the only means to accomplish this is by providing an attractive teaching profession because the employment of qualified, dedicated and committed teachers is important to the quality of teaching in the classroom.

Liberian educators and critics of the Liberian Educational System have been concerned about the quality of the nation's education. The mass failure on the West African Examination Council (WAEC) Senior or high school examination and the low performance of senior high graduates on the Entrance/Placement examinations of the nation's higher institutions of learning (University of Liberia, Cuttington University College and the William V.S. Tubman Technical College) clearly indicate a general detorioration of the nation's elementary and secondary schools and lend urgency to these concerns.

With these concerns at hand, there also the problem of maintaining a highly committed, dedicated and qualified teaching staff in the school system. It is often argued that the stagnation which permeates the fabric of the Liberian schools can be attributed, in large measure, to the increasingly large number of low-level personnel in the system. Statistics on the teaching force in Liberia confirms this: The 1984 and 1985 National Education Survey reported that 35% of the 8,390 teachers in the Liberian Educational System was said to be qualified to teach (2,401). The same

report revealed that of the 8,390 teachers in the system, 5,909 were said to be untrained, which is about 65%.

The 35% of teachers who are said to be trained are questioned about their performance, commitment and dedication. What may be responsible for this situation is not clear, but available evidence seems to indicate that in general the conditions of service of the teaching profession in Liberia, is a major contributing factor for the limited number of well qualified and committed teachers in the system.

This study, it is hoped, will reveal those conditions of service and the many factors which need to be improved. Also it may identify the present disincentives and factors which can be done away with.

RATIONALE

Available information on the supply of teachers in the Liberian School System has clearly shown that the supply of teachers from the Teacher Training Institute has dropped in the last four years. Information also shows that teachers are not attracted to the teaching profession[3]. The argument has been advanced, that among other factors, because of the present state of the teaching profession and the present condition of service teachers will not be attracted to the teaching profession.

Dr. Joseph Morris, President of the University of Liberia said:

> "There seems to be a strong probability that a substantial improvement in the quality of classroom instruction depends to a great extent upon the holding power of the educational system. This is the extent to which the system can attract and retain, at the levels of teaching required, the quality of teachers that can ensure a quality program."[4]

[3]Koon, Thomas G., "The Kakata Rural Teacher Training Institute in Liberia: Introducing Teachers to New Curriculum." An Inset Africa Project, Bristol University School of Education, 1982.

[4]Morris, Joseph G., "An Investigation of some of the factors Associated with Persistence in Teaching in Liberia." Doctoral Dissertation, Cornell University, 1968.

This study is therefore needed, because it will give ideas and wavs bv which the supply of teachers will meet the demand. It will also give reasons for the retention and recruitment levels of the system. This information is important at this point in time when Liberia is facing a serious financial, and moral problem in the teaching profession. The acute shortage of teachers, if alleviated, it is hoped, will be one of the answers to the many problems of Liberian Education.

Most of the developing countries today are faced with numerous problems which have become hindrance to their socio-economic situations. It, therefore, becomes their ardent duty to seek solution to its educational problems is the essential solution to all the others. Of all the educational problems faced by Liberia's school system, the one most important is that of attracting, recruiting, retaining and training of its teachers. Only if this is carefully planned and carried out will it lead the way to rapid dvelopment.

OVERALL GOAL

The overall goal for the teacher incentives project is to provide relevant data, background information, systematic proc-dures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to strengthen the teacher incentive system to achieve improved recruitment, increased retention, and effective instruction and, thereby, improve the quality of edu ation in the nation's schools.

PRODUCTS

Several products will be produced during and after the teacher incentives project. Here are the expected intermediate products:

-Preliminary statement of the problem, policy issues, and research questions.

-Inventory of system characteristics that affect teacher incentives.

-Design for policy research studies on teacher incentives.

-Recommended research procedure.

-Sample questionnaires for collecting data on teacher incentives.

-Guidelines and budget worksheets for coordinating the study.

-Bibliography of the literature on teacher incentives.

-Descriptions and discussions of major teacher incentive strategies.

-Descriptions and analyses of current incentives and disincentives in each cooperating country.

-Descriptions and analyses of the perceptions of teacher incentive systems by different stakeholders.

-Definition and description of critical features of teacher incentives systems.

-A procedural model for improving teacher incentive systems.

-A glossary of terms related to teacher incentive systems.

Here are the expected final products:

-Final report on each country study,

-Policy recommendations regarding teacher incentives for each country.

-Final report synthesizing the finding from the three countriess,

-Policy recommendations for teacher incentive systems in developing nations.

-Report and recommendations on conducting cross-national policy research studies.

-Updated review of the literature on teacher incentives.

OUTCOMES

The major purpose of the study is to examine and determine the extent of teacher shortage and the possible incentives that would attract and retain teachers in the profession. The study will identify and analyze way and means by which teachers in Liberia will become more committed, and dedicated to the profession.

The objectives of the study are:-

1. To determine the extent of incentives on individuals to become teacher trainees;
2. To determine what incentives other than salary would attract and retain teachers in the profession.

A major objective of the policy research initiative is also to improve the capacities of research institutions both in the host countries and among the members of IEES Consortium. As a result of participating in this research initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

-Policy research design.

-Data collection,

-Construction of survey instruments.

-Report preparation.

-Policy analysis.

-Project management.

-Collaboration in cross-national policy research initiatives.

DEFINITION OF A TEACHER INCENTIVE SYSTEM

The dictionary defines an incentive as "that which encourages action." An incentive (or a reward or a reinforcer) is anything that influences people to act in certain ways. An incentive system is a collection of reinforcers and a set of procedures for using them. Institutions use these systems to motivate their employees. A teacher incentive system is used by educational institutions to motivate teachers to efficiently carry out their responsibilities.

COMMON ELEMENTS OF A TEACHER INCENTIVE SYSTEM

All incentive systems, by definition, should have the seven common elements listed in Figure 1. Each common element is briefly discussed below with reference to teacher incentive systems.

INTENTIONAL NAUTRE. Most actions of an employee at work is followed by consequences that reward and punish the employee. Some of these consequences are deliberately designed to improve the employee's performance (e.g., bonus for regular attendance or fines for being absent) while others (e.g., praise from a customer or complaints from the public) do not have such intent - even though they may also affect the employee's performance. All incentive systems should provide rewards with the intention of influencing employee performance. In a teacher incentive system, for example, an annual salary increase may be used to maintain the teacher's classroom performance and an educational allowance, to improve it.

EXTENAL SOURCE. Consequences of professional activities can be classified into four categories according to the source of incentives:

- internal to the emplcyee (e.g., sense of accomplishment, feeling of pride, increased self-confidence).
- internal to the group of workers (e.g., approval of colleagues).
- external, form clients or customers (e.g., appreciation letter from a satisfied customer)
- external, from higher levels of administration (e.g., praise from a supervisor or increased salary from the employer)

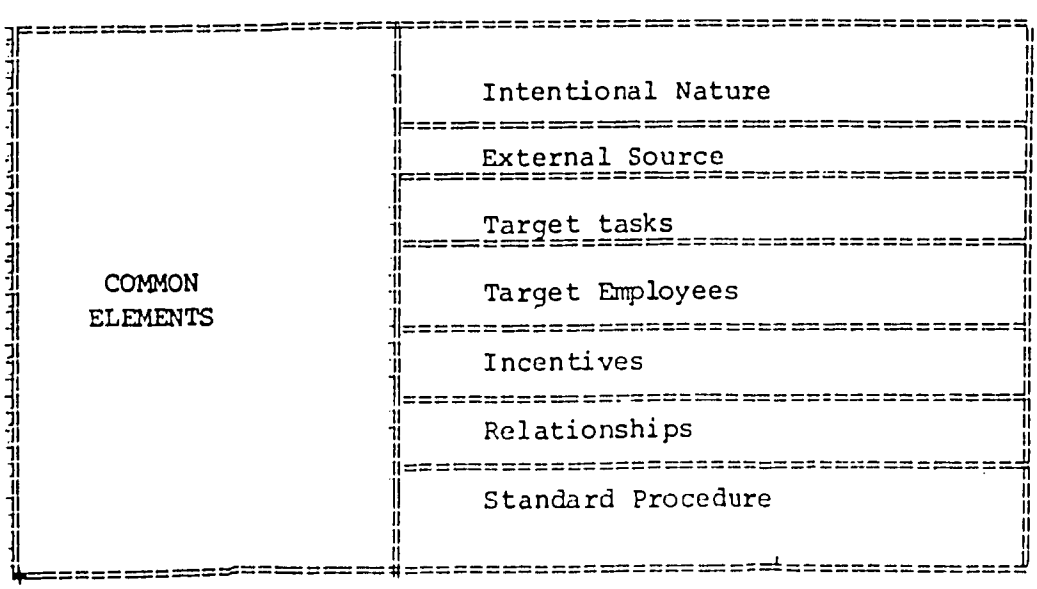

FIG. 1. Common Elements

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While effective incentive systems take into account incentives from all four categories and attempt to systematically organize the later three, all incentive systems should employ the category of external incentives, from higher levels of administration. Thus a teacher incentive system should specify incentives from headmasters and educational officers.

TARGET EMPLOYEES. All incentive systems should identify a specific group of employees who are to receive the incentives. Clear identification of the employees will permit us to select the most appropriate incentives and procedures. In the case of a teacher incentive system, the target employees are obviously teachers. In a comprehensive system, we may include the administrators (e.g., headmasters) and support staff (e.g., librarian).

TARGET ACTIVITIES. All incentive systems hould identify specific activities and work performances to be rewarded. This will permit us to reward the most critical and desirable activities. In a teacher incentive system, for example, such specific tasks could include coming to school on time and preparing lesson plans.

SET OF INCENTIVES. All incentive systems should obviously include a set of incentives for rewarding the employees for performing the specific activities. In a teacher incentive system, monthly salaries and community recognition are two examples of such incentives.

RELATIONSHIPS. All incentive systems should have a logical relationship among the target employees, target activities, and the set of incentives. The incentives should be suitable for the type of employees and should be capable of influencing the target activities. For teachers, for example, a monetary bonus for regular attendance is an effective incentive for coming to school.

STANDARD PROCEDURE. All incentive systems should specify a set of rules to determine such things as who is to be rewarded by whom with what incentives and how often. For example, a standard procedure in a teacher incentive system may require that the teacher who was absent for the least number of days during the school year will receive a bonus

payment from the District Educational Officer during the Founder's Day celebration.

VARIABLE ELEMENTS OF A TEACHER INCENTIVE SYSTEM

While all incentive systems should include the seven common elements identified above, different types of incentive systems may be designed to meet different needs. Elements of incentive systems which may vary from one institution to another are also listed in Figure 2. Each variable element is briefly discussed below.

COMPREHENSIVENESS OF THE SYSTEM. Incentive systems may differ with respect to the number of factors they attempt to organize and to control. Professional activities are followed by positive and negative consequences which determine the morale of employees. As we saw earlier, some of these consequences are internal to the employee (e.g., sense of accomplishment), internal to the group (e.g., approval from colleagues), external from customers (e.g., letter of appreciation from a satisfied client), and external from supervisors and employers (e.g., salary raises). At a minimum, incentive systems should organize and control the last category of consequences. They may also attempt to identify, organize, and control the earlier categories. A simple teacher incentive system may specify the procedure for salary scales and steps. A comprehensive teacher incentive system will mobilize such factors as employee motivation, collegial relationship, and the community.

LEVEL OF EMPLOYEES. Incentive systems may be established for employees at various levels ranging from the lowest peon to the highiest executive. Teacher incentive systems may include different types of teachers with different levels of educational background and experience. It may also include administrators in the school (e.g., headmaster) and support personnel (e.g., librarian).

SUBGROUPS. Incentive systems may treat all employees the same or provide different rewards for specific subgrounds. In teacher incentive systems, for example, those working in remote rural areas may receive a hardship allowance which is not paid to teachers in cities; teachers of mathematics and science may receive additional rewards

compared to those teaching other subject areas.

INDIVIDUALS OR GROUPS. Incentive systems may reward individual employees or groups. Teacher incentive systems, for example, may reward the single teacher who produced the best results in a national examination or the entire staff for the same achievement. The effects of individual and group incentives differ not only with respect to the target activities but also with respect to the levels of cooperation and competition among teachers.

TYPE OF ACTIVITY. Incentive systems may be used to influence a variety of physical, intellectual, and social activities. In teacher incentive systems, the activity being rewarded can be a one-time task (such as joing the teaching profession) or repetitive task (such as teaching in the classroom every day).

MAINTENANCE OR IMPROVEMENT OF PERFORMANCE. Incentive systems may focus on maintaining a behavior (such as coming to work regularly) or on improving it (such as becoming more efficient). Examples from teacher incentive systems include maintaining the behavior of keeping records of student absence and improving the behavior of writing lesson plans. In general, incentives required for maintaining a behavior usually differ from those required for improving it.

PERFORMANCE OR RESULTS. Incentive systems may reward the employee's performance or the outcomes of such performance. For example, teacher incentive systems may reward the classroom performance of the teacher or the learning gains of his or her students.

TYPES OF INCENTIVES. Incentive systems may use a variety of rewards. These may include direct monetary incentives such as salary, allowances, and bonuses; indirect monetary incentives such as free housing or meals; and nonmonetary incentives such as job satisfaction, professional support, and recognition in the community. The types of incentives which may be included in a teacher-incentive system are listed in Figure 3.

VARIABLE ELEMENTS	Comprehensiveness Of the System
	Level Of Employees
	Subgrounds
	Individuals or Groups
	Maintenance or Improvement Of Performance
	Performance Or Results
	Types of Incentives
	Positive Or Negative Incentives
	Number Of Incentives
	Direct and Indirect Relationships
	Comprehensiveness Of the Incentive Procedure
	Number Of Incentives
	Direct and Indirect Relationships
	Comprehensiveness of Procedure

FIG. 2. Variable Elements

POSITIVE OR NEGATIVE INCENTIVES. In addition to rewarding employees for desirable activities, incentive systems may punish people for undesirable activities. These punishments are called disincentives. For example, in a teacher incentive system, those who are frequently absent may have a part of their monthly pay withheld; others whose students perform poorly in the examinations may be reprimanded by the headteacher.

NUMBER OF INCENTIVES. Incentive systems may include any number of incentives. Most systems attempt to influence employee activities through the control of salaries. However, the more incentives a system brings within its control, the more effective it is likely to be. Successful teacher incentive systems incorporate a variety of monetary and nonmonetary incentives.

DIRECT AND INDIRECT RELATIONSHIPS. Some incentive systems may direct the link of the rewards to specific activities or result. For example, teachers may be given a bonus based on the number of days they come to school or on the number of students passing an external examination. Other incentive systems may have less direct links between teacher

activities and the rewards. For example, teachers may receive an annual increase in their salaries whether or not they have performed efficiently during the school year. In general, clear-cut links between activities and rewards are more effective in improving employee performances.

COMPREHENSIVENESS OF THE INCENTIVE PROCEDURE. Incentive systems may differ in the level of detail of the specification of their standard procedures. For example, one system may merely state that a trophy is to be awarded to the most outstanding employee while another may specify such details as which group of employees are eligible, what criteria are used for judging their activities, which juges will select the most outstanding employee, what form the award will take how frequently it will be given, and so on. Clear, specific, and public information will ensure the effectiveness of the incentive system.

CRITICAL ELEMENTS OF AN EFFECTIVE TEACHER INCENTIVE SYSTEM

A teacher incentive system may include all the common elements and could still be ineffective. In the discussion of the variable elements, we identified certain factors that appear to contribute to the effectiveness of incentive systems. From out analyses of different types of teacher incentives systems, especially those for primary schools in developing ocuntries, we have identified five critical elements that are associated with effective results. These five are listed in Figure 4 and discussed below.

EFFICIENCY. Efficiency refers to the least costly method of achieving a particular goal or the most productive method of using a given amount of resources. To be efficient, an incentive system should contain clear statements of both goals and means. The system should also have consistency between the goals and the means: For example, the goal of recruiting talented youth to primary school teaching can be achieved only if such means as compensations are comparable to those provided by alternative employment opportunities in other sectors. Further, there should be consistency among the means used to achieve different goals of the teacher incentive system. For example,

the promise of automatic college entrance after two years of primary school teaching may be a powerful means for achieving recruitment goals.

-Access to administrative information	-Participation in decision-making
-Additional teaching job	-Pension
-Ample supplies	-Performance appraisal
-Beginng salary	-Playground facilities
-Bonus for regular attendance	-Plot of land
-Bonus for student achievement	-Political recognition
-Cafeteria in the school	-Positive collegial relationship
-Community recogntion	-Positive home-school relationship
-Community support	-Professional conferences
-Compatible colleagues	-Project grants
-Compatible management	-Recognition by headmaster
-Cost-of-living allowance	-Reduce number of dropouts
-Distance education	-Regularity of salary payments
-Educational allowance	-Respect from students
-Evening classes	-Salary
-Examination grading job	-salary increases
-Examination supervision job	-Salary scales
-Family allowance	-Scholarship
-Free books	-Sharing of incentives
-Free housing	-Sick leave
-Free meals	-Small class size
-Free periods	-Small number of students
-Good blackboards	-Student selection
-Good textbook	-Subsidized housing
-Hardship allowance	-Subsidized meals
-Health insurance	-Suitable school calendar
-High status in the Community	-Suitable school schedule
-High-ability students	-Suitable teaching load
-Housing near school	-Supervisory guidance
-Increased school enrollment	-Teacher's room
-Inservice training	-Teacher-community compatibility
-Instructional materials	-Team spirit among teachers
-Job in the Ministry of Education	-Textbook writing job
-Job on educational projects	-Training allowance
-Library facilities	-Transportation allowance
-Life insurance	-Transportation facilities to school
-Low-interest loans	-Travel allowance
-Medical assistance	-Tutoring job
-Merit pay	-Useful teacher's guides
-National awards for teaching excellence	-Useful teaching aids
-Paid leave	-Well-behaved students
-Participation in student promotion decisions	-Well-furnished classrooms
	-Well-lighted classrooms
-Part-time job	

FIG. 3. Sample Incentives For Teachers

CRITICAL ELEMENTS	Efficiency
	Equity
	Adequacy
	Professional Support
	Career Growth

FIG. 4. Critical Elements

However, it is an incompatible means for achieving the equally important retention goal of keeping primary teachers in classroom service for at least five years. Responsibilities for recruitment and retention are usually the domains of different units within the Ministry of Education. Unless administrators interested in achieving these different goals work together to ensure internal consistency, the results will be counter productive.

EQUITY. Incentive systems only work if they are perceived as fair. Equity requires sim similar incentives for equals and different incentives for unequals. In teacher incentive systems, employees may be differentiated in terms of levels of educ-ion, and scope of responsibility. Thus secondary graduates are generally paid a higher salary than primary graduates, experienced teachers are paid a higher salary than beginning teachers, and headteachers are paid a higher salary than regualr teachers. However, many teacher incentive systems are ineffective because they ignore the troublesome task of differentiating among so-called "equals." If all teachers with the same training and experience receive the same compensation but some work harder than others, morale will deteriorate. A number of solutions have been offered to this problem. The first is to compensate teachers on the basis of the success of their students on examinations. Technical problems related to measuring the value added by a particular teacher, as well as the temptation to teach to a particular test rather than for acquistion of a bread range of cognitive and affective goals make it difficult to effectively employ this solution. More acceptable approaches involve recognizing individual teachers'

contributions to the school, regular attendance, and effort.

ADEQUCY. An effective incentive system should provide adequate compensation for the employees. The concept of adequate compensation is a relative one. It is defined by the opportunity costs related to choosing a particular profession. If alternative employment opportunities are available which provide higher salaries and status, then individuals would prefer them to the teaching profession. While few nations can suc cessfully compete against the salaries offered by private sector employers, many can offset the disincentive of low salaries by providing free or subsidized housing, food, or transportation. In addition to indirect monetary incentives, nonmonetary incentives may be designed to effectively enhance the overall compensation package. Exemption form military service, choice of location for the next assignement, and recognition of effort and excellence are examples of nonmonetary incentives.

PROFESSIONAL SUPPORT. An effective incentive system should provide the facilities, tools, materials, and guidance for carrying out professional responsibilities. Job satisfaction, which is related to conducive environments and to participatory decision-making is a major motivator in all professions. In teacher incentive systems, such job factors include those items listed in Figure 5.

WORKLOAD

-Appropriate teaching load
-Appropriate administrative workload
-Appropriate extracurricular workload
-Fair distribution of workload
-Suitable school schedule
-Suitable annual calendar
-Released time

PARTICIPATION IN SCHOOL MANAGEMENT

-Access to administrative information
-Participation in Management decision-making
-Participation in student promotion decisions

OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

-Inservice training workshops
-Evening classes
-Distance education
-Staff meetings
-Professional conferences

SCHOOL LOCATION

-Housing near school
-Meals at school or near school
-Transportation facilities near school

FIG. 5 CONTINUES

-Participation in student assignment decision	-Medical facilities near school
-Participation in classroom assignment decisions	-Postal facilities near school
-Participation in subject-area assignment decisions	
STUDENTS	SCHOOL FACILITIES
-Respectful students	-Preferred size of school
-Responsible students	-Preferred type of school
-High-ability students	-Well-furnished teachers'room
-Students of similar age range	-Adequate school library
-Low student absenteeism	-Adequate playground facilities
-Low student dropout rate	
COLLEAGUES AND SUPERVISORS	CLASSROOM FACILITIES
-Regular performance appraisal	-Large classroom
-Feedback and guidance from headmaster	-Good lighting in classroom
-Recognition by headteacher	-Good ventilation in classroom
-Regualr calsroom inspection	-Good roofs and walls in classroom
-Feedback and guidance from school inspectors	-Adequate furniture
	-Ample blackboards
-Recognition from school inspectors	-Ample classroom supplies
-Frequent visits from community leaders	-Good textbooks
-Recognition from community leaders	-Useful teachers' guides

FIG. 5. Teacher Support Factors

CAREER GROWTH. An effective incentive system should provide opportunities for promotion and professional development. Educational systems with few such opportunities are perceived as dead-ends. Teachers who work in such systems often invest more of their energy in looking for other jobs and in attempting to obtain release from the teaching service than in developing their teaching skills or in contributing to school improvement. Opportunities for promotion provide effective incentives, but promotions should carry not only more status but involve greater rewards. Similarly, professional development activities should clearly result in improved skills, increased status and enhanced benefits. The selection process for the distribution of promotion and professional-development opportunities should be clearly explained and perceived as fair.

Teachers should be involved in specifying and implementing this process.

CONCLUSION

Teachers are the most important resource governments provide to schools. Where teachers are well-motivated, competent in the presentation of curriculum, and able managers of other classroom resources, students attend regularly and learn. By the same token, where teachers are distracted from their task by the need to supplement their income, have little in the way of collegial and materials support, and are unprepared to manage heterogeneous groups of students, little learning takes place. An effective incentive system can go a long way toward improving teacher motivation and morale and hence the quality of education.

STATEMENT OF THE PROBLEM

In recent years the Government of Liberia has tried to address itself to the shortage of teachers in the system. Critics have also termed the unsatisfactory performance of teachers as the main problem with the performance of students. It has been indicated that there is a need for improvement in the current performance and conditions of services of Liberian teachers[1]. It has also been indicated at national forums and in the last Sector Assessment that the enrollment at Teacher Training Institutions in Liberia is dropping at a fast rate.

Liberia will continue to face a serious teachers shortage probelm if nothing is done to identify the underlining causes of the problem. If the supply of teachers (qualified and committed) must equal the increase in school enrollment, and improve the quality of instruction in the classroom; something must be done and must be done right away.

[1] Barclay, Daniel E. "The Teaching Profession in Liberia: Issues and Social Problems", Research Papers Southern Illinois University at Carbondale 1981.

The input and output of graduates from the teacher training institutes over the last four years have been too low for the requirement of the Liberian schools. This stagnation in the number can clearly indicate that this field of study is not attractive[2].

This study will attempt to look into some of the factors which supposedly affect teachers decisions to enter the teaching profession. It will also examine those factors which affect teachers' decisions to remain in the profession.

Nations at every level of development are debating issues related to incentives for teaching. The current discussion of teacher incentives is reflective of a profound concern with the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while, at the same time, the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited in teaching. In developing nations, however, where school systems are still expanding, infrastructures (communication, roads, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of a much greater magnitude than it is in countries where both human and material resources are not so sharply constrained.

The research on incentive systems suggests that effective reform of an existing system must be consistent with the goal of improving teacher performance. The danger, evidenced in a great deal of the literature, is reduction of the goal to one or more subgoals, such as recruiting higher quality individuals into teaching or increasing retention subgoals into a long term plan for improving teacher effectiveness produces

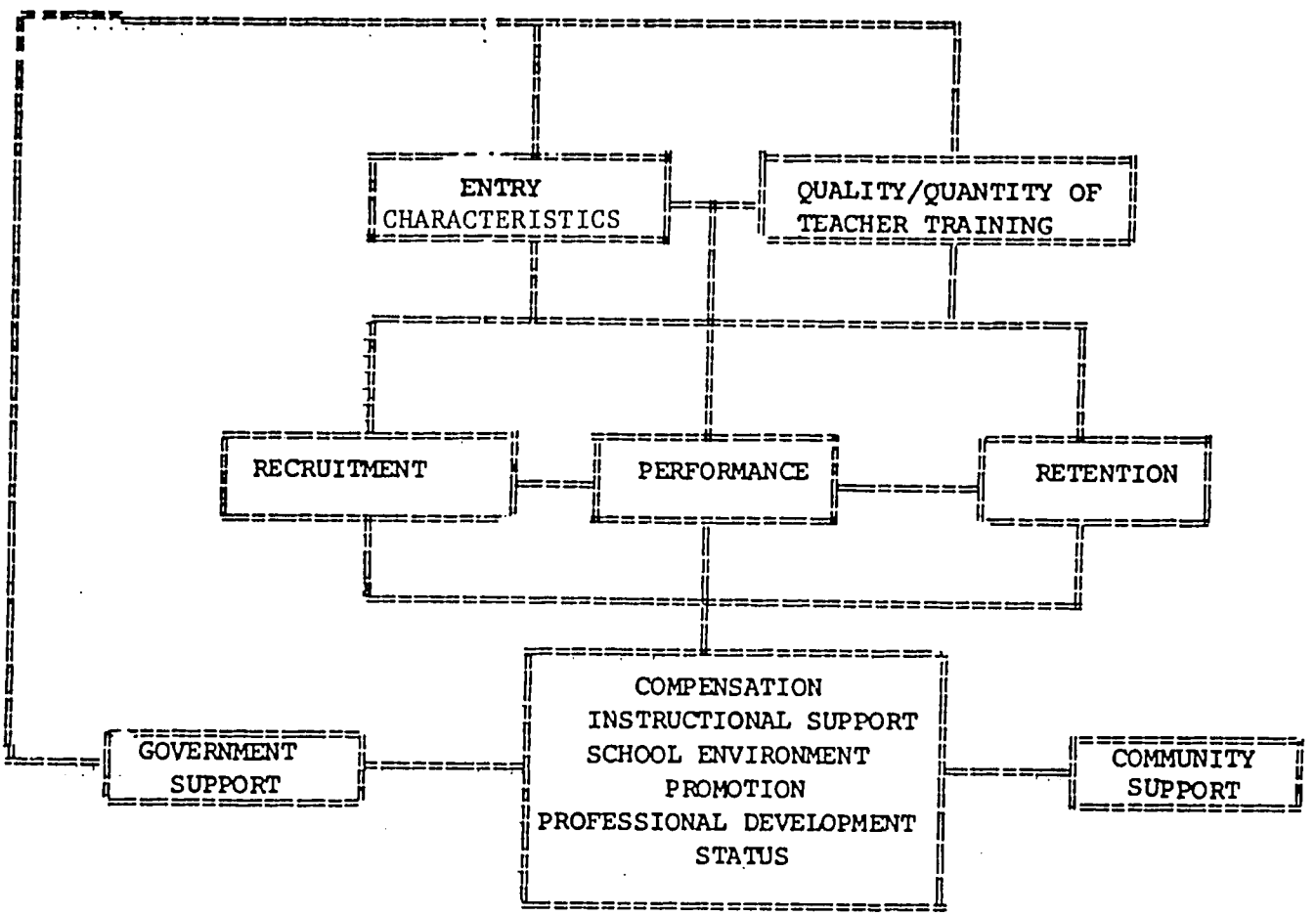
[2]Ministry of Education, School Directory, Primary and Secondary Schools of Liberia, 1984

a more flexible and effective system.

One advantage of emphasizing teacher effectiveness in discussions of incentives is that it forces the debate beyond the narrow interests of particular units responsible for one aspect or another of the teacher service. This, in turn, may generate greater support both within the Ministry and across ministries for strengthening incentives for teaching. A second and more important advantage is that each incentive will be measured dir-ctly against the value it will potentially add to improving teacher performance over time. Such procedure makes explicit the tradeoffs between the goals and means related to recruitment and those related to retention and therefore maximizes the set of options available to policy-makers.

POLICY ISSUES

If the problem is how to improve teacher productivity (that is, how to help teachers facilitate student learning), given current resource constraints, the major policy issues are who is to be recruited at what price, and who is to be trained at what price. Price, in this context, connotes the total package of rewards, including both direct and indirect monetary and non-monetary benefits. In many countries, the price of recruitment includes both preservice training and beginning teachers salaries while the price of retention includes not only salary and allowances but also inservice training, headmaster and inspectors' time devoted to supervision, etc. The magnitude of these investments in both salary and training require justification in terms of their efficiency in producing the desired teacher behaviors.



If, for instance, a significant portion of those trained for teaching never teach or leave the service before government has realized a sufficient return on its investment in training, a hard look has to be taken at the characteristics the system is recruiting for. It may well be that entry characteristics are too high relative to the compensation package. If this is the case, one option is to reduce the entry requirements (and possibly salaries) and provide greater inservice training and instructional support for teachers. Thus, if the target group for recruitment consists of secondary graduates, government may decide to temporarily admit secondary dropouts to teacher training until market conditions or government fiscal capacity changes.

Similarly, if teacher behaviors do not meet the minimal standards of performance, such as regular attendance at school and in the classroom, both the compensation package and the rules and regulations for tenure and promotion need to be examined.

Obviously, the first step in addressing issues related to providing incentives for teacher productivity is to define the minimal acceptable behaviors for payment of salary and those set of behaviors which will be rewarded beyond salary (by promotion, inservice opportunities, public recognition, etc.).

This requires a conceptualization of the factors influencing different levels of teacher performance.

THEORETICAL FRAMEWORK

Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and guidance. Outside the calssroom, teachers are often typically expected to participate in school level decisionmaking assist each other and meet with parents. The literature suggest that the factors which influence teachers' willingness and ability to carry out their responsibilities effectively are as follows:

- entry characteristics (academic ability, the quantity of their prior schooling);
- nature and type of teacher training;
- adequacy of the compensation package;
- quantity and quality of instructional support (texts, materials, and supervision);
- opportunities for promotion and advancement;
- quality of the school environment (colleagues, students, management structure, and facilities); and
- status in the community.

The relationships between these factors and teacher performance is shown in Figure 1.

As Figure 1 suggests, there is an identify between the factors that affect

performance and those which affect the subgoals of recruitment, and retention. Teaching is one of the few professions in the modern sector that the school going public is familiar with. Individuals who have gone to school know the status of the teacher in the community, the salaries of teachers, and their working conditions. This knowledge, as well as their own experiences in school, determines, to a large extent, their perception of teaching as an attractive occupation. The status of the school system thus feeds back into the ability of the teacher service to recruit new teachers. In addition, there is also considerable research which suggest that the individual's perception of the quality of his/her first teaching assignment (school environment, opportunities for promotion and professional development, status in the community, instructional support), as well as his/her sense of success in teaching also affects decisions related to exiting or staying in the teaching service.

RESEARCH QUESTIONS

The overall goal of the teacher incentives projects is to provide relevant data, background information, systematic procedures, policy recommendations, and analysis of alternatives so that policy makers can select and implement appropriate strategies to strengthen the incentive system for teacher performance. In order to achieve this goal, information will be gathered from policy makers, present treachers, and former teachers on their perceptions of current incentives and their suggestions of how these incentives could be made more effective. In addition, background information on the school system and the teaching force is necessary to set the context for analyzing the responses. These information needs are summarized below in the form of sets of questions.

1. CURRENT STATUS

-What are the characteristics of currently serving teachers (educational attainment, age, gender, marital status, national, origin, part-time/fultime, etc.)

-How many teachers are actively teaching and how much do they get paid?

-How much could be saved by removing non-active teachers from the payroll?

2. RECRUITMENT FOR TEACHER TRAINING

-What is the teacher turnover rate (national, regional, district)?

-What are the opportunity costs for primary teaching for each level of educational attainment of recruits and different types of teachers?

-What are the per-student costs of teacher training?

-How many years of teacher service are required to realize a return on investments in training?

-Is teacher training consisdered an incentive for entering the teaching service?

-Are there alternative forms of training which might be less costly (e.g., a concentration in primary education at the secondary level or programmed teaching)?

-How closely does the teacher training curriculum relate to the realities of primary school teaching?

-What are the dropout and graduation rates in teacher training institutions?

-What proportion of those who graduate actively serve as teachers?

3. TEACHER RETENTION AND ATTENDANCE

-How are teachers assigned to schools?

-What length of time is the usual period of assignment?

-How long does the average person remain in primary school teaching?

-What factors influence teacher persistence and exit?

-How regularly do teachers attend school?

-What factors encourage high attendance rates?

-How do rates of teacher attendance vary with teacher characteristics, region, type of school (complete/incomplete), or location of school (urban/rural remote)?

4. TEACHER INCOME

-What strategies do teachers use to suplement their income?

-How do these strategies differ according to the location of the school and the gender of the teacher?

-Which supplementary income strategies are officially sanctioned?

-What are the effects of secondary employment on teachers' effectiveness in the classroom?

-What types of secondary employment are complementary to teaching?

-What types of secondary employment are complement to teaching?

-What are the possibilities for government employment of teachers in second jobs

(i.e., work at the MOE, work in the village as an adult education specialist)?

5. SCHOOL INCOME GENERATION ACTIVITIES

-What are the current sources of income for primary schools (e.g., government aid, private contributions, tuition, fees, etc.)?

-What school income generation activities are appropriate for different regions?

-What strategies have been tried in which locations with what results?

-What alternative approaches are available for distributing additional income among teachers?

-What are the advantages and disadvantages of alternative income sharing approaches?

6. PERCEPTIONS OF INCENTIVES

-What do teachers, former teahcers, teacher trainees, administrators, educator, and public perceive as incentives and disincentive for the recruitment, tetention, performance of teahcers?

-How do these perceptions differ from one group to another?

7. EVALUATION AND FEEDBACK SYSTEMS

-What types of formal evaluation of teaching performance are undertaken?

-What is the relationship between formal evaluation of performance and tenure, promotion, and salary increases?

-What is the effect of recognition, indifference, and/or criticism on teacher performance and morale?

-What formal mechanism can be used to increase the frequency of feedback and to make it more objective?

8. REMOTE AREA TEACHING

-What are the incentives and disincentives for teaching in remote areas?

-What are alternative strategies for increasing incentives and/or decreasing the disincentives?

-What are the likely costs and benefits of these alternative strategies?

9. COMMUNITY PARTICIPATION

-What is the extent of current of current community support for teachers' food and housing?

-What types of teacher incentives are best provided by parents and the community?

-How should the government formalize community participation in the support of schools?

10. INSTRUCTIONAL SUPPORT

-Do teachers perceive instructional materials as an incentive?

-What are the relative incentive values of textbooks for students, teacher's guides, programmed teaching modules, and teaching aids?

-What are the cost of these materials?

-How can their life be extended and their costs be (at least partially) recovered?

-What is the relationship between the availability of instructional materials and teacher attendance?

11. TEACHER STATUS

-What is the public perception of the status of primary school teachers?

-What is the effect of such perception on the morale of teachers?

-How can the status of teachers be enhanced?

12. OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT AND PROMOTION

-What types of inservice training programs are available for the professional development of teachers?

-Are inservice training activities perceived by teachers as incentives?

-What opportunities for promotion currently exist?

13. SCHOOL CHARACTERISTICS AND JOB SATISFACTION

-Do the characteristics of schools (e.g., size, enrollment, location, complete/incomplete cycle, etc.) affect teachers' job satisfaction?

-How are classrooms, students, and workolads assigned to teachers?

-Do teachers perceive workloads as being distributed equitably?

-To what extent do teachers participate in the school management and administration?

LIMITATIONS OF THE STUDY

The complexity of the relationships described in Figure 1 suggest that no single study can examine all the factors influencing teacher performance. Consideration, for instance, of the efficiency of teacher training and, therefore, both its absolute value and its relative value as an incentive for performance would obviously require a separate study. By the same token, since teacher incentives vary with school level, it would be difficult to deal with more than one level at a time. For these reasons, the study is limited to the investigation of the efficiency of the current incentive ystem for the recruitment, performance, and retention of primary teachers and alternatives for strengthening it. Primary teachers are defined as public school teachers of grades 1 - 6.

METHODOLOGY

The study of teacher incentive is primarily a descriptive one. Phase I of the study will consist of three parts. First, the current status (numbers of teachers, salaries, etc.) of the system will be presented. Second, the current rules and regulations affecting primary teachers will be summarized. Third, the balance of current incentives and disincentives embedded in the rules and regulations governing recruit-

ment, performance, and retention will be analyzed. In order to see whether the perceptions of former teachers, prospective teachers, and secondary teachers differ from primary teachers, approximately 50 members of each of these groups will be interviewed in Phase III of this study. If the results indicate significant differences, more systematic sampling could be undertaken in Phase IV of the study.

Phase IV will be primarily devoted to an analysis of the interview items using such techniques as the chi square. The results of the analysis, together with the cost and benefits of the alternative approaches to strenghtening the incentive system suggested by the analysis, will be presented to the in-country Steering Committee as well as to the project Team Leaders. In addition, considerable effort will be taken to disseminate the results of each study and the lessons from all three in the international educational community. In the secon phase of the sudy, currently serving primary teachers will be the interview regarding teachers perceptions of the incentives and disincentives for teaching. Grade 1 - 6 teachers will be stratified by gender and urban/remote rural school location. Figure 2 depicts the stratification scheme. The country team leader, in collaboration with colleagues in the Ministry will select urban/remote rural district where teachers will be interviewed. Male and female teachers within districts will be randomly selected until there are 50 with-n each cell.

	URBAN	REMOTE RURAL
MALE	50	50
FEMALE	50	50

FIG. 6

PROPOSED MANAGEMENT STRUCTURE

The overall management structure for the Teacher Incentives Project is shown in Figure 1. The Country Team Leader has the responsibility for managing the entire project. He receives advice from two groups: the IEES Project Team and the Liberian Project Advisory Committee. Three Research Associates will help the Country Team

Leader in implementing different aspects of the project: The Research Associate for Assessment will prepare a report on the current status of teacher incentives in Liberia. The Research Associate for Field Work will train the interviewers and coordinates the survey of different groups of primary teachers. The Research Associate for Analysis will coordinate the coding, tabulation, and analysis of all interview data. A secretary will carry out clerical and secretarial responsibilities for the life of the Project.

IEES PROJECT TEAM

The IEES Project Team will provide technical and professional advice to the Liberian Project staff. The IEES Project Team will visit the project periodically, review the progress, and provide suitable inputs on professional and technical aspects. The will also frequently correspond with the Country Team Leader and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

PROJECT ADVISORY COMMITTEE

Due to the potential national impact and the complexity of the project, an Advisory Committee will be formed to represent different stakeholders and decision makers. During the life of the project, members of the committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The Advisory Committee will be composed of a representative from each of the following agencies or institutions: Proposed meetings dates are as follow:- March 1987, June 1987, September 1987, January 1988, April 1988, and July 1988.

	AGENCIES	NUMBER OF PERSONS
1.	Ministry of Education	2
2.	Ministry of Finance	1
3.	Ministry of Planning & Economic Affairs	1
4.	Budget Bureau	1
5.	National Union of Liberian Teachers	1
6.	Cuttington University College	1
7.	Zorzor Rural Teacher Training Institute	1

PROPOSED PROJECT MANAGEMENT STRUCTURE

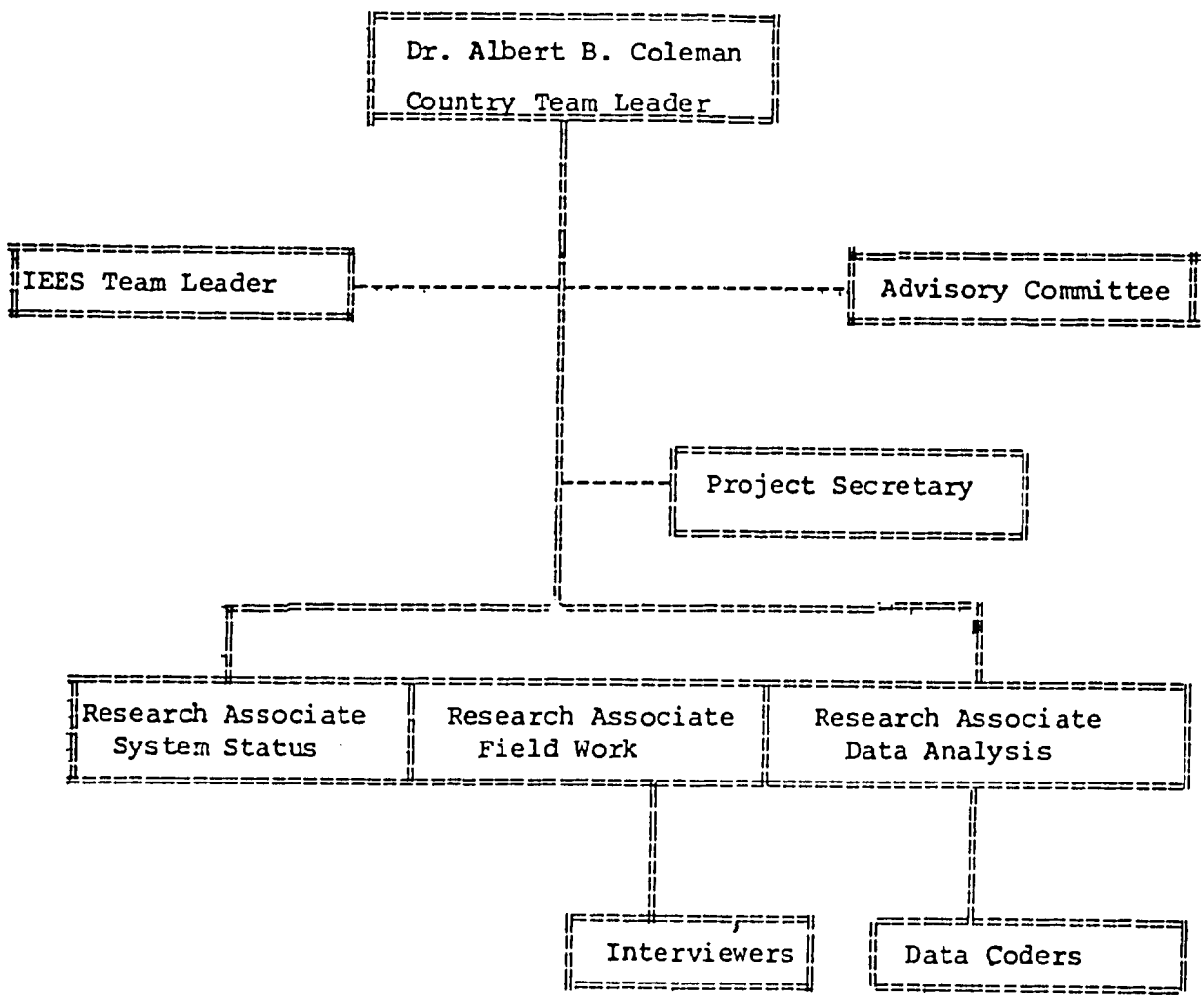


FIG. 7

Thus there will be a total of eight members in the Advisory Committee. The Country Team Leader will select three members from this committee to form an Executive Committee.

During the two years of the project, the Advisory Committee will meet six times. Members of the Committee will be responsible for the following functions:

-Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory.

-Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project.

-Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

COUNTRY TEAM LEADER

Dr. Albert Coleman will be the Country Team Leader for the project. He is currently the Director Specialist for Teacher Education in the Ministry of Education in Liberia. As Country Team Leader, Dr. Coleman will be responsible for all the processes and products for the project in Liberia. He will work in this capacity for the entire two years on a half-time basis.

The Country Team Leader will be responsible for the following functions:

-Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

-Position decriptions. Identify different positions and describe the functions and responsibilities of each.

-Budget preparation. Prepare a budget for personnel, materials and supplies, in-country travel, report and instrument preparation related to the research activities.

-Advisory Committee. Identify and select decision makers in the Ministeries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Liberia.

-Personnel Management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

-Financial Management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

-Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

-Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers and secondary teachers to be interviewed.

-Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

-In-Country dissemination. Publicize the reports and recommendations of the project to appropriate stakeholders and policy makers in Liberia.

-International dissemination. Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums, and represent Liberia Teacher Incentive Project at all IEES Conferences.

RESEARCH ASSOCIATE FOR THE STATUS REVIEW

Dr. Edwin F. Nguma, Cultural Researcher, Ministry of Education, will be the Research Associate for the Status Review. He will work in this capacity for the first four months of the project on a half-time basis. The Research Associate for the Status Review will carry out the following functions:

-Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their first assignemtn, remain, and exit the primary school teaching service in Liberia.

-Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers.

-Describe the current balance of incentives and disincentives for teaching in Liberia.

-Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunities for professional growth and development, and instructional support.

-Prepare draft and final report on the current status of primary teacher incentives in Liberia.

RESEARCH ASSOCIATE FOR FIELD WORK

Dr. Beresford B. Jones, Assistant Professor University of Liberia, will be the Research Associate for Field Work. He will work in this capacity for the first eight months of the project on a half-time basis. The Research Associate for Field Work will be responsible for the

following functions:

-Develop the criteria for the selection of the interviewers.

-Select interviewers.

-Prepare appropriate training materials and train interviewers.

-Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.

-Develop guidelines for conducting the interviews.

-Arrange logistical support for the interviewers.

-Develop a time table for administering the interviews.

-Monitor and supervise data collection in the field.

-Collect all completed interviews.

-Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

RESEARCH ASSOCIATE FOR ANALYSIS

Dr. Frederick S. Gbegbe, Assistant Professor, University of Liberia, will be the Research Associate for Data Analysis. He will work in this capacity for a period of six months on a half-time basis. The Research Associate for Data Analysis will be responsible for the following functions:

-Train data coders.

-Monitor and supervise the coding of all completed interview forms.

-Analyze the data from the interview forms.

-Prepare draft and final reports of the analysis.

-Integrate the status report, interview report, and the analysis report into a final project report.

OTHER STAFF

Other project staff will include a full-time secretary and approximately 15 personnel who will be used for interviewing and data coding.

ESTIMATED BUDGET - IEES

	ESTIMATED AMOUNT
A. PERSONNEL	
Country Team Leader (24 months @ 50%)	$13,625
Research Associate (Status Report - 4 months @ 50%)	1,600
Research Associate (Field Work - 10 months @ 50%)	4,000
Research Associate (Analysis - 4 months @ 50%)	1,800
Typist (18 months @ 100%)	4,500
Advisory Committee (Stipends for 8 people for 6 meetings)	1,200
15 Interviewers (10 days training/pilot testing - 16 days in field, including travel time - $9/day)	3,510
Coders 24 days @ $15/day	360
TOTAL	$30,595
B. MATERIALS/SUPPLIES	$ 2,000
C. IN-COUNTRY TRAVEL	
Travel for 15 interviewers	1,120
Per diem (15 interviewers for 16 days @ $15/day)	3,600
Field Worker Travel	1,195
Field Worker per diem (16 days @ $25/day)	400
CTL travel during survey	800
Per diem (8 days X $35)	280
CTL administrative travel	1,500
CTL administrative travel per diem (44 days X $35)	1,540
TOTAL	$10,435

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D. PHOTOCOPYING/PRINTING

Status report (50 pages, 25 copies X 10¢)	125
Final report (200 pages, 100 copies X 10¢)	2,000
Questionnaire (555 copies, 10 pages X 10¢)	555
TOTAL	$2,680

E. NATIONAL CONFERENCE

50 individuals from Monrovia - stipend (50 persons @ $20/day)	1,000
10 individuals from outside Monrovia - stipend (10 persons @ $20/day)	200
Per diem (10 persons @ $35)	350
Travel (10 persons @ $30)	300
TOTAL	$1,850

F. CONTINGENCY FUND $2,590

G. GRAND TOTAL $50,000

BUDGET NOTES

1. Personnel salaries are computed on the following basis;

POSITION	PROPOSED ANNUAL SALARY	DAILY RATE	NUMBER OF MONTHS	PERCENTAGE	TOTAL AMOUNT
CTL	$13,625	52.40	24	50	$13,625
RA-SR	9,600	36.92	4	50	1,600
RA-FW	9,600	36.92	10	50	4,000
RA-DA	10,800	41.54	4	50	1,800
TYPIST	3,000	11.54	18	100	4,500

2. Payments to project staff will be made on submission of monthly vouchers specifying date, activity, and number of hours worked. The monthly amount will vary according to the number of hours of work done during that month. Total payments to any staff member during the life of the project cannot exceed the budgetted amount.

3. The total budget for the project cannot exceed US$50,000.

MINISTRY OF EDUCATION
MONROVIA, LIBERIA

OFFICE OF THE DEPUTY MINISTER FOR INSTRUCTION

DMI-426/51-USAID/'86 December 5, 1986

Dr. Joan Claffey
Cognizant Technical Officer
IEES Project
USAID/S&T
Monrovia, Liberia

Dear Dr. Claffey:

The Department of Instruction of the Ministry of Education has reviewed the proposal prepared by Dr. Albert B. Coleman, Director Specialist, Teacher Education, on the Teacher Incentives Project to be submitted to the Improved Efficiency of Educational Systems Project for funding under the Policy Research Initiative.

We have no objection to the proposed scope of work and management structure as well as the salary scales for various project personnel. The Department of Instruction, if permitted, will collaborate with the IEES Project to successfully complete the proposed Project.

Kindest regards,

Sincerely yours,

Raymond B. Jallah
DEPUTY MINISTER FOR INSTRUCTION

RBJ:pqb

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December 5, 1986

Dr. Joan Claffey
CTO, IEES Project
S & T AID/Washington

SUBJ: Budget for the Teacher Incentives Project - IEES
Centrally funded Project

Dear Dr. Claffey:

I have discussed with Mr. Sivasailam Thiagarajan the subject budget. He has gone over it with me and explained the manner in which he developed the data. The budget has sufficient detail and appears to be based on adequate research. It appears Government of Liberia criteria has been used extensively in preparing the budget. It appears adequate for the purpose intended as explained to me and the figures used do not appear excessive based on criteria we have used in some of our sub-project budgets.

Sincerely,

Horace W. Hunter
Financial Analyst

CLEARANCE: Mr. Handleman, Chief
HRD

IEES
POLICY RESEARCH INITIATIVE

Teacher Incentives Project Proposal

Hussein Mohamed Said
Ministry of Education
Mogadishu, Somalia

December, 1986

261

1-7-87

December 8, 1986.

Mr. Louis Cohen, Director
USAID
Mogadishu
Somalia

Dear Mr. Cohen:

The Ministry of Education has reviewed the Teacher Incentive Project proposal prepared by the Director General of Educational Development, Mr. Hussein Mohammed Said, and to be submitted to the Improved Efficiency of Educational Systems project.

We concur with the scope of work and the budget for the project. We approve the salary scales of the staff members and assure our cooperation in implementing the project.

Sincerely,

Osman Ali Jama
Permanent Secretary, Ministry of Education

1-7-87

December 2, 1986

Dr. Joan Claffey
Cognizant Technical Officer
IEES Project
USAID/S&T
Washington DC

Dear Dr. Claffey:

USAID/Somalia has reviewed the Teacher Incentives Project proposal prepared by the Director General of Educational Development, Mr. Hussein Mohamed Said, and to be submitted to the Improved Efficiency of Educational Systems Project.

We approve the scope of work and the budget for the project. The proposed salary levels of the Somali staff members conform to our guideline for the employment of local personnel and, therefore, meets with our approval..

Sincerely,

Louis Cohen
Director
USAID/Somalia

1. GOALS OF THE PROJECT

RATIONALE

Enhancement of the quality and efficiency of primary education is an urgent and important need in the Somali Democratic Republic. In primary education, more so than in any other level of education, the teacher plays a critical role. Improvement of the instructional performance of the teacher is, therefore, a critical element in raising the overall quality of primary education. Related needs are the improvement of the recruitment and retention of primary teachers. The three goals of teacher recruitment, performance, and retention can be achieved through a systematic analysis and reform of the primary teacher incentive system in Somalia. The proposed project will enable policymakers to make data based decisions on the appropriate incentives and disincentives for primary teaching. This is particularly important at the present time since enrollments are decreasing and government is attempting to attract secondary rather than primary graduates to primary teaching.

OVERALL GOAL

The overall goal for the Teacher Incentives Project is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to strengthen the teacher incentive system to achieve improved recruitment, increased retention, and effective instruction, and thereby, improve the quality of education in Somalia's schools.

PRODUCTS

Several products will be produced during and after the teacher incentives project. Here are the expected intermediate products:

- Preliminary statement of the problem, policy issues, and research questions.
- Inventory of system characteristics that affect teacher incentives.
- Design for policy research studies on teacher incentives.
- Recommended research procedure.
- Sample questionnaires for collecting data on teacher incentives.
- Guidelines and budget worksheets for coordinating the study.
- Preliminary review of literature on teacher incentives.
- Bibliography of the literature on teacher incentives.
- Descriptions and discussions of major teacher incentive strategies.
- Descriptions and analyses of current incentives and disincentives in each cooperating country.
- Descriptions of the current policy-making mechanisms in each cooperating country.
- Descriptions of the perceptions of teacher incentive systems by different stakeholders.
- Definition and description of critical features of teacher incentives systems.
- A procedural model for improving teacher incentive systems.
- A glossary of terms related to teacher incentive systems.

Here are the expected final products:

- Final report on each country study.
- Policy recommendations regarding teacher incentives for each country.
- Final report synthesizing the finding from the three countries.
- Policy recommendations for teacher incentive systems in developing nations.
- Updated review of the literature on teacher incentives.

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OUTCOMES

A major objective of the policy research initiative is to improve the capacities of research institutions both in the host countries and among the members of IEES Consortium. As a result of participating in this research initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

- Policy research design
- Construction of survey instruments
- Data collection
- Data analysis
- Report preparation
- Policy analysis
- Project management
- Collaboration in cross-national policy research initiatives.

2. DEFINITION OF A TEACHER INCENTIVE SYSTEM

The dictionary defines an incentive as "that which encourages action." An incentive (or a reward or a reinforcer) is anything that influences people to act in certain ways. An incentive system is a collection of reinforcers and a set of procedures for using them. Institutions use these systems to motivate their employees. A teacher incentive system is used by educational institutions to motivate teachers to efficiently carry out their responsibilities.

COMMON ELEMENTS OF A TEACHER INCENTIVE SYSTEM

All incentive systems, by definition, should have the seven common elements. Each common element is briefly discussed below with reference to teacher incentive systems.

Intentional nature. Most actions of an employee at work is followed by consequences that reward and punish the employee. Some of these consequences are deliberately designed to improve the employee's performance (e.g., bonus for regular attendance or fines for being absent) while others (e.g., praise from a customer or complaints from the public) do not have such intent--even though they may also affect the employee's performance. All incentive systems should provide rewards with the intention of influencing employee performance. In a teacher incentive system, for example, an annual salary increase may be used to maintain the teacher's classroom performance and an educational allowance, to improve it.

- External source. Consequences of professional activities can be classified into four categories according to the source of incentives:
- internal to the employee (e.g., sense of accomplishment, feeling of pride, increased self confidence)
- internal to the group of workers (e.g., approval of colleagues)
- external, from clients or customers (e.g., appreciation letter from a satisfied customer)
- external, from higher levels of administration (e.g., praise from a supervisor or increased salary from the employer)

While effective incentive systems take into account incentives from all four categories and attempt to systematically organize the latter three, all incentive systems should employ the category of external incentives, from higher levels of administration. Thus a teacher incentive system should specify incentives from headmasters and educational officers.

Target employees. All incentive systems should identify a specific group of employees who are to receive the incentives. Clear identification of the employees will permit us to select the most appropriate incentives and procedures. In the case of a teacher incentive system, the target employees are obviously teachers. In a comprehensive system, we may include the administrators (e.g., headmasters) and support staff (e.g., librarian).

Target activities. All incentive systems should identify specific activities and work performances to be rewarded. This will permit us to reward the most critical and desirable activities. In a teacher incentive system, for example, such specific tasks could include coming to school on time and preparing lesson plans.

Set of incentives. All incentive systems should obviously include a set of incentives for rewarding the employees for performing the specific activities. In a teacher incentive system, monthly salaries and community recognition are two examples of such incentives.

Relationships. All incentive systems should have a logical relationship among the target employees, target activities, and the set of incentives. The incentives should be suitable for the type of employees

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and should be capable of influencing the target activities. For teachers, for example, a monetary bonus for regular attendance is an effective incentive for coming to school.

Standard procedure. All incentive systems should specify a set of rules to determine such things as who is to be rewarded by whom with what incentives and how often. For example, a standard procedure in a teacher incentive system may require that the teacher who was absent for the least number of days during the school year will receive a bonus payment from the District Educational Officer during the Founder's Day celebration.

VARIABLE ELEMENTS OF A TEACHER INCENTIVE SYSTEM

While all incentive systems should include the seven common elements identified above, different types of incentive systems may be designed to meet different needs. Elements of incentive systems which may vary from one example to another are briefly discussed below.

Comprehensiveness of the system. Incentive systems may differ with respect to the number of factors they attempt to organize and to control. Professional activities are followed by positive and negative consequences which determine the morale of employees. As we saw earlier, some of these consequences are internal to the employee (e.g., sense of accomplishment), internal to the group (e.g., approval from colleagues), external from customers (e.g., letter of appreciation from a satisfied client), and external from supervisors and employers (e.g., salary raises). At a minimum, incentive systems should organize and control the last category of consequences. They may also attempt to identify, organize, and control the earlier categories. A simple teacher incentive system may specify the procedure for salary scales and steps. A comprehensive teacher incentive system will mobilize such factors as employee motivation, collegial relationship, and participation by students, parents, and the community.

Level of employees. Incentive systems may be established for employees at various levels ranging from the lowest peon to the highest executive. Teacher incentive systems may include different types of teachers with different levels of educational background and experience. It may also include administrators in the school (e.g., headmaster) and support personnel (e.g., librarian).

Subgroups. Incentive system may treat all employees the same or provide different rewards for specific subgroups. In teacher incentive systems, for example, those working in remote rural areas may receive a hardship allowance which is not paid to teachers in cities; Arab-speaking teachers may receive additional privileges compared to those who speak only the local language.

Individuals or groups. Incentive systems may reward individual employees or groups. Teacher incentive systems, for example, may reward the single teacher who produced the best results in a national examination or the entire staff for the same achievement. The effects of individual and group incentives differ not only with respect to the target activities but also with respect to the levels of cooperation and competition among teachers.

Type of activity. Incentive systems may be used to influence a variety of physical, intellectual, and social activities. In teacher incentive systems, the activity being rewarded can be a one-time task (such as joining the teaching profession) or repetitive task (such as teaching in the classroom every day).

Maintenance or improvement of performance. Incentive systems may focus on maintaining a behavior (such as coming to work regularly) or on improving it (such as becoming more efficient). Examples from teacher incentive systems include maintaining the behavior of keeping records of student absence and improving the behavior of writing lesson plans. In general, incentives required for maintaining a behavior usually differ from those required for improving it.

Performance or results. Incentive systems may reward the employee's performance or the outcomes of such performance. For example, teacher incentive systems may reward the classroom performance of the teacher or the learning gains of his or her students.

Types of incentives. Incentive systems may use a variety of rewards. These may include direct monetary incentives such as salary, allowances, and bonuses; indirect monetary incentives such as free housing or meals; and nonmonetary incentives such as job satisfaction, professional support, and recognition in the community. The types of incentives which may be included in a teacher-incentive system are listed in Figure 1.

Positive or negative incentives. In addition to rewarding employees for desirable activities, incentive systems may punish people for undesirable activities. These punishments are called disincentives. For example, in a teacher incentive system, those who are frequently absent may have a part of their monthly pay withheld; others whose students perform poorly in the examinations may be reprimanded by the headteacher.

Number of incentives. Incentive systems may include any number of incentives. Most systems attempt to influence employee activities through the control of salaries. However, the more incentives a system brings within its control, the more effective it is likely to be. Successful teacher incentive systems incorporate a variety of monetary and nonmonetary incentives.

Comprehensiveness of the incentive procedure. Incentive systems may differ in the level of detail of the specification of their standard procedures. For example, one system may merely state that a trophy is to be awarded to the most outstanding employee while another may specify such details as which group of employees are eligible, what criteria are used for judging their activities, which judges will select the most outstanding employee, what form the award will take, how frequently it will be given, and so on. Clear, specific, and public information will ensure the effectiveness of the incentive system.

CRITICAL ELEMENTS OF AN EFFECTIVE TEACHER INCENTIVE SYSTEM

A teacher incentive system may include all the common elements and could still be ineffective. In the discussion of the variable elements, we identified certain factors that appear to contribute to the effectiveness of incentive systems. From our analyses of different types of teacher incentive systems, especially those for primary schools in developing countries, we have identified five critical elements that are associated with effective results. These five are discussed below.

Efficiency. Efficiency refers to the least costly method of achieving a particular goal or the most productive method of using a given amount of resources. To be efficient, an incentive system should contain clear statements of both goals and means. The system should also have consistency between the goals and the means: For example, the goal of recruiting talented youth to primary school teaching can be achieved only if such means as salaries are comparable to competing incentives available in other sectors. Further, there should be consistency among the means used to achieve different goals of the teacher incentive system. For example, the promise of automatic college entrance after two years of primary school teaching may be a powerful means for achieving recruitment goals. However, it is an incompatible means for achieving the equally important retention goal of keeping primary teachers in classroom service for at least five years. Responsibilities for recruitment and retention are usually the domains of different units within the Ministry of Education. Unless administrators interested in achieving these different goals work together to ensure internal consistency, the results will be counterproductive.

Equity. Incentive systems only work if they are perceived as fair. Equity requires similar incentives for equals and different incentives for unequals. In teacher incentive systems, employees are differentiated in terms of levels of education, experience, and scope of responsibility. Thus secondary graduates are paid a higher salary than primary graduates, experienced teachers are paid a higher salary than beginning teachers, and headteachers are paid a higher salary than regular teachers. However, many teacher incentive systems are ineffective because they ignore the troublesome task of differentiating among so-called "equals." If all teachers with the same training and experience receive the same compensation but some work harder than others, morale will deteriorate. A number of solutions have been offered to this problem. The first is to compensate teachers on the basis of the

- Access to administrative information
- Additional teaching job
- Ample supplies
- Beginning salary
- Bonus for regular attendance
- Bonus for student achievement
- Cafeteria in the school
- Community recognition
- Community support
- Compatible colleagues
- Compatible management
- Cost-of-living allowance
- Distance education
- Educational allowance
- Evening classes
- Examination grading job
- Examination supervision job
- Family allowance
- Free books
- Free housing
- Free meals
- Free periods
- Good blackboards
- Good textbook
- Hardship allowance
- Health insurance
- High status in the community
- High-ability students
- Housing near school
- Increased school enrollment
- Inservice training
- Instructional materials
- Job in the Ministry of Education
- Job on educational projects
- Library facilities
- Life insurance
- Low-interest loans
- Medical assistance
- Merit pay
- National awards for teaching excellence
- Paid leave
- Participation in student promotion decisions
- Part-time job
- Participation in decisionmaking
- Pension
- Performance appraisal
- Playground facilities
- Plot of land
- Political recognition
- Positive collegial relationship
- Positive home-school relationship
- Professional conferences
- Project grants
- Recognition by headmaster
- Reduce number of dropouts
- Regularity of salary payments
- Respect from students
- Salary
- Salary increases
- Salary scales
- Scholarship
- Sharing of incentives
- Sick leave
- Small class size
- Small number of students
- Student selection
- Subsidized housing
- Subsidized meals
- Suitable school calendar
- Suitable school schedule
- Suitable teaching load
- Supervisory guidance
- Teacher's room
- Teacher-community compatibility
- Team spirit among teachers
- Textbook writing job
- Training allowance
- Transportation allowance
- Transportation facilities to school
- Travel allowance
- Tutoring job
- Useful teacher's guides
- Useful teaching aids
- Well-behaved students
- Well-furnished classrooms
- Well-lighted classrooms

Figure 1. Sample Teacher Incentives

success of their students on examinations. Technical problems related to measuring the value added by a particular teacher, as well as the temptation to teach to a particular test rather than for acquisition of a broad range of cognitive and affective goals make it difficult to effectively employ this solution. More acceptable approaches involve recognizing individual teachers' contributions to the school and of attendance and effort.

Adequate compensation. An effective incentive system should provide adequate compensation for the employees. The concept of adequate compensation is a relative one. It is defined by the opportunity costs related to choosing a particular profession. If alternative employment opportunities are available which provide higher salaries and status, then individuals would prefer them to the teaching profession. While few nations can successfully compete against the salaries offered by private sector employers, many can offset the disincentive of low salaries by providing free or subsidized housing, food, or transportation. In addition to indirect monetary incentives, nonmonetary incentives may be designed to effectively enhance the overall compensation package. Exemption from military service, choice of location for the next assignment, and recognition of effort and excellence are examples of such nonmonetary incentives.

Professional support. An effective incentive system should include facilities, tools, materials, and guidance for carrying out professional responsibilities. Job satisfaction, which is related to conducive environments and to participatory decisionmaking, is a major motivator in all professions. In teacher incentive systems, such job factors include those items listed in Figure 2.

Career growth. An effective incentive system should provide opportunities for promotion and professional development. Educational systems with few such opportunities are perceived as dead-ends. Teachers who work in such systems often invest more of their energy in looking for other jobs and in attempting to obtain release from the teaching service than in developing their teaching skills or in contributing to school improvement. Opportunities for promotion provide effective incentives, but promotions should carry not only more status but involve greater rewards. Similarly, professional development activities should clearly result in improved skills, increased status and enhanced benefits. The selection process for the distribution of promotion and professional-development opportunities should be clearly explained and perceived as fair. Teachers should be involved in specifying and implementing this process.

CONCLUSION

Teachers are the most important resource governments provide to schools. Where teachers are well-motivated, competent in the presentation of curriculum, and able managers of other classroom resources, students attend regularly and learn. By the same token, where teachers are distracted from their task by the need to supplement their income, have little in the way of collegial and materials support, and are unprepared to manage heterogeneous groups of students, little learning takes place. An effective incentive system can go a long way toward improving teacher motivation and morale and hence the quality of education.

WORKLOAD

- Appropriate teaching load
- Appropriate administrative workload
- Appropriate extracurricular workload
- Fair distribution of workload
- Suitable school schedule
- Suitable annual calendar
- Released time

PARTICIPATION IN SCHOOL MANAGEMENT

- Access to administrative information
- Participation in management decisionmaking
- Participation in student promotion decisions
- Participation in student assignment decisions
- Participation in classroom assignment decisions
- Participation in subject-area assignment decisions

STUDENTS

- Respectful students
- Responsible students
- High-ability students
- Students of similar age range
- Low student absenteeism
- Low student dropout rate

COLLEAGUES AND SUPERVISORS

- Regular performance appraisal
- Feedback and guidance from headmaster
- Recognition by headteacher
- Regular classroom inspection
- Feedback and guidance from school inspectors
- Recognition from school inspectors
- Frequent visits from community leaders
- Recognition from community leaders
- Team spirit among teachers
- Compatible colleagues

OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

- Inservice training workshops
- Evening classes
- Distance education
- Staff meetings
- Professional conferences

SCHOOL LOCATION

- Housing near school
- Meals at school or near school
- Transportation facilities near school
- Medical facilities near school
- Postal facilities near school

SCHOOL FACILITIES

- Preferred size of school
- Preferred type of school
- Well-furnished teachers' room
- Adequate school library
- Adequate playground facilities

CLASSROOM FACILITIES

- Large classroom
- Good lighting in classroom
- Good ventilation in classroom
- Good roofs and walls in classroom
- Adequate furniture
- Ample blackboards
- Ample classroom supplies
- Good textbooks
- Useful teacher's guides

Figure 2. Incentive Factors Related to Teaching Conditions

3. RESEARCH STATEMENT

STATEMENT OF THE PROBLEM

Nations at every level of development are debating issues related to incentives for teaching. The renewed concern for teacher incentives is reflective of a profound concern with the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while, at the same time, the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited in teaching. In developing nations, however, where school systems are still expanding, infrastructures (communication, roads, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of a much greater magnitude than it is in countries where both human and material resources are not so sharply constrained.

The research on incentive systems suggests that effective reform of an existing system must be consistent with the goal of improving teacher performance. The danger, evidenced in a great deal of the literature, is reduction of the goal to one or more subgoals, such as recruiting higher quality individuals into teaching or increasing retention. Reductionism is a danger particularly where responsibility for teachers is divided among units within a ministry or among ministries. Discrete treatment of subgoals generally leads to overall inconsistency in the system, while integration of recruitment and retention subgoals into a long term plan for improving teacher effectiveness produces a more flexible and effective system.

One advantage of emphasizing teacher effectiveness in discussions of incentives is that it forces the debate beyond the narrow interests of particular units responsible for one aspect or another of the teacher service. This, in turn, may generate greater support both within the ministry and across ministries for strengthening incentives for teaching. A second and more important advantage is that each incentive will be measured directly against the value it will potentially add to improving teacher performance over time. Such procedure makes explicit the tradeoffs between the goals and means related to recruitment and those related to retention and therefore maximizes the set of options available to policy-makers .

POLICY ISSUES

If the problem is how to improve teacher productivity (that is, how to help teachers facilitate student learning), given current resource constraints, the major policy issues are who is to be recruited at what price, and who is to be retained at what price. Price, in this context, connotes the total package of rewards, including both direct and indirect monetary and non-monetary benefits. In many countries, the price of recruitment includes both preservice training and beginning teachers salaries while the price of retention includes not only salary and allowances but also inservice training, headmaster and inspectors' time devoted to supervision, etc. The magnitude of these investments in both salary and training require justification in terms of their efficiency in producing the desired teacher behaviors.

If, for instance, a significant portion of those trained for teaching never teach or leave the service before government has realized a sufficient return on its investment in training, a hard look has to be taken at the characteristics the system is recruiting for. It may well be that entry characteristics are too high relative to the compensation package . If this is the case, one option is to reduce the entry requirements (and possibly salaries) and provide greater inservice training and instructional support for teachers. Thus, if the target group for recruitment consists of secondary graduates, government may decide to temporarily admit secondary dropouts to teacher training until market conditions or government fiscal capacity changes.

Similarly, if teacher behaviors do not meet the minimal standards of performance, such as regular attendance at school and in the classroom, both the compensation package and the rules and regulations for tenure and promotion need to be examined.

Obviously, the first step in addressing issues related to providing incentives for teacher productivity is to define the minimal acceptable behaviors for payment of salary and those set of behaviors which will be rewarded beyond salary (by promotion, inservice opportunities, public recognition, etc.).

This requires a conceptualization of the factors influencing different levels of teacher performance.

THEORETICAL FRAMEWORK

Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and guidance. Outside the classroom, teachers are often typically expected to participate in school level decisionmaking, assist each other and meet with parents. The literature suggests that the factors which influence teachers' willingness and ability to carry out their responsibilities effectively are as follows:

- entry characteristics (academic ability, the quantity and quality of their prior schooling);
- nature and type of teacher training;
- adequacy of the compensation package;
- quantity and quality of instructional support (texts, materials, and supervision);
- opportunities for promotion and advancement;
- quality of the school environment (colleagues, students, management structure, and facilities); and
- status in the community.

The relationships between these factors and teacher performance is shown in Figure 3.

As Figure 3 suggests, there is an identity between the factors that affect performance and those which affect the subgoals of recruitment, and retention. Teaching is one of the few professions in the modern sector that the school going public is familiar with. Individuals who have gone to school know the status of the teacher in the community, the salaries of teachers, and their working conditions. This knowledge, as well as their own experiences in school, determines, to a large extent, their perception of teaching as an attractive occupation. The status of the school system thus feeds back into the ability of the teacher service to recruit new teachers. In addition, there is also considerable research which suggests that the individual's perception of the quality of his/her first teaching assignment (school environment, opportunities for promotion and professional development, status in the community, instructional support), as well as his/her sense of success in teaching also affects decisions related to exiting or staying in the teaching service.

RESEARCH QUESTIONS

The overall goal of the teacher incentives project is to provide relevant data, background information, systematic procedures, policy recommendations, and analysis of alternatives so that policy makers can select and implement appropriate strategies to strengthen the incentive

system for teacher performance. In order to achieve this goal, information will be gathered from policy makers, present teachers, and former teachers on their perceptions of current incentives and their suggestions of how these incentives could be made more effective. In addition, background information on the school system and the teaching force is necessary to set the context for analyzing the responses. These information needs are summarized below in the form of sets of questions.

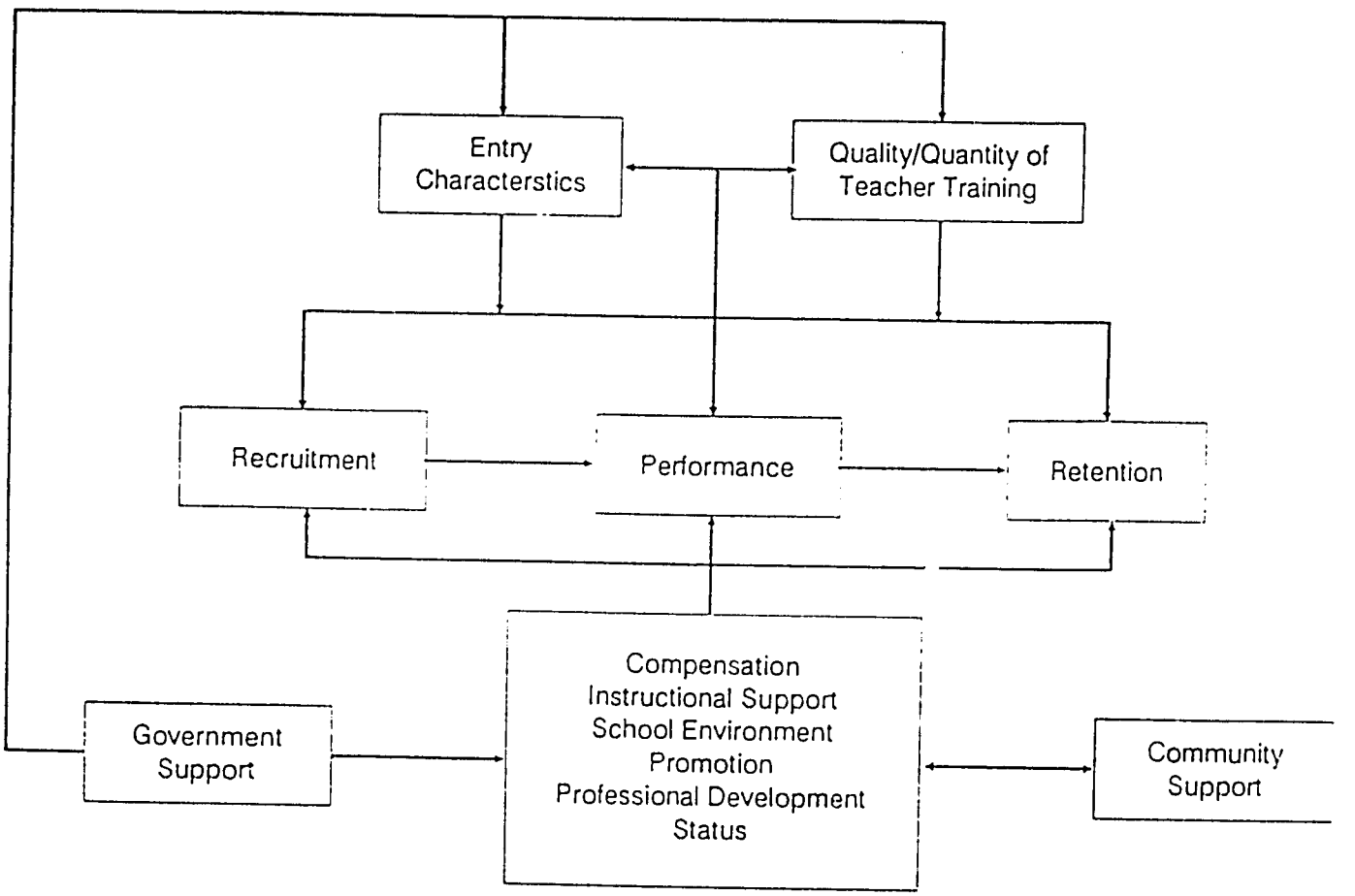

Figure 3. A Theoretical Model of the Teacher Incentive System

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1. Current Status

- What are the characteristics of currently serving teachers (educational attainment, age, gender, marital status, national origin, part time/fulltime, etc.)
- How many teachers are actively teaching and how much do they get paid?.
- How much could be saved by removing non-active teachers from the payroll?

2. Recruitment for Teacher Training

- What is the teacher turnover rate (national, regional, district)?
- What are the opportunity costs for primary teaching for each level of educational attainment of recruits and different types of teachers?
- What are the per-student costs of teacher training?
- How many years of teacher service are required to realize a return on investments in training?
- Is teacher training considered an incentive for entering the teaching service?
- Are there alternative forms of training which might be less costly (e.g., a concentration in primary education at the secondary level or programmed teaching)?
- How closely does the teacher training curriculum relate to the realities of primary school teaching?
- What are the dropout and graduation rates in teacher training institutions?
- What proportion of those who graduate actively serve as teachers?

3. Teacher Retention and Attendance

- How are teachers assigned to schools?
- What length of time is the usual period of assignment?
- How long does the average person remain in primary school teaching?
- What factors influence teacher persistence and exit?
- How regularly do teachers attend school?
- What factors encourage high attendance rates?
- How do rates of teacher attendance vary with teacher characteristics, region, type of school (complete/incomplete), or location of school (urban/rural remote)?

4. Teacher Income

- What strategies do teachers use to supplement their income?
- How do these strategies differ according to the location of the school and the gender of the teacher?
- Which supplementary income strategies are officially sanctioned?
- What are the effects of secondary employment on teachers' effectiveness in the classroom?
- What types of secondary employment are complementary to teaching?
- What are the possibilities for government employment of teachers in second jobs (i.e., work at the MOE, work in the village as an adult education specialist)?

5. School Income Generation Activities

- What are the current sources of income for primary schools (e.g., government aid, private contributions, tuition, fees, etc.)?
- What school income generation activities are appropriate for different regions?
- What strategies have been tried in which locations with what results?
- What alternative approaches are available for distributing additional income among teachers?
- What are the advantages and disadvantages of alternative income sharing approaches?

6. Perceptions of Incentives

- What do teachers, former teachers, teacher trainees, administrators, educator, and public perceive as incentives and disincentive for the recruitment, retention, performance of teachers?
- How do these perceptions differ from one group to another?

7. Remote Area Teaching

- What are the incentives and disincentives for teaching in remote areas?
- What are alternative strategies for increasing incentives and/or decreasing the disincentives?
- What are the likely costs and benefits of these alternative strategies?

8. Community Participation

- What is the extent of current community support for teachers' food and housing?
- What types of teacher incentives are best provided by parents and the community?
- How should the government formalize community participation in the support of schools?

9. Evaluation and Feedback Systems

- What types of formal evaluation of teaching performance are undertaken?
- What is the relationship between formal evaluation of performance and tenure, promotion, and salary increases?
- What types of formal and informal feedback do teachers receive from headmasters, inspectors, students, parents, and community leaders?.
- What is the effect of recognition, indifference, and/or criticism on teacher performance and morale?.
- What formal mechanisms can be used to increase the frequency of feedback and to make it more objective?

10. Instructional Support

- Do teachers perceive instructional materials as an incentive?
- What are the relative incentive values of textbooks for students, teacher's guides, programmed teaching modules, and teaching aids?

- What are the costs of these materials?
- How can their life be extended and their costs be (at least partially) recovered?
- What is the relationship between the availability of instructional materials and teacher attendance?

11. Teacher Status

- What is the public perception of the status of primary school teachers?
- What is the effect of such perception on the morale of teachers?
- How can the status of teachers be enhanced?

12. Opportunities for Professional Development and Promotion

- What types of inservice training programs are available for the professional development of teachers?
- What inservice training activities perceived by teachers as incentives?
- What opportunities for promotion currently exist?

13. School Characteristics and Job Satisfaction

- Do the characteristics of schools (e.g., size, enrollment, location, complete/incomplete cycle, etc.) affect teachers' job satisfaction?
- How are classrooms, students, and workloads assigned to teachers?
- Do teachers perceive workloads as being distributed equitably?
- To what extent do teachers participate in the school management and administration?

LIMITATIONS OF THE STUDY

The complexity of the relationships described in Figure 3 suggests that no single study can examine all the factors influencing teacher performance. Consideration, for instance, of the efficiency of teacher training and, therefore, both its absolute value and its relative value as an incentive for performance would obviously require a separate study. By the same token, since teacher incentives vary with school level, it would be difficult to deal with more than one level at a time. For these reasons, the study is limited to the investigation of the efficiacy of the current incentive system for the recruitment, performance, and retention of primary teachers and alternatives for strengthening it. Primary teachers are defined as public school teachers of grades 1-6.

METHODOLOGY

The study of teacher incentive is primarily a descriptive one. Phase I of the study will consist of three parts. First, the current status (numbers of teachers, salaries, etc.) of the system will be presented. Secondly, the current rules and regulations affecting primary teachers will be summarized. Third, the balance of current incentives and disincentives embedded in the rules and regulations governing recruitment, performance, and retention will be analyzed.

In the second phase of the study, currently serving primary teachers will be interviewed regarding their perceptions of the incentives and disincentives for teaching. Grade 1-6 teachers will be stratified by gender and urban/remote rural school location. Figure 4 depicts the stratification scheme.

The country team leader, in collaboration with colleagues in the Ministry will select urban/remote rural district where teachers will be interviewed. Male and female teachers within districts will be randomly selected until there are 50 within each cell.

In order to see whether the perceptions of former teachers, prospective teachers, and secondary teachers differ from primary teachers, approximately 50 members of each of these groups will be interviewed in Phase III of this study. If the results indicate significant differences, more systematic sampling could be undertaken in Phase IV of the study.

Phase IV will be primarily devoted to an analysis of the interview items using such techniques as the chi square. The results of the analysis, together with the cost and benefits of the alternative approaches to strengthening the incentive system suggested by the analysis, will be presented to the in-country Steering Committee as well as to the Project Team Leaders. In addition, considerable effort will be taken to disseminate the results of each study and the lessons from all three in the international educational community.

4 PROPOSED MANAGEMENT STRUCTURE

The overall management structure for the Somali Teacher Incentives Project is described in this section. The Country Team Leader has the responsibility for managing the entire project. He receives advice from two groups: the IEES Project Team and the Somali Project Advisory Committee. Four Research Associates help the Country Team Leader to implement different project activities: The Research Associate for Status Review prepares a report on the current status of teacher incentives in Somalia. The Research Associate for Field Work trains the interviewers and coordinates the survey of different groups of primary teachers. The two Research Associates for Analysis coordinate the coding, tabulation, and analysis of all interview data. A Project Secretary carries out clerical and secretarial responsibilities for the project.

IEES PROJECT TEAM

The IEES Project Team provides technical and professional advice to the Somali Project staff. The IEES coordinators visit the project periodically, review the progress, and provide suitable inputs on the technical aspects. They also frequently correspond with the Country Team Leader and provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

PROJECT ADVISORY COMMITTEE

Because of the potential national impact and the complexity of the project, an Advisory Committee will be formed to represent different stakeholders and policymakers. During the life of the project, members of this committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The Advisory Committee will be composed of a representattive from each of the following agencies or institutions:

- Ministry of Education, Vice Minister
- Ministry of Education, Director General for Schools
- Ministry of Education, Director of Teacher Training
- Ministry of Education, Director of Planning
- Ministry of National Planning, Director of Human Resources
- Ministry of Finance
- La Foole College of Education
- Primary School Teacher

Thus there will be a total of eight members in the Advisory Committee. During the two years of the project, the Advisory Committee will meet six times, at four month intervals. Members of the committee will be responsible for the following functions:

- Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory.
- Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project.
- Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

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COUNTRY TEAM LEADER

Mr. Hussein Mohamed Said will be the Country Team Leader for the project. He is currently the Director-General for Educational Development in the Ministry of Education in Somalia. As Country Team Leader, Mr. Hussein will be responsible for all the processes and products for the project in Somalia. He will work in this capacity for the entire two years on a half-time basis.

The Country Team Leader will be responsible for the following functions:

- Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the research design and in the construction of the interview protocols. Adapt the research design to suit the needs, resources, and constraints of Somalia while preserving comparability among participating nations.
- **Management structure.** Design effective division of labor for the project and designate individuals for core responsibilities.
- **Position descriptions.** Identify different positions and describe the functions and responsibilities of each.
- **Budget preparation.** Prepare a budget for personnel, materials and supplies, in-country travel, and report and instrument preparation related to the research activities.
- **Advisory Committee.** Identify and select decision makers in the Ministries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Somalia.
- **Personnel management.** Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.
- **Financial management.** Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.
- **Interview site selection.** Identify and select appropriate urban and remote rural sites for the interviews.
- **Interview sample selection.** Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.
- **Interaction with IEES Project personnel.** Request technical assistance from the IEES Project and report on progress at specified intervals.
- **In-country dissemination.** Publicize the reports and recommendations of the project to appropriate stakeholders and policymakers in Somalia.
- **International dissemination.** Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums.

RESEARCH ASSOCIATE FOR THE STATUS REVIEW

Mohamed Dahir, Head of Planning Service, will be the Research Associate for the Status Review. He will work in this capacity for the first four months of the project on a half-time basis.

The Research Associate for the Status Review will carry out the following functions:

- Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their first assignment, remain, and exit the primary school teaching service in Somalia.
- Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers.
- Describe the current balance of incentives and disincentives for teaching in Somalia.

- Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunities for professional growth and development, and instructional support.
- Prepare draft and final report on the current status of primary teacher incentives in Somalia.

RESEARCH ASSOCIATE FOR FIELD WORK

Yussuf Sheikh Mohamud, Head of Reasearch and Documentation Service, will be the Research Associate for Field Work. He will work in this capacity for the first year of the project on a half-time basis.

The Research Associate for Field Work will be responsibile for the following functions:

- Develop the criteria for the selection of the interviewers.
- Select interviewers.
- Prepare appropriate training materials and train interviewers.
- Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.
- Develop guidelines for conducting the interviews.
- Arrange logistical support for the interviewers.
- Develop a time table for administering the interviews.
- Monitor and supervise data collection in the field.
- Collect all completed interviews.
- Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

RESEARCH ASSOCIATES FOR ANALYSIS

Mohamed Dahir, Head of Planning Service, and **Jeilani Abu Sheikh**, Head of Statistical Service, will be the Research Associates for Data Analysis. They will be assisted by **Mohamed Abdullahai Hersi**, Assistant Statistician and Computer Analyst. Each of these three individuals will work for a period of four months on a half-time basis.

The Research Associates for Data Analysis will be jointly responsible for the following functions:

- Train data coders.
- Monitor and supervise the coding of all completed interview forms.
- Analyze the data from the interview forms.
- Prepare draft and final reports of the analysis.
- Integrate the status report, interview report, and the analysis report into a final project report.

5. Proposed Project Budget

	Amount (So. Sh.)		Amount (US$)	
PERSONNEL				
Country Team Leader	315,000.00		$3,516.02	
Research Associate for Status Review	22,212.00		$247.93	
Research Associate for Field Work	105,000.00		$1,172.01	
Research Associate for Analysis-I	35,000.00		$390.67	
Research Associate for Analysis-II	35,000.00		$390.67	
Computer Assistant	35,000.00		$390.67	
Typist	270,000.00		$3,013.73	
Advisory Committee (Stipend for 8 people for 8 meetings @ So.Sh. 1000)	64,000.00		$714.37	
15 Interviewers (10 days training 24 days in field, including travel time @ So.Sh. 1000/day)	510,000.00		$5,692.60	
15 Coders for 3 days @ So. Sh. 1000/day	45,000.00		$502.29	
TOTAL PERSONNEL		1,436,212.00		$16,030.94
MATERIALS/SUPPLIES				
Stationary/Computer Supplies	180,000.00		$2,009.15	
TOTAL MATERIALS/SUPPLIES		180,000.00		$2,009.15
IN-COUNTRY TRAVEL				
PER-DIEM				
Interviewers (15 @ So.Sh. 1000/day for 24 days)	360,000.00		$4,018.31	
Field Director (1 @ So.Sh. 2000/day for 24 days)	48,000.00		$535.77	
Country Team Leader (1 @2000/day for 24 days)	48,000.00		$535.77	
TRANSPORTATION				
20 Trips @ So.Sh. 5000	100,000.00		$1,116.20	
TOTAL IN-COUNTRY TRAVEL		556,000.00		$6,206.05
TRANSLATION				
Status Report (50 pages @ So. Sh. 900)	45,000.00		$502.29	
Interview forms (40 pages @ So.Sh. 9000)	36,000.00		$401.83	
Final LReport (200 pages @ So. Sh. 900)	180,000.00		$2,009.15	
TOTAL TRANSLATION		261,000.00		$2,410.98

Proposed Project Budget (Page 2)

PHOTOCOPYING/PRINTING (@ So.Sh. 20/page)				
Status Report (Somali, 50 pages, 30 copies)	30,000.00		$334.86	
Status Report (English, 50 pages, 15 copies)	15,000.00		$167.43	
Interview Forms (Somali, 10 pages, 555 copies)	111,000.00		$1,238.98	
Final Report (Somali, 200 pages, 100 copies)	400,000.00		$4,464.78	
Final Report (English, 200 pages, 50 copies)	200,000.00		$2,232.39	
Coding Sheets (Somali, 6000 sheets)	120,000.00		$1,339.44	
Other	135,000.00		$1,506.86	
TOTAL PHOTOCOPYING/PRINTING		1,011,000.00		$11,284.74
CONFERENCE IN MOGADISHU (3 DAYS)				
Stipend (25 persons from Mogadishu 15 @ So.Sh. 1000, 10 @ So.Sh. 3000)	135,000.00		$1,506.86	
Stipend (25 persons from outside Mogadishu @ So.Sh. 1500/day)	112,500.00		$1,255.72	
Per diem (@ So.Sh. 2000/day)	150,000.00		$1,674.29	
Travel (average @ So.Sh. 5000)	125,000.00		$1,395.25	
Other Conference Costs	90,000.00		$1,004.58	
TOTAL CONFERENCE IN MOGADISHU		612,500.00		$6,836.70
CONTINGENCY FUND	225,000.00		$2,511.44	
TOTAL CONTINGENCY FUND		422,775.00		$4,719.00
GRAND TOTAL		4,479,487.00		$49,999.85

IEES
POLICY RESEARCH INITIATIVE

TEACHER INCENTIVES PROJECT PROPOSAL

Ministry of Education
Sana'a, Yemen Arab Republic
Noman Saed Alaswadi

November 28, 1986

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1. GOALS OF THE PROJECT

RATIONALE

Enhancement of the quality and efficiency of primary education is an urgent and important need in the Yemen Arab Republic. In primary education, more so than in any other level of education, the teacher plays a critical role. Improvement of the instructional performance of the teacher is, therefore, a critical element in raising the overall quality of primary education. Related needs are the improvement of the recruitment and retention of primary teachers. The three goals of teacher recruitment, performance, and retention can be achieved through a systematic analysis and reform of the primary teacher incentive system in Yemen. The proposed project will enable policymakers to make data-based decisions on the appropriate incentives and disincentives for primary teaching. This is particularly important at the present time as Yemenization of the teaching force is one of the highest priorities of the Ministry of Education.

OVERALL GOAL

The overall goal for the Teacher Incentives Project is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of

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Education can select and implement appropriate strategies to strengthen the teacher incentive system to achieve improved recruitment, increased retention, and effective instruction, and thereby, improve the quality of education in Yemen's schools.

PRODUCTS

Several products will be produced during and after the teacher incentives project. Here are the expected intermediate products:

1. Preliminary statement of the problem, policy issues, and research questions.
2. Inventory of system characteristics that affect teacher incentives.
3. Design for policy research studies on teacher incentives.
4. Recommended research procedure.
5. Sample questionnaires for collecting data on teacher incentives.
6. Guidelines and budget worksheets for coordinating the study.
7. Preliminary review of literature on teacher incentives.
8. Bibliography of the literature on teacher incentives.
9. Descriptions and discussions of major teacher incentive strategies.

10. Descriptions and analyses of current incentives and disincentives in each cooperating country.

11. Descriptions and analyses of the current policy-making mechanisms in each cooperating country.

12. Descriptions and analyses of the perceptions of teacher incentive systems by different stakeholders.

13. Definition and description of critical features of teacher incentives systems.

14. A procedural model for improving teacher incentive systems.

15. A glossary of terms related to teacher incentive systems.

Here are the expected final products:

1. Final report on each country study.

2. Policy recommendations regarding teacher incentives for each country.

3. Final report synthesizing the finding from the three countries.

4. Policy recommendations for teacher incentive systems in developing nations.

5. Report and recommendations on conducting cross-national policy research studies.

6. Updated review of the literature on teacher incentives.

OUTCOMES

A major objective of the policy research initiative is to improve the capacities of research institutions both in the host countries and among the members of IEES Consortium. As a result of participating in this research initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

1. Policy research design
2. Construction of survey instruments
3. Data collection
4. Data analysis
5. Report preparation
6. Policy analysis
7. Project management
8. Collaboration in cross-national policy research initiatives.

2. DEFINITION OF A TEACHER INCENTIVE SYSTEM

The dictionary defines an incentive as "that which encourages action." An incentive (or a reward or a reinforcer) is anything that influences people to act in certain ways. An incentive system is a collection of reinforcers and a set of procedures for using them. Institutions use these systems to motivate their employees. A teacher incentive system is used by educational institutions to motivate teachers to efficiently carry out their responsibilities.

COMMON ELEMENTS OF A TEACHER INCENTIVE SYSTEM

All incentive systems, by definition, should have the seven common elements. Each common element is briefly discussed below with reference to teacher incentive systems.

Intentional nature. Most actions of an employee at work is followed by consequences that reward and punish the employee. Some of these consequences are deliberately designed to improve the employee's performance (e.g., bonus for regular attendance or fines for being absent) while others (e.g., praise from a customer or complaints from the public) do not have such intent--even though they may also affect the employee's performance. All incentive systems should provide rewards with the intention of influencing

employee performance. In a teacher incentive system, for example, an annual salary increase may be used to maintain the teacher's classroom performance and an educational allowance, to improve it.

External source. Consequences of professional activities can be classified into four categories according to the source of incentives:

internal to the employee (e.g., sense of accomplishment, feeling of pride, increased self confidence)

internal to the group of workers (e.g., approval of colleagues)

external, from clients or customers (e.g., appreciation letter from a satisfied customer)

external, from higher levels of administration (e.g., praise from a supervisor or increased salary from the employer)

While effective incentive systems take into account incentives from all four categories and attempt to systematically organize the latter three, all incentive systems should employ the category of external incentives, from higher levels of administration. Thus a teacher

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incentive system should specify incentives from headmasters and educational officers.

Target employees. All incentive systems should identify a specific group of employees who are to receive the incentives. Clear identification of the employees will permit us to select the most appropriate incentives and procedures. In the case of a teacher incentive system, the target employees are obviously teachers. In a comprehensive system, we may include the administrators (e.g., headmasters) and support staff (e.g., librarian).

Target activities. All incentive systems should identify specific activities and work performances to be rewarded. This will permit us to reward the most critical and desirable activities. In a teacher incentive system, for example, such specific tasks could include coming to school on time and preparing lesson plans.

Set of incentives. All incentive systems should obviously include a set of incentives for rewarding the employees for performing the specific activities. In a teacher incentive system, monthly salaries and community recognition are two examples of such incentives.

Relationships. All incentive systems should have a logical relationship among the target employees, target activities, and the set of incentives. The incentives should be

suitable for the type of employees and should be capable of influencing the target activities. For teachers, for example, a monetary bonus for regular attendance is an effective incentive for coming to school.

Standard procedure. All incentive systems should specify a set of rules to determine such things as who is to be rewarded by whom with what incentives and how often. For example, a standard procedure in a teacher incentive system may require that the teacher who was absent for the least number of days during the school year will receive a bonus payment from the District Educational Officer during the Founder's Day celebration.

VARIABLE ELEMENTS OF A TEACHER INCENTIVE SYSTEM

While all incentive systems should include the seven common elements identified above, different types of incentive systems may be designed to meet different needs. Elements of incentive systems which may vary from one example to another are briefly discussed below.

Comprehensiveness of the system. Incentive systems may differ with respect to the number of factors they attempt to organize and to control. Professional activities are followed by positive and negative consequences which determine the morale of employees. As we saw earlier, some

of these consequences are internal to the employee (e.g., sense of accomplishment), internal to the group (e.g., approval from colleagues), external from customers (e.g., letter of appreciation from a satisfied client), and external from supervisors and employers (e.g., salary raises). At a minimum, incentive systems should organize and control the last category of consequences. They may also attempt to identify, organize, and control the earlier categories. A simple teacher incentive system may specify the procedure for salary scales and steps. A comprehensive teacher incentive system will mobilize such factors as employee motivation, collegial relationship, and participation by students, parents, and the community.

Level of employees. Incentive systems may be established for employees at various levels ranging from the lowest peon to the highest executive. Teacher incentive systems may include different types of teachers with different levels of educational background and experience. It may also include administrators in the school (e.g., headmaster) and support personnel (e.g., librarian).

Subgroups. Incentive system may treat all employees the same or provide different rewards for specific subgroups. In teacher incentive systems, for example, those working in remote rural areas may receive a hardship allowance which is not paid to teachers in cities; Arab-speaking teachers may

receive additional privileges compared to those who speak only the local language.

Individuals or groups. Incentive systems may reward individual employees or groups. Teacher incentive systems, for example, may reward the single teacher who produced the best results in a national examination or the entire staff for the same achievement. The effects of individual and group incentives differ not only with respect to the target activities but also with respect to the levels of cooperation and competition among teachers.

Type of activity. Incentive systems may be used to influence a variety of physical, intellectual, and social activities. In teacher incentive systems, the activity being rewarded can be a one-time task (such as joining the teaching profession) or repetitive task (such as teaching in the classroom every day).

Maintenance or improvement of performance. Incentive systems may focus on maintaining a behavior (such as coming to work regularly) or on improving it (such as becoming more efficient). Examples from teacher incentive systems include maintaining the behavior of keeping records of student absence and improving the behavior of writing lesson plans. In general, incentives required for maintaining a behavior usually differ from those required for improving it.

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Performance or results. Incentive systems may reward the employee's performance or the outcomes of such performance. For example, teacher incentive systems may reward the classroom performance of the teacher or the learning gains of his or her students.

Types of incentives. Incentive systems may use a variety of rewards. These may include direct monetary incentives such as salary, allowances, and bonuses; indirect monetary incentives such as free housing or meals; and nonmonetary incentives such as job satisfaction, professional support, and recognition in the community. The types of incentives which may be included in a teacher-incentive system are listed in Figure 1.

Positive or negative incentives. In addition to rewarding employees for desirable activities, incentive systems may punish people for undesirable activities. These punishments are called disincentives. For example, in a teacher incentive system, those who are frequently absent may have a part of their monthly pay withheld; others whose students perform poorly in the examinations may be reprimanded by the headteacher.

Number of incentives. Incentive systems may include any number of incentives. Most systems attempt to influence employee activities through the control of salaries.

- Access to administrative information
- Additional teaching job
- Ample supplies
- Beginning salary
- Bonus for regular attendance
- Bonus for student achievement
- Cafeteria in the school
- Community recognition
- Community support
- Compatible colleagues
- Compatible management
- Cost-of-living allowance
- Distance education
- Educational allowance
- Evening classes
- Examination grading job
- Examination supervision job
- Family allowance
- Free books
- Free housing
- Free meals
- Free periods
- Good blackboards
- Good textbook
- Hardship allowance
- Health insurance
- High status in the community
- High-ability students
- Housing near school
- Increased school enrollment
- Inservice training
- Instructional materials
- Job in the Ministry of Education
- Job on educational projects
- Library facilities
- Life insurance
- Low-interest loans
- Medical assistance
- Merit pay
- National awards for teaching excellence
- Paid leave
- Participation in student promotion decisions
- Part-time job
- Participation in decisionmaking
- Pension
- Performance appraisal
- Playground facilities
- Plot of land
- Political recognition
- Positive collegial relationship
- Positive home-school relationship
- Professional conferences
- Project grants
- Recognition by headmaster
- Reduce number of dropouts
- Regularity of salary payments
- Respect from students
- Salary
- Salary increases
- Salary scales
- Scholarship
- Sharing of incentives
- Sick leave
- Small class size
- Small number of students
- Student selection
- Subsidized housing
- Subsidized meals
- Suitable school calendar
- Suitable school schedule
- Suitable teaching load
- Supervisory guidance
- Teacher's room
- Teacher-community compatibility
- Team spirit among teachers
- Textbook writing job
- Training allowance
- Transportation allowance
- Transportation facilities to school
- Travel allowance
- Tutoring job
- Useful teacher's guides
- Useful teaching aids
- Well-behaved students
- Well-furnished classrooms
- Well-lighted classrooms

FIGURE 1. SAMPLE INCENTIVES FOR TEACHERS

However, the more incentives a system brings within its control, the more effective it is likely to be. Successful teacher incentive systems incorporate a variety of monetary and nonmonetary incentives.

Comprehensiveness of the incentive procedure. Incentive systems may differ in the level of detail of the specification of their standard procedures. For example, one system may merely state that a trophy is to be awarded to the most outstanding employee while another may specify such details as which group of employees are eligible, what criteria are used for judging their activities, which judges will select the most outstanding employee, what form the award will take, how frequently it will be given, and so on. Clear, specific, and public information will ensure the effectiveness of the incentive system.

CRITICAL ELEMENTS OF AN EFFECTIVE TEACHER INCENTIVE SYSTEM

A teacher incentive system may include all the common elements and could still be ineffective. In the discussion of the variable elements, we identified certain factors that appear to contribute to the effectiveness of incentive systems. From our analyses of different types of teacher incentive systems, especially those for primary schools in developing countries, we have identified five critical elements that are associated with effective results. These five are listed in Figure 4 and discussed below.

Efficiency. Efficiency refers to the least costly method of achieving a particular goal or the most productive method of using a given amount of resources. To be efficient, an incentive system should contain clear statements of both goals and means. The system should also have consistency between the goals and the means: For example, the goal of recruiting talented youth to primary school teaching can be achieved only if such means as salaries are comparable to competing incentives available in other sectors. Further, there should be consistency among the means used to achieve different goals of the teacher incentive system. For example, the promise of automatic college entrance after two years of primary school teaching may be a powerful means for achieving recruitment goals. However, it is an incompatible means for achieving the equally important retention goal of

keeping primary teachers in classroom service for at least five years. Responsibilities for recruitment and retention are usually the domains of different units within the Ministry of Education. Unless administrators interested in achieving these different goals work together to ensure internal consistency, the results will be counterproductive.

Equity. Incentive systems only work if they are perceived as fair. Equity requires similar incentives for equals and different incentives for unequals. In teacher incentive systems, employees are differentiated in terms of levels of education, experience, and scope of responsibility. Thus secondary graduates are paid a higher salary than primary graduates, experienced teachers are paid a higher salary than beginning teachers, and headteachers are paid a higher salary than regular teachers. However, many teacher incentive systems are ineffective because they ignore the troublesome task of differentiating among so-called "equals." If all teachers with the same training and experience receive the same compensation but some work harder than others, morale will deteriorate. A number of solutions have been offered to this problem. The first is to compensate teachers on the basis of the success of their students on examinations. Technical problems related to measuring the value added by a particular teacher, as well as the temptation to teach to a particular test rather than

for acquisition of a broad range of cognitive and affective goals make it difficult to effectively employ this solution. More acceptable approaches involve recognizing individual teachers' contributions to the school and of attendance and effort.

Adequate compensation. An effective incentive system should provide adequate compensation for the employees. The concept of adequate compensation is a relative one. It is defined by the opportunity costs related to choosing a particular profession. If alternative employment opportunities are available which provide higher salaries and status, then individuals would prefer them to the teaching profession. While few nations can successfully compete against the salaries offered by private sector employers, many can offset the disincentive of low salaries by providing free or subsidized housing, food, or transportation. In addition to indirect monetary incentives, nonmonetary incentives may be designed to effectively enhance the overall compensation package. Exemption from military service, choice of location for the next assignment, and recognition of effort and excellence are examples of such nonmonetary incentives.

Professional support. An effective incentive system should include facilities, tools, materials, and guidance for carrying out professional responsibilities. Job

satisfaction, which is related to conducive environments and to participatory decisionmaking, is a major motivator in all professions. In teacher incentive systems, such job factors include those items listed in Figure 2.

Career growth. An effective incentive system should provide opportunities for promotion and professional development. Educational systems with few such opportunities are perceived as dead-ends. Teachers who work in such systems often invest more of their energy in looking for other jobs and in attempting to obtain release from the teaching service than in developing their teaching skills or in contributing to school improvement. Opportunities for promotion provide effective incentives, but promotions should carry not only more status but involve greater rewards. Similarly, professional development activities should clearly result in improved skills, increased status and enhanced benefits. The selection process for the distribution of promotion and professional-development opportunities should be clearly explained and perceived as fair. Teachers should be involved in specifying and implementing this process.

CONCLUSION

Teachers are the most important resource governments provide to schools. Where teachers are well-motivated, competent in

WORKLOAD

- Appropriate teaching load
- Appropriate administrative workload
- Appropriate extracurricular workload
- Fair distribution of workload
- Suitable school schedule
- Suitable annual calendar
- Released time

PARTICIPATION IN SCHOOL MANAGEMENT

- Access to administrative information
- Participation in management decisionmaking
- Participation in student promotion decisions
- Participation in student assignment decisions
- Participation in classroom assignment decisions
- Participation in subject-area assignment decisions

STUDENTS

- Respectful students
- Responsible students
- High-ability students
- Students of similar age range
- Low student absenteeism
- Low student dropout rate

COLLEAGUES AND SUPERVISORS

- Regular performance appraisal
- Feedback and guidance from headmaster
- Recognition by headteacher
- Regular classroom inspection
- Feedback and guidance from school inspectors
- Recognition from school inspectors
- Frequent visits from community leaders
- Recognition from community leaders
- Team spirit among teachers
- Compatible colleagues

OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT

- Inservice training workshops
- Evening classes
- Distance education
- Staff meetings
- Professional conferences

SCHOOL LOCATION

- Housing near school
- Meals at school or near school
- Transportation facilities near school
- Medical facilities near school
- Postal facilities near school

SCHOOL FACILITIES

- Preferred size of school
- Preferred type of school
- Well-furnished teachers' room
- Adequate school library
- Adequate playground facilities

CLASSROOM FACILITIES

- Large classroom
- Good lighting in classroom
- Good ventilation in classroom
- Good roofs and walls in classroom
- Adequate furniture
- Ample blackboards
- Ample classroom supplies
- Good textbooks
- Useful teacher's guides

FIGURE 2. TEACHER JOB FACTORS

the presentation of curriculum, and able managers of other classroom resources, students attend regularly and learn. By the same token, where teachers are distracted from their task by the need to supplement their income, have little in the way of collegial and materials support, and are unprepared to manage heterogeneous groups of students, little learning takes place. An effective incentive system can go a long way toward improving teacher motivation and morale and hence the quality of education.

3. RESEARCH STATEMENT

STATEMENT OF THE PROBLEM

Nations at every level of development are debating issues related to incentives for teaching. The renewed concern for teacher incentives is reflective of a profound concern with the quality of schooling and, in particular, the quality of teaching. In many countries, there is sufficient evidence to suggest that average student achievement has declined while, at the same time, the academic ability of those entering teaching has decreased relative to earlier cohorts. Although the causes of the decline differ from country to country, the net effect is similar. Systems are experiencing difficulty in recruiting individuals of the quality desired and in retaining those recruited in teaching. In developing nations, however, where school systems are still expanding, infrastructures (communication, roads, etc.) are incomplete, and fiscal capacity is low, the problem of identifying and funding appropriate teacher incentives is of a much greater magnitude than it is in countries where both human and material resources are not so sharply constrained.

The research on incentive systems suggests that effective reform of an existing system must be consistent with the goal of improving teacher performance. The danger,

evidenced in a great deal of the literature, is reduction of the goal to one or more subgoals, such as recruiting higher quality individuals into teaching or increasing retention. Reductionism is a danger particularly where responsibility for teachers is divided among units within a ministry or among ministries. Discrete treatment of subgoals generally leads to overall inconsistency in the system, while integration of recruitment and retention subgoals into a long term plan for improving teacher effectiveness produces a more flexible and effective system.

One advantage of emphasizing teacher effectiveness in discussions of incentives is that it forces the debate beyond the narrow interests of particular units responsible for one aspect or another of the teacher service. This, in turn, may generate greater support both within the ministry and across ministries for strengthening incentives for teaching. A second and more important advantage is that each incentive will be measured directly against the value it will potentially add to improving teacher performance over time. Such procedure makes explicit the tradeoffs between the goals and means related to recruitment and those related to retention and therefore maximizes the set of options available to policy-makers .

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POLICY ISSUES

If the problem is how to improve teacher productivity (that is, how to help teachers facilitate student learning), given current resource constraints, the major policy issues are who is to be recruited at what price, and who is to be retained at what price. Price, in this context, connotes the total package of rewards, including both direct and indirect monetary and non-monetary benefits. In many countries, the price of recruitment includes both preservice training and beginning teachers salaries while the price of retention includes not only salary and allowances but also inservice training, headmaster and inspectors' time devoted to supervision, etc. The magnitude of these investments in both salary and training require justification in terms of their efficiency in producing the desired teacher behaviors.

If, for instance, a significant portion of those trained for teaching never teach or leave the service before government has realized a sufficient return on its investment in training, a hard look has to be taken at the characteristics the system is recruiting for. It may well be that entry characteristics are too high relative to the compensation package . If this is the case, one option is to reduce the entry requirements (and possibly salaries) and provide greater inservice training and instructional support for teachers. Thus, if the target group for recruitment

consists of secondary graduates, government may decide to temporarily admit secondary dropouts to teacher training until market conditions or government fiscal capacity changes.

Similarly, if teacher behaviors do not meet the minimal standards of performance, such as regular attendance at school and in the classroom, both the compensation package and the rules and regulations for tenure and promotion need to be examined.

Obviously, the first step in addressing issues related to providing incentives for teacher productivity is to define the minimal acceptable behaviors for payment of salary and those set of behaviors which will be rewarded beyond salary (by promotion, inservice opportunities, public recognition, etc.).

This requires a conceptualization of the factors influencing different levels of teacher performance.

THEORETICAL FRAMEWORK

Adequate teacher performance includes a range of behaviors extending from regular attendance at school and in the classroom to classroom management, lesson delivery, lesson design, and student evaluation and guidance. Outside the

classroom, teachers are often typically expected to participate in school level decisionmaking, assist each other and meet with parents. The literature suggests that the factors which influence teachers' willingness and ability to carry out their responsibilities effectively are as follows:

entry characteristics (academic ability, the quantity and quality of their prior schooling);

nature and type of teacher training;

adequacy of the compensation package;

quantity and quality of instructional support (texts, materials, and supervision);

opportunities for promotion and advancement;

quality of the school environment (colleagues, students, management structure, and facilities); and

status in the community.

The relationships between these factors and teacher performance is shown in Figure 3.

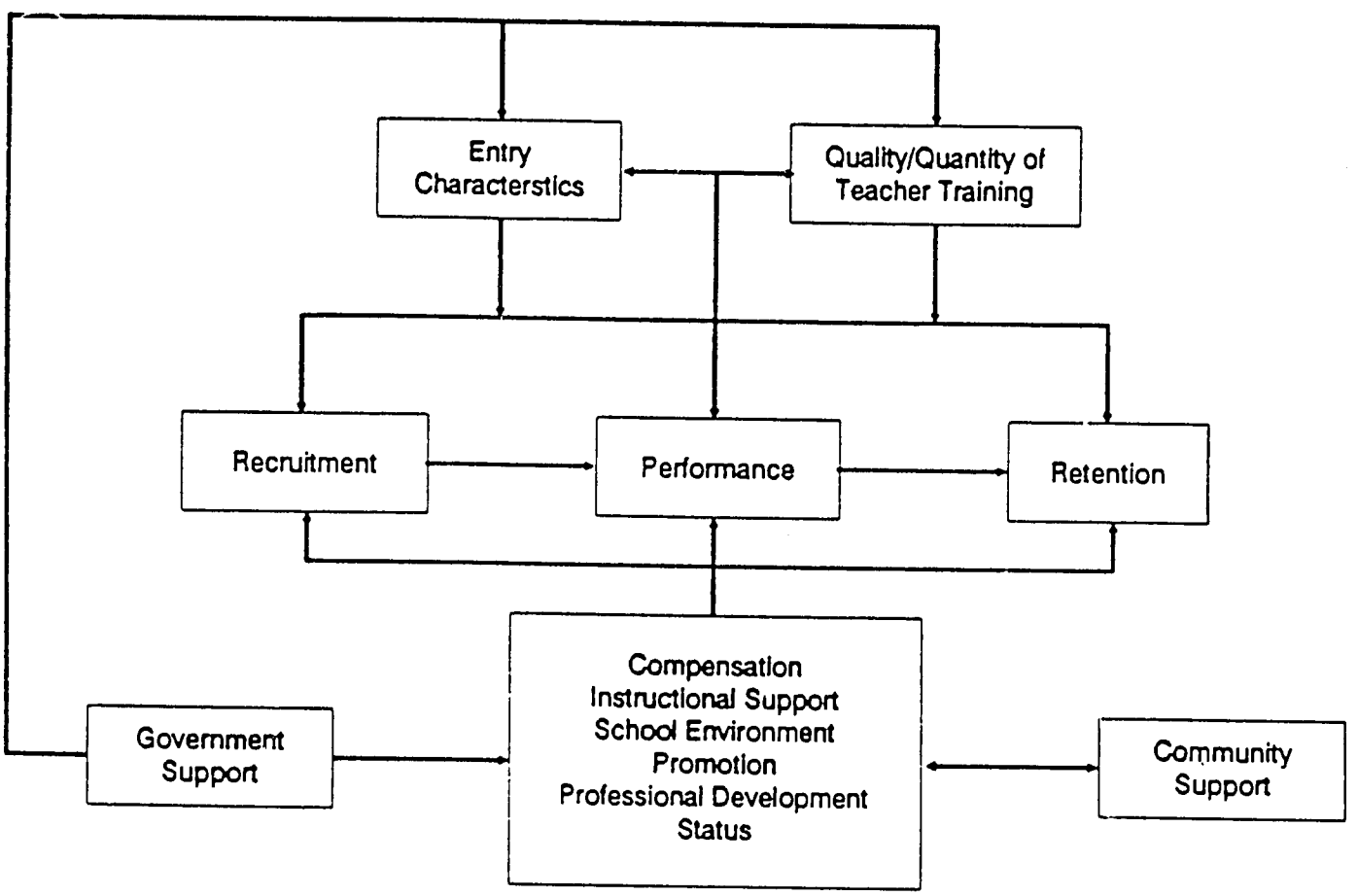

FIGURE 3. TEACHER INCENTIVES MODEL

As Figure 1 suggests, there is an identity between the factors that affect performance and those which affect the subgoals of recruitment, and retention. Teaching is one of the few professions in the modern sector that the school going public is familiar with. Individuals who have gone to school know the status of the teacher in the community, the salaries of teachers, and their working conditions. This knowledge, as well as their own experiences in school, determines, to a large extent, their perception of teaching as an attractive occupation. The status of the school system thus feeds back into the ability of the teacher service to recruit new teachers. In addition, there is also considerable research which suggests that the individual's perception of the quality of his/her first teaching assignment (school environment, opportunities for promotion and professional development, status in the community, instructional support), as well as his/her sense of success in teaching also affects decisions related to exiting or staying in the teaching service.

RESEARCH QUESTIONS

The overall goal of the teacher incentives project is to provide relevant data, background information, systematic procedures, policy recommendations, and analysis of

alternatives so that policy makers can select and implement appropriate strategies to strengthen the incentive system for teacher performance. In order to achieve this goal, information will be gathered from policy makers, present teachers, and former teachers on their perceptions of current incentives and their suggestions of how these incentives could be made more effective. In addition, background information on the school system and the teaching force is necessary to set the context for analyzing the responses. These information needs are summarized below in the form of sets of questions.

1. Current Status

   What are the characteristics of currently serving teachers (educational attainment, age, gender, marital status, national origin, part time/fulltime, etc.)

   How many teachers are actively teaching and how much do they get paid?.

   How much could be saved by removing non-active teachers from the payroll?

2. Recruitment for Teacher Training

   What is the teacher turnover rate (national, regional, district)?

   What are the opportunity costs for primary teaching for each level of educational attainment of recruits and different types of teachers?

   What are the per-student costs of teacher training?

   How many years of teacher service are required to realize a return on investments in training?

Is teacher training considered an incentive for entering the teaching service?

Are there alternative forms of training which might be less costly (e.g., a concentration in primary education at the secondary level or programmed teaching)?

How closely does the teacher training curriculum relate to the realities of primary school teaching?

What are the dropout and graduation rates in teacher training institutions?

What proportion of those who graduate actively serve as teachers?

3. Teacher Retention and Attendance

How are teachers assigned to schools?

What length of time is the usual period of assignment?

How long does the average person remain in primary school teaching?

What factors influence teacher persistence and exit?

How regularly do teachers attend school?

What factors encourage high attendance rates?

How do rates of teacher attendance vary with teacher characteristics, region, type of school (complete/incomplete), or location of school (urban/rural remote)?

4. Teacher Income

What strategies do teachers use to supplement their income?

How do these strategies differ according to the location of the school and the gender of the teacher?

Which supplementary income strategies are officially sanctioned?

What are the effects of secondary employment on teachers' effectiveness in the classroom?

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What types of secondary employment are complementary to teaching?

What are the possibilities for government employment of teachers in second jobs (i.e., work at the MOE, work in the village as an adult education specialist)?

5. School Income Generation Activities

What are the current sources of income for primary schools (e.g., government aid, private contributions, tuition, fees, etc.)?

What school income generation activities are appropriate for different regions?

What strategies have been tried in which locations with what results?

What alternative approaches are available for distributing additional income among teachers?

What are the advantages and disadvantages of alternative income sharing approaches?

6. Perceptions of Incentives

What do teachers, former teachers, teacher trainees, administrators, educator, and public perceive as incentives and disincentive for the recruitment, retention, performance of teachers?

How do these perceptions differ from one group to another?

7. Remote Area Teaching

What are the incentives and disincentives for teaching in remote areas?

What are alternative strategies for increasing incentives and/or decreasing the disincentives?

What are the likely costs and benefits of these alternative strategies?

8. Community Participation

What is the extent of current community support for teachers' food and housing?

What types of teacher incentives are best provided by parents and the community?

How should the government formalize community participation in the support of schools?

9. Evaluation and Feedback Systems

What types of formal evaluation of teaching performance are undertaken?

What is the relationship between formal evaluation of performance and tenure, promotion, and salary increases?

What types of formal and informal feedback do teachers receive from headmasters, inspectors, students, parents, and community leaders?.

What is the effect of recognition, indifference, and/or criticism on teacher performance and morale?.

What formal mechanisms can be used to increase the frequency of feedback and to make it more objective?

10. Instructional Support

Do teachers perceive instructional materials as an incentive?

What are the relative incentive values of textbooks for students, teacher's guides, programmed teaching modules, and teaching aids?

What are the costs of these materials?

How can their life be extended and their costs be (at least partially) recovered?

What is the relationship between the availability of instructional materials and teacher attendance?

11. Teacher Status

What is the public perception of the status of primary school teachers?

What is the effect of such perception on the morale of teachers?

How can the status of teachers be enhanced?

12. Opportunities for Professional Development and Promotion

What types of inservice training programs are available for the professional development of teachers?

What inservice training activities perceived by teachers as incentives?

What opportunities for promotion currently exist?

13. School Characteristics and Job Satisfaction

Do the characteristics of schools (e.g., size, enrollment, location, complete/incomplete cycle, etc.) affect teachers' job satisfaction?

How are classrooms, students, and workloads assigned to teachers?

Do teachers perceive workloads as being distributed equitably?

To what extent do teachers participate in the school management and administration?

LIMITATIONS OF THE STUDY

The complexity of the relationships described in Figure 1 suggests that no single study can examine all the factors influencing teacher performance. Consideration, for instance, of the efficiency of teacher training and, therefore, both its absolute value and its relative value as an incentive for performance would obviously require a separate study. By the same token, since teacher incentives vary with school level, it would be difficult to deal with

more than one level at a time. For these reasons, the study is limited to the investigation of the efficiacy of the current incentive system for the recruitment, performance, and retention of primary teachers and alternatives for strengthening it. Primary teachers are defined as public school teachers of grades 1-6.

METHODOLOGY

The study of teacher incentive is primarily a descriptive one. Phase I of the study will consist of three parts. First, the current status (numbers of teachers, salaries, etc.) of the system will be presented. Secondly, the current rules and regulations affecting primary teachers will be summarized. Third, the balance of current incentives and disincentives embedded in the rules and regulations governing recruitment, performance, and retention will be analyzed.

In the second phase of the study, currently serving primary teachers will be interviewed regarding their perceptions of the incentives and disincentives for teaching. Grade 1-6 teachers will be stratified by gender and urban/remote rural school location. Figure 4 depicts the stratification scheme.

Figure 4

	urban	remote rural
male	50	50
female	50	50

The country team leader, in collaboration with colleagues in the Ministry will select urban/remote rural district where teachers will be interviewed. Male and female teachers within districts will be randomly selected until there are 50 within each cell.

In order to see whether the perceptions of former teachers, prospective teachers, and secondary teachers differ from primary teachers, approximately 50 members of each of these groups will be interviewed in Phase III of this study. If the results indicate significant differences, more systematic sampling could be undertaken in Phase IV of the study.

Phase IV will be primarily devoted to an analysis of the interview items using such techniques as the chi square. The results of the analysis, together with the cost and benefits of the alternative approaches to strengthening the incentive system suggested by the analysis, will be presented to the in-country Steering Committee as well as to the Project Team Leaders. In addition, considerable effort will be taken to disseminate the results of each study and the lessons from all three in the international educational community.

4. PROPOSED MANAGEMENT STRUCTURE

The overall management structure for the Yemeni Teacher Incentives Project is shown in Figure 5. The Country Team Leader will have the responsibility for managing the entire project. He will receive advice from two groups: the IEES Project Team and the Yemeni Project Advisory Committee. Three Research Associates will help the Country Team Leader to implement different project activities: The Research Associate for the Status Review will prepare a report on the current status of teacher incentives in the Yemen Arab Republic. The Research Associate for Teacher Survey will train the interviewers, coordinate the survey of different groups of teachers, and supervise the coding, tabulation, and analysis of all interview data. He will be assisted in the analysis phase by the Research Associate for Analysis. A Project Secretary will carry out clerical and secretarial responsibilities for the project.

IEES PROJECT TEAM

The IEES Project Team provides technical and professional advice to the Yemeni Project staff. The IEES coordinators visit the project periodically, review the progress, and provide suitable inputs on the technical aspects. They also frequently correspond with the Country Team Leader and

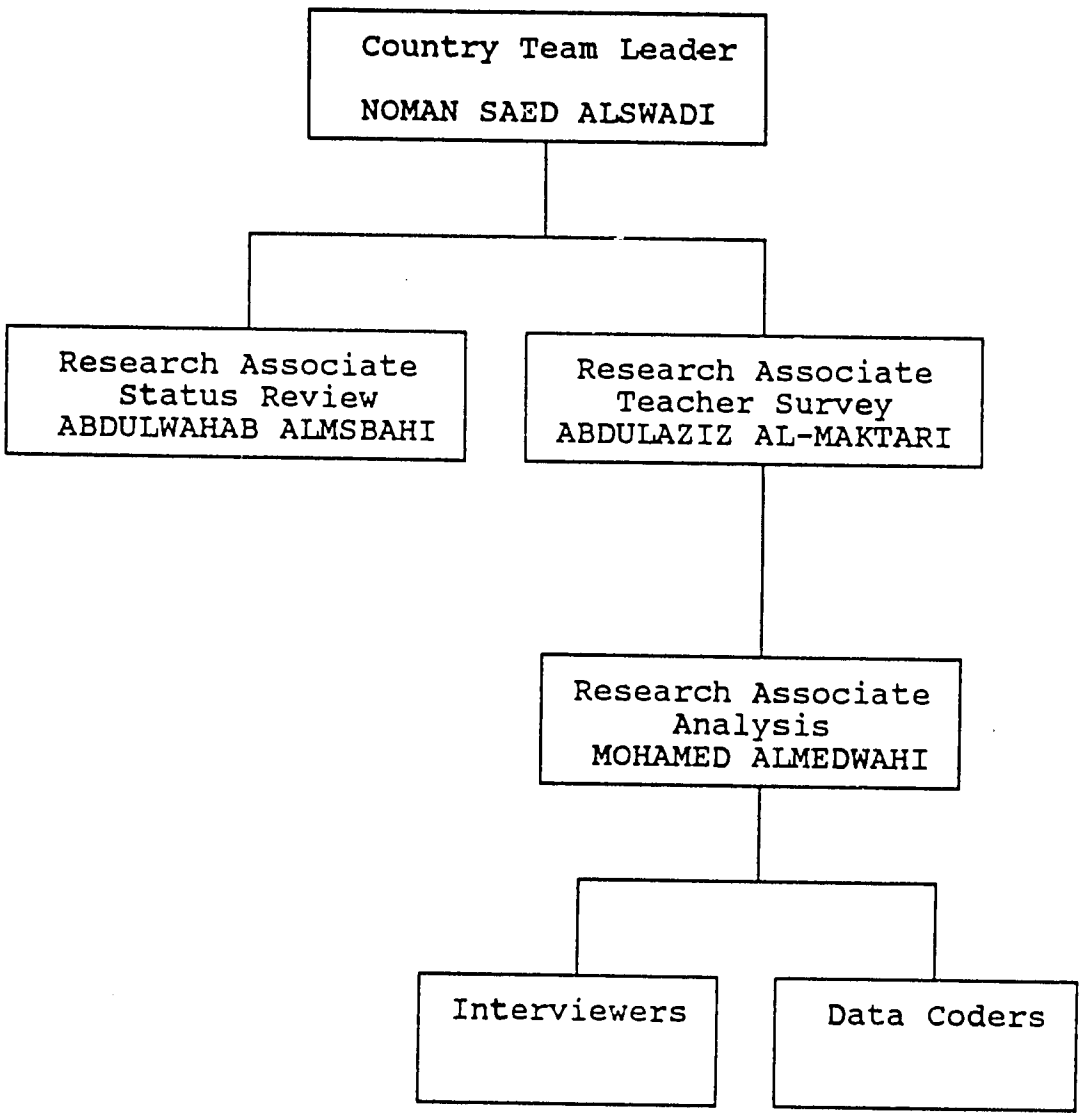

FIGURE 5. PROPOSED MANAGEMENT STRUCTURE

provide suitable reference materials and suggestions related to the research design, instrument construction, and data analysis.

PROJECT ADVISORY COMMITTEE

Because of the potential national impact and the complexity of the project, an Advisory Committee will be formed to represent different stakeholders and policymakers. During the life of the project, members of the committee will be responsible to provide advice and suggestions on various aspects of the research. However, they will not be responsible for the control of the project which will be the responsibility of the Country Team Leader. The Advisory Committee will play an important role in the dissemination and implementation of the recommendations of the project.

The Advisory Committee will be composed of representatives from appropriate ministries. There will be six members on the committee, three representing the Ministry of Education, and one each from the Ministries of Labor, Finance, and Planning. During the two years of the project, the Advisory Committee will meet six times. Members of the committee will be responsible for the following functions:

Reviewing the progress of the project and offering suggestions for improving areas where the progress has not been satisfactory.

Advising the Country Team Leader on the role of their respective agencies in the implementation of the recommendations of the project.

Advising the Country Team Leader on the dissemination and implementation of the recommendations of the project.

COUNTRY TEAM LEADER

Mr. Noman Saed Alaswadi will be the Country Team Leader for the project. He is currently the Head of the Planning and Evaluation Section of the Department of Nonformal Education in the Ministry of Education in Yemen. As Country Team Leader, Mr. Alaswadi will be responsible for all the processes and products for the project in Yemen. He will work in this capacity for the entire two years on a half-time basis.

The Country Team Leader will be responsible for the following functions:

Research design. Collaboration with country team leaders, the IEES Project Team Leaders, and the IEES Project Coordinator in the research design and in the construction of the interview protocols. Adapt the research design to suit the needs, resources, and constraints of Yemen while preserving comparability among participating nations.

Management structure. Design effective division of labor for the project and designate individuals for core responsibilities.

Position descriptions. Identify different positions and describe the functions and responsibilities of each.

Budget preparation. Prepare a budget for personnel, materials and supplies, in-country travel, and report and instrument preparation costs related to the research activities.

Advisory Committee. Identify and select decision makers in the Ministries of Education, Finance, Planning, and other appropriate organizations whose support and inputs are essential to the reform of the teacher incentive system in Yemen.

Personnel management. Hire appropriate candidates for various positions, monitor their performance, and make adjustments as needed.

Financial management. Maintain necessary financial records and submit receipts and vouchers at specified intervals to the individuals designated by the IEES Project.

Interview site selection. Identify and select appropriate urban and remote rural sites for the interviews.

Interview sample selection. Identify and randomly select current, former, and prospective primary teachers and secondary teachers to be interviewed.

Interaction with IEES Project personnel. Request technical assistance from the IEES Project and report on progress at specified intervals.

In-country dissemination. Publicize the reports and recommendations of the project to appropriate stakeholders and policymakers in Yemen.

International dissemination. Collaborate with IEES personnel in publicizing the results and recommendation of the project in international forums.

RESEARCH ASSOCIATE FOR THE STATUS REVIEW

Mr. Abdulwahab Almsbahi, Assistant to the Director General of Education, will be the Research Associate for the Status Review. He will work in this capacity for the first five months of the project on a half-time basis.

The Research Associate for the Status Review will carry out the following functions:

Summarize the data (e.g., background characteristics, opportunity costs, salaries, etc.) on individuals who enter teacher training, accept their first assignment, remain, and exit the primary school teaching service in Yemen.

Summarize the rules and regulations governing entrance into teaching, initial assignment, transfer, promotion, tenure, and termination of primary teachers.

Describe the current balance of incentives and disincentives for teaching in Yemen.

Analyze the current incentives in terms of their effectiveness, adequacy, equity, internal consistency, opportunities for professional growth and development, and instructional support.

Prepare draft and final report on the current status of primary teacher incentives in Yemen.

RESEARCH ASSOCIATE FOR TEACHER SURVEY

Mr. Abdulaziz Al-Maktari, Head of the Evaluation and Research Section, will be the Research Associate for Teacher Survey. He will work in this capacity for twelve months on a half-time basis.

The Research Associate for Teacher Survey will be responsibile for the following functions related to collecting interview data:

Develop the criteria for the selection of the interviewers.

Select interviewers.

Prepare appropriate training materials and train interviewers.

Supervise the pilot testing of the interview protocols. Clarify interview items on the basis of the pilot tests.

Develop guidelines for conducting the interviews.

Arrange logistical support for the interviewers.

Develop a time table for administering the interviews.

Monitor and supervise data collection in the field.

Collect all completed interviews.

Prepare a report describing the training, pilot testing, and interviewing processes, highlighting any difficulties that may affect the reliability and validity of the data collected.

The Research Associate for Teacher Survey will also be responsible for the following functions related to the analysis of the data from the survey. He will be assisted in the analysis by Mr. Mohamed Almedwahi, the Head of the Literacy Section in the Department of Nonformal Education:

Train data coders.

Monitor and supervise the coding of all completed interview forms.

Analyze the data from the interview forms.

Prepare draft and final reports of the analysis.

Integrate the status report, interview report, and the analysis report into a final project report.

OTHER STAFF

Other project staff will include a full-time Secretary and 10 Supervisors who will be used for interviewing and data coding.

5. PROPOSED BUDGET

TECHNICAL PERSONNEL:	
Country Team Leader (24 months @50%)	65400 YR
Research Associate (Teacher Survey - 24 months @ 50%)	65400
Research Associate (Status Report - 5 months @ 50%)	10791
Research Associate (Analysis - 6 months @ 50%)	12753
Total Technical Personnel	154344
OTHER PERSONNEL:	
Project Secretary (24 months @ 100%)	48000
Advisory Committee (Stipends for 6 people for 6 meetings @ 500 YR per person per meeting)	18000
10 Interviewers (10 days training/pilot testing 20 days in field, including travel time @ 170 YR)	51000
5 Coders (5 days @ 170 YR)	4250
Total Other Personnel	121250
MATERIALS/SUPPLIES:	
Office Supplies	8560
Equipment Rental	12840
Total Materials/Supplies	21400
IN - COUNTRY TRAVEL:	
Travel for 12 individuals (interviewers, Field Director, Country Team Leader; 12 x 10 trips @300 YR)	36000
Per Diem (120 trips x 2 nights @ 400 YR)	96000
Total In-Country Travel	132000

REPORT PREPARATION:

Translation

Status report (50 pages)	1605
Interview Forms (4 forms, 10 pages each)	1284
Final Report (200 pages)	6420
Total Translation	9309

PHOTOCOPYING/PRINTING

Status report (50 pages @ 2 YR, 25 copies)	2500
Interview Forms (10 pages, @ 2 YR, 555 copies)	11100
Final Report (200 pages, @ 2 YR, 100 copies)	40000
Other	6420
Total Photocopying/Printing	60020

CONFERENCF IN SANA'S (ONE DAY)

40 individuals from Sana'a	
Stipend (@400 YR)	16000
20 individuals from outside Sana'a	
Stipend (@400 YR)	8000
Per Diem (@ 400 YR average)	8000
Travel (@ 350 YR average)	7000
Total Conference in Sana'a	39000
CONTINGENCY FUND	56677
Grand Total	594000
	(US $50000)

ADDITIONAL BUDGET NOTES

Annual salaries (salary plus allowance for afternoon work - 1000 YR) of key professional personnel are adjusted to take into account a month of paid holidays and divided by 260 to obtain the daily rate (((salary + allowance) x 1.09 x 12)/ 260) . The following are the annualized salaries and daily rates for various professional staff members, in Yemeni Riyals:

Noman Saed Alaswadi	62400	252
Abdulwahab Almsbahi	51012	196
Abdulaziz Al-Maktari	62400	252
Mohamed Almedwahi	51012	196

Estimate have been provided for the Project Secretary who has not yet been identified.

Project staff will be reimbursed only for actual time spent on approved project activities each month. Total payments during the life of the project to each staff member cannot exceed the budgeted amount.

The exchange rate used in the calculations is US$1 = 11.88 YR.

The total budget cannot exceed US$50000.

IEES
POLICY RESEARCH INITIATIVE

STRENGTHENING LOCAL EDUCATION CAPACITY PROJECT

Initial Research Design Meeting
Howard University
Washington
December 15-19, 1986

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IEES POLICY RESEARCH INITIATIVE
STRENGTHENING LOCAL EDUCATION CAPACITY PROJECT

GOALS, PRODUCTS, AND OUTCOMES

The overall goal for the strengthening local education capacity project is to provide relevant data, background information, systematic procedures, policy recommendations, and analyses of alternatives so that policy makers in the Ministry of Education can select and implement appropriate strategies to develop local capacity to support instructional activities.

Design Requirements

In the proposed structure for IEES policy research initiative, Windham lists the following five structural design requirements. Each requirement will be met in the strengthening local education capacity project:

Collaboration - host country participants are to be full partners in the design, conduct, and evaluation of all IEES research activities.

Comprehensiveness - IEES research activities will be designed and conducted within the context of the full EHR system and with attention to the wider social and economic determinants of EHR policy development.

Coordination - the research projects will attempt to promote coordination among the IEES countries, within and among government agencies, and between the IEES project and other major development initiatives within the donor community.

Continuity - through the utilization of the resident technical advisors, the recurrent use of IEES and host-country personnel, and the establishment of an integrated research management structure, the project will establish and maintain its commitment to each of the selected research topics.

Conceptual base - the research activities of the IEES Consortium will be informed by a common methodology that will be designed, implemented, and evaluated through the joint efforts of the IEES and the host-country personnel.

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Products

Several products will be produced during and after the strengthening local education capacity project.

Here are the expected intermediate products:

- Preliminary statement of the problem, policy issues, and research questions.

- Inventory of system characteristics that affect strengthening local education capacity.

- Design for policy research studies on strengthening local education capacity.

- Recommended research procedure.

- Sample questionnaires for collecting data on strengthening local education capacity.

- Guidelines and budget worksheets for coordinating the study.

- Descriptions and analyses of current instances of local support for instructional activities in each cooperating country.

- Descriptions and discussions of local support strategies.

- Descriptions and analyses of the current policy-making mechanisms in each participating country.

- Descriptions and analyses of the perceptions of strengthening local education capacity systems by different stakeholders in each participating country.

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- Definition and description of critical features of strengthening local education capacity systems.

- A glossary of terms related to strengthening local education capacity.

Here are the expected final products:

- Final report on each country study.

- Policy recommendations regarding strengthening local education capacity for each country.

- Final report synthesizing the finding from the three countries.

- Policy recommendations for strengthening local education capacity systems in developing nations.

- Report and recommendations on conducting cross-national policy research studies.

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Outcomes

A major objective of the policy research initiative is to improve the capacities of research institutions both in the host countries and among the members of the IEES Consortium. As a result of participating in this initiative, it is anticipated that individual competencies and institutional capabilities will improve in these areas:

- Policy research design
- Construction of survey instruments
- Data collection
- Data analysis
- Report preparation
- Policy analysis
- Project management
- Collaboration in cross-national policy research initiatives.

RESEARCH STATEMENT

Statement of the Problem

Over recent years in many less developed countries significant growth in central budget expenditures in the education sector have been accompanied by little evidence of comparable growth in system effectiveness. Evidence from many LDC's indicates that overall education budgets have grown, but in many instances per pupil expenditures are on the decline. Due to increasing demands on often severely limited national resources, both human and financial, it is becoming increasingly appealing to central governments that they identify areas where there is an existing, or potential, local capacity to absorb what may be additional responsibilities for the support of instructional activities.

What is frequently being observed in education, as in other public sectors of the economy of many developing countries, is a situation that reflects an expanding inability of centralized administration to sufficiently meet the needs and expectations of citizens. To be able to provide the services and facilities that are in demand it may be necessary and desirable for government to increase the level of community participation in varying levels of educational governance, and in doing so move to expand the current, often inadequate resource base for educational services.

For countries that are experiencing an expanding shortfall in fiscal capacity to meet the growth in demand for educational services the problem of identifying appropriate alternate sources of financial and material support is becoming increasingly critical. Of particular interest to both the donor community and recipient countries is the identification of what may be considered non-traditional methods of enlisting local assistance to support instructional activities - rather than the more familiar, clearly defined monetary contributions (fees, education taxes, etc.) although these too are important. For example, many communities in developing nations are already responsible for the provision and maintenance of schools while central government either provides or pays for teachers.

Policy Issues

If the problem facing governments is how to most efficiently and effectively take advantage of existing and/or potential local capacity to support educational services given current fiscal constraints, then the major policy issues are what alternate policy options exist and what are the political and institutional considerations and adjustments necessary to implement those options. In other words: What alternative forms of community and local support, monetary and non-monetary, are available? How successful have these alternatives been? Under what institutional conditions were these successes measured?

Currently many governments regulate the operation of community controlled and private schools, just as they restrict the level of community/local involvement in the administration and governance of publicly funded schools. An easing or redefining of these restrictions may mobilize additional private and/or community resources without substantially adding, if adding at all, to government's long-term fiscal commitment to this sector.

However, moves towards facilitating the mobilization of local resources, regardless of their form, will almost certainly require substantial political and/or institutional change, particularly where there has been a long standing tradition of free education. It would therefore appear appropriate to identify the alternate policy options and, if possible, some reliable measure of their potential for success in order that policy makers can determine political and institutional priorities.

In order that a meaningful discussion of these alternate policy options can be developed it is necessary that we initially define both the current extent of community and private participation in the support and provision of instructional services, and the institutional framework within which those activities take place. And, secondly, it is vital to our mutual understanding of the possible extent of local participation in instructional support activities that we document the nature and effectiveness of existing examples.

In preparation for this activity care should be afforded two concerns; the need to document,

(i) regulations which constrain regional, local, community, or private participation in the support or supply of educational services (constraints), and

(ii) existing and potential areas where decentralized authority for selected educational decision making can result in increased community responsibility for the provision of resources for education (opportunities).

Research Questions

The overall objective of the project is to identify specific areas in which there is evidence that local and/or private participation in the provision of educational services has led to, or has the distinct potential of leading to a determinable increase in the quality of those services. Structuring this intention into two broad research questions, we would be asking:

1. Are there specific, identifiable regional, local or community (non-national) related factors that contribute significantly to an increase in the quality of educational services at particular schools or types of schools?
2. Are these regional, local or community related factors dependent on particular institutional conditions for their contribution to the quality of educational services to be significant?

The regional, local and community factors may be defined as instances of local capacity for supporting instructional activities. Collectively they are possible alternate forms of local support mechanisms, alternatives that provide policy makers with options from which they can select and implement appropriate strategies to develop and/or enhance existing local capacity to support education. In order to meet the objective of identifying those alternate mechanisms, and the environment within which they are successful it is necessary that the project gather adequate information on the following:

A. Institutional background - related to the current status of
   (i) the school system
   (ii) the extent of community local and private participation in that system, and
   (iii) existing policies, practices and procedures that regulate or guide community, local and private participation in the school system

B. Current practices - What types of support activities, monetary and non-monetary, are currently practiced that are not nationally funded? And, what are their measured or judged effects on school performance?

A SUGGESTED PROCEDURE FOR CONDUCTING POLICY RESEARCH IN STRENGTHENING LOCAL EDUCATION CAPACITY

I. Prepare for the Strengthening Local Education Capacity Project

Identify key policy issues related to strengthening local education capacity

Trace progress of previous research and change efforts on strengthening local education capacity

Obtain organizational charts of agencies involved in making decisions regarding strengthening local education capacity

Prepare a model of policy-making process related to strengthening local education capacity

Identify and interview stakeholders in strengthening local education capacity

Summarize the information

II. Conceptualize the Strengthening Local Education Capacity Project

Develop a preliminary model of strengthening local education capacity

Formulate specific research questions related to strengthening local education capacity

Select important aspects of strengthening local education capacity
- Identify malleable variables related to strengthening local education capacity

III. Conduct the study

Operationalize strengthening local education capacity variables

Design methodology for the strengthening local education capacity study
- Interviews
- Focused synthesis
- Secondary analysis
- Survey research
- Pilot study
- Field research
- Qualitative methods

- Case studies
- Cost analysis

Specify the target population for the strengthening local education capacity study
- Identify sample populations
- Specify sampling procedures

Prepare instruments for the strengthening local education capacity study
- Use existing instruments
- Adapt existing instruments
- Prepare new instruments, if needed

Collect data on strengthening local education capacity
- Collect existing data
- Collect new data

IV. Analyze the data

Analyze any preliminary interviews

Code instruments as the results come in

Record results from each instrument

Select appropriate statistical analyses

Analyze the data

Draw conclusions

Present the results in tables and charts

Prepare tentative set of recommendations

V. Analyze study recommendations

Analyze implementation parameters
- Analyze stakeholders in strengthening local education capacity
- Identify stakeholders
- Identify magnitude of support or opposition of each stakeholder to the recommended changes in the strengthening local education capacity
- Estimate probable support of decisionmakers to the implementation of recommended changes in strengthening local education capacity

- Analyze organizational parameters
- Analyze organizational structure for strengthening the local educational capacity
- Analyze amount of resources needed for strengthening local education capacity
- Analyze policy mechanism needed to encourage strengthening of the local education capacity

Predict potential consequences of strengthening the local educational capacity

- Predict intended and unintended effects of strengthening local education capacity
- Predict possible interactive effects of strengthening local education capacity and other MOE policies and programs
- Predict possible consequences of not implementing the recommended changes in strengthening local education capacity

Estimate probability of implementing the recommended changes

Prepare final set of recommendations for strengthening local education capacity

VI. Prepare a final report

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The Recommended Starting Point

The study of local education capacity is primarily a **descriptive** one. First, the current status of the system will be presented. Secondly, current rules and regulations that affect local participation in instructional activities will be summarized. Third, relevant policy-makers, administrators and other stakeholders will be interviewed.

During the initial stages of the project two research activities can be fairly comprehensively planned;

A. Establishing the structure and process of education policy making and implementation.
In examining current policy implementation detailed information should be gathered on
   (i) system-wide behavior that results from policy interpretations, and
   (ii) the consequent impact of current policy - that is to say, how particular policies are actually operationalized, i.e. whether they followed in part, in their entirety or not at all

This can perhaps best be done by completing a series of interviews with appropriately placed policy makers and administrators throughout the school system. However, care should be taken to ensure that at this stage in the project a comprehensive cross-section of reliable personnel are interviewed.

B. Preparing a survey instrument (questionnaire and/or interview format) that can be employed to determine certain characteristics of the school system. Characteristics that include but are not limited to; types of schools, their locations, whether they are publicly funded, privately funded or privately funded and publicly aided, relevant school quality factors (teacher statistics, facilities, etc.) It may be appropriate to divide this survey into two sections, each limited to a particular category of data
   (i) gathering more or less readily available data, in aggregate form, and
   (ii) collecting much more comprehensive data from a sample of schools from selected communities

This process can only be completed following the analysis of the information gathered during the interviews suggested in part A, above.

Descriptive data should gathered that
   (i) provides an overview of the current status of the school system, and
   (ii) outlines current policies and procedures that affect the manner in which community and private participation in instructional

activities are permitted, and the impact of the implementation of those policies and procedures on current school operation.

It is expected that by the systematic questioning of relevant policy makers and administrators at various levels of the cooperating countries' educational bureaucracies it will be possible to construct a framework that illustrates at what points particular policy decisions are made and operationalized, and by whom. This process will enable us to determine the locus of selected decisions. The intention is to complete a series of illustrations, one for each formal level of administration, and then to compare and contrast them to establish an actual pattern of educational policy activity. It should then be possible to determine at what juncture in the administrative process initial decisions are made, and by whom or by what office, and how these policies are interpreted at the various non-national levels. It is anticipated that a number of areas of flexibility within the program implementation process will be identified, and whether they exist by design or default.

Basically then, the intention of this first phase of the project would be to illustrate in as descriptive a format as possible, at what points program decisions are made and how frequently and to what extent these policies are implemented. As previously alluded to a concentration within this process will be on determining the flow of budget related decisions and their actual impact at the school level. This, in order to establish the contribution that community support is actually making or has the potential to make to particular schools or types of schools.

In an attempt to place some initial parameters within which the strengthening local education capacity research activities should be framed we suggest that the basis of our primary enquiries address four segments of the school governance process

1. Teacher related variables (qualifications, training, employment, salaries, performance evaluation, etc.)
2. School program variables (curricular context, language of instruction, materials selection and acquisition, student evaluation and testing level, etc.)
3. Budget allocation variables (at national and regional levels, to and within schools, payments, discretionary funds, etc.)
4. School administration variables (control over other categories of variables, flexibility in administration procedures, impact on maintenance and facility provision, etc.)

and, one category of additional information

5. The formal and informal input of groups not primarily identified with school authority (for example, the provision of supplies, teacher housing, etc. may be provided by community groups · Where and under what circumstances has exceptional public and private participation occurred and at whose initiative? · Is greater participation planned, expected or required?)

Interview or questionnaire items could be selected on the assumption, supported by the Country Team Leaders, that they are significant.

The second stage of the research activity - the preparation of a survey instrument to measure activity at the school level - requires that a target population is determined and a sampling frame decided upon. If particular regions or localities are selected for survey purposes they should be identified according to the criteria along which authority or influence are exercised. These may include political, MOE organizational, economic, ethnic, religious and geographical criteria. Such consideration will reduce the incidence of non-comparable data.

EDUCATIONAL FUNCTIONS THAT MAY BE AFFECTED BY STRENGTHENING LOCAL EDUCATION CAPACITY

Establishing regional agenda

Setting standards for:
- student admission
- student testing
- teacher recruitment
- teacher training
- physical facilities

Setting salary scales and determining benefits for teachers and administrators

Financing salaries

Establishing curriculum

Establishing language of instruction

Establishing scholarships, loans, grants, etc.

Selecting and purchasing/supplying textbooks and teacher materials

Pre-service and inservice teacher training

Providing additional employment for teachers and administrators

Disseminating information

Classroom construction

Building maintenance

Teacher hiring, evaluation

Supply of teaching aides (non-qualified teachers)

Data collection for local (school-based) and regional decision making.

A NOTE ON DESCRIPTIVE RESEARCH

Purpose: To describe systematically the facts and characteristics of a given population or area of interest, factually and accurately.

Examples:

1. An opinion survey to assess public reaction to a series of school reform measures.

2. A community survey to establish the needs of a vocational education program.

3. A study and definition of all personnel positions in an educational center.

4. A report of test score results in a school district.

Characteristics:

1. Descriptive research is used in the literal sense of describing situations or events. It is the accumulation of a data base that is solely descriptive - it does not necessarily seek or explain relationships, test hypotheses, make predictions, or get at meanings and implications, although research aimed at these more powerful purposes may incorporate descriptive methods. Research authorities, however, are not in agreement on what constitutes "descriptive research" and often broaden the term to include all forms of research except historical and experimental. In this broader context, the term survey studies is often used to cover the examples listed above.

2. Purpose of Survey Studies:

   a. To collect factual information that describes existing phenomena.

   b. To identify problems or justify current conditions and practices.

   c. To make comparisons and evaluations.

   d. To determine what others are doing with similar problems or situations and benefit from their experience in making future plans and decisions.

Steps:

1. Define the objectives in clear, specific terms. What facts and characteristics are to be uncovered?

2. Design the approach. How will the data be collected? How will the

subjects be selected to insure they represent the population to be described? What instruments or observation techniques are available or will need to be developed? Will the data collection methods need to be field-tested and will data gatherers need to be trained?

3. Collect the data.

4. Report the results.

Common errors in descriptive research

1. Researcher does not formulate clear and specific objectives.

2. Relates his data gathering procedure to his objectives in only a general way and thereby fails to get quantitative data specific to his problem.

3. Selects his sample on the basis of convenience rather than attempting to obtain a random sample.

4. Does not plan his analysis until after his data are collected.

5. Structures his data gathering devices (questionnaires, interview guides, observation forms, and so on) so that biased results are obtained.

Common errors in questionnaire studies

1. Researcher uses a questionnaire in working with problems that can be better studied with other research techniques.

2. Gives insufficient attention to the development of his questionnaire and fails to pretest it.

3. Asks too many questions, thus making unreasonable demands on the respondent's time.

4. Overlooks details of format, grammar, printing, and so on that, if observed, give the respondent a favorable first impression.

Common errors in interview studies

1. Researcher does not adequately plan the interview or develop a detailed interview guide.

2. Does not conduct sufficient practice interviews to acquire needed skills.

3. Fails to establish safeguards against interviewer bias.

4. Does not make provisions for calculating the reliability of his interview data.

5. Uses language in the interview that is not understood by the respondents.

6. Asks for information that the respondent cannot be expected to have.

GUIDELINES FOR ASKING QUESTIONS

In the practice of social research, variables are often operationalized by asking people questions as a way of getting data for analysis and interpretation (always the case in survey research). Sometimes the questions are asked by an interviewer, sometimes they are written down and given to respondents for completion (self-administered questionnaires).

Questions and Statements

Often, the researcher is interested in determining the extent to which respondents hold a particular attitude or perspective. If you are able to summarize the attitude in a fairly brief statement, you will often present that statement and ask repondents whether or not they agree or disagree with it. Likert has greatly formalized this procedure through the creation of the Likert scale, a format in which respondents are asked to strongly agree, agree, disagree, or strongly disagree, or perhaps strongly approve, approve, and so forth.

Both questions and statements may be used profitably. Using both in a given questionnaire gives you more flexibility in the design of items and can make the questionnaire more interesting as well.

Open-Ended and Closed-Ended Questions

In asking questions, the researcher has two options. He may ask <u>open-ended</u> questions, in which case the respondent is asked to provide his or her own answer to the question.

In the other case, <u>closed-ended</u> questions, the respondent is asked to select an answer from among a list provided by the researcher. Closed-ended questions are very popular, since they provide a greater uniformity of responses and are more easily processed. Open-ended responses must be coded before keypunching and there is a danger that some respondents will give answers that are essentially irrelevant to the researcher's intent. Closed-ended responses, on the other hand, can often be keypunched directly from the questionnaire.

The chief shortcoming of closed-ended questions lies in the researcher's structuring of responses. When the relevant answers to a given question are relatively clear, that may present no problem. In other cases, however, the researcher's structuring of responses may overlook some important responses. In asking about "the most important issue facing the United States," for example, you might provide a checklist of issues, but in doing so you might overlook certain issues that respondents might have said were important.

In the construction of closed-ended questions, you should be guided by the two structural requirements discussed earlier. The responses categories should be exhaustive: they should include all possible responses that might be expected. Often, researchers insure this by adding a category labeled something like:

Other (please specify.) _____.

Second, the answer categories must be mutually exclusive: the respondent should not feel compelled to select more than one. (In some cases, you may wish to solicit multiple answers, but these may create difficulties in data processing and analysis later on.). To insure that your categories are mutually exclusive, you should carefully consider each combination of categories, asking whether a person could reasonably choose more than one answer. In addition, it is useful to add an instruction to the question asking the respondent to select the one best answer, but this technique is not a satisfactory substitute for a carefully constructed set of responses.

Making Items Clear

It should go without saying that questionnaire items should be clear and unambiguous. Questionnaire items should be so precise that the respondent knows exactly what the researcher wants an answer to.

Respondents Must Be Competent to Answer

In asking questions to provide information, you should continually ask yourself whether the respondent is able to do so reliably.

Questions Should Be Relevant

Similarly, questions asked in a questionnaire should be relevant to most respondents. When attitudes are requested on a topic that few respondents have thought about or really care about, the results are not likely to be very useful. Of course, the respondents may express attitudes even though they have never given any thought to the issue, and you run the risk of being misled.

Short Items Are Best

In the interest of being unambiguous and precise and pointing to the relevance of an issue, the researcher is often led into long and complicated items. That should be avoided. Respondents are often unwilling to study an item in order to understand it. The respondent should be able to read an item quickly, understand its intent, and select or provide an answer without difficulty. In general, you should assume that respondents will read items quickly and give quick answers; therefore, you should provide clear, short items that will not be misinterpreted under those conditions.

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Avoid Negative Items

The appearance of negation in a questionnaire item paves the way for easy misinterpretation. Asked to agree or disagree with the statement "the United States should not recognize Iran," a sizeable portion of the respondents will read over the word "not" and answer on that basis. Thus, some will agree with the statement when they are in favor of recognition, while others will agree when they oppose it. And you may never know which is which.

Avoid Biased Items and Terms

The meaning of someone's response to a question depends in large part on the wording of the question that was asked. This is true of every question and answer. Biased questions are those that appear to encourage particular responses more than others.

Taken in part from Babbie, Earl R., The Practice of Social Research. Wadsworth Publishing Company, Inc., New York, 1979.

ADVANTAGES OF A PILOT STUDY

1. It often provides the research worker with ideas, approaches, and clues not foreseen prior to the pilot study. Such ideas and clues greatly increase the chances of obtaining clear-cut findings in the main study.

2. It permits a thorough check of the planned statistical and analytical procedures, thus allowing an appraisal of their adequacy in treating the data. Needed alterations also may be made in the data collection methods, so that data in the main study may be analyzed more efficiently.

3. It greatly reduces the potential for error, because unforeseen problems revealed in the pilot study may be overcome in redesigning the main study.

4. It may save the research worker a major expenditure of time and money on a research project that will yield nothing. The pilot study almost always provides enough data for the research worker to make a sound decision on the advisability of going ahead with the main study.

5. In the pilot study, the research worker may try out a number of alternative measures, and then select those that produce the best results for the main study. The less research experience the

researcher has, the more he is likely to profit from the pilot study. Because of this, the researcher should attempt a pilot study whenever possible, even if it must be limited to only a dozen or so cases.

Borg, Walter R., Educational Research: An Introduction. David McKay Company, Inc., New York, 1963, p. 185.

PRETESTING A QUESTIONNAIRE

1. Select a sample of individuals who are representative of the population toward which the questionnaire is eventually intended.

2. Provide space on the trial questionnaire for the respondents to make reactions and suggested changes.

3. Administer the pretest under conditions comparable to those anticipated in the final study.

4. Check the percent of responses as an estimate of what will occur in the final run; then, examine the returned trial questionnaires for trouble signs - items left blank or yielding no useful information, misinterpretations, and ambiguities. Check the comments for similar indications.

5. Analyze the results to assess the effectiveness of the trial questionnaire to yield the information desired.

6. Make appropriate additions, deletions, and modifications to the questionnaire. (For example, if answers to a particular question show sharp disagreement or raise further questions, additional clarifying questions may be necessary.)

7. Examine overall reaction of subjects to the questionnaires - what did they like, dislike, or want modified?

Taken in part from Isaac, Stephen, and Michael, William B., Handbook in Research and Evaluation. EDITS Publishers, CA. 1983.

IEES
POLICY RESEARCH INITIATIVE

STRENGTHENING LOCAL EDUCATION CAPACITY

BOTSWANA

Project Proposal

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STRENTHENING LOCAL EDUCATION CAPACITY
Phase I. STATUS REPORT

Introduction

The Strengthening Local Education Capacity (SLEC) Study is a two year, two phase project; Phase I concentrating on the preparation of a Status Report, with Phase II taking the form of an extended study of selected aspects of SLEC. The foci of Phase II will be determined as a result of an in-country review of the Status Report. This proposal outlines the intended activities, personnel requirements and anticipated budget of Phase I of the study.

Goals, Objectives and Products

The overall goal of the SLEC project is to provide relevant data, background information, systematic procedures, policy, recommendations and analysis of policy alternatives so that policy makers can select and implement appropriate strategies to develop local capacity to support education activities.

The objectives in preparing a status report are to provide,

i) a comprehensive description of the current local/community support/involvement in educational activities, and

ii) an indication of the policy research needs for SLEC.

It is assumed that an understanding of the extent of current regional and local involvement in educational, and education related activities in Botswana, and the constraints on and opportunities for such involvement will greatly assist in defining a valid research agenda for the second phase of the study.

It is also intended that the process of preparing a status report and using that report as a basis for identifying research foci will improve the competence and capabilities of individuals and institutions participating in the project in the areas of policy research design, construction of survey protocols, data collection and analysis, report preparation and project management.

The following will constitute the products of phase I of the project.

a. Intermediate products

- a report of the first six weeks activity (due May 11, 1987)
- a mid-activity report (due June 8, 1987)
- a draft status report (due July 31, 1987)
- an annotated bibliography
- a glossary of terms related to SLEC
- a workshop to discuss the draft status report and determine the research agenda for the second phase of the study (tentatively scheduled for August 4 or 5, 1987)

b. Final products
- a proposal and proposed budget for the second phase of the study (due August 24, 1987)
- a final status report, that may include preliminary policy recommendations for SLEC (due September 7, 1987).

Phase I is scheduled to be completed in six months (March 1 - August 31, 1987).

Methodology

Phase I is a descriptive study which will draw on existing documents and a limited series of interviews to analyse the impact of current policies, regulations and guidelines that affect local participation in education activities. Included will be comphensive reviews of,

i) current policies, procedures and guidelines that impact on non-national level participation in education activities
ii) research and seminar reports
iii) related policy and non-policy documents (national, regional, and local)
iv) other relevant documents as they are identified, particularly those that relate to community participation in education activities.

These four sources are expected to provide,
- a description of the national school system (general background information)
- a description of system parts for identifying
  i) local, regional or community units
  ii) functional or policy task-specific units
- a description of policy development and ministry(ies) roles
  i) clarifying formal education structure
  ii) providing guidelines that affect informal structure or normal practices
- a description of a small number of policy decisions for modeling decision-making concerning regional/local participation in education activities
- a description of school and community characteristics
  i) defining local diversity - in terms of demographic and/or socioeconomic variation
  ii) identifying variations in local resource bases
  iii) showing any regional variations in administrative structure
  iv) identifying differential policy impact
  v) hypothesizing impact in authority redistribution
  vi) suggesting likely financial or in kind education support capabilities
  vii) showing past regional/local involvement in education support activities
- a description of ministry organizational charts and formal flow of authority - in part to explain regulatory constraints imposed by previously taken policy decisions

In addition to the extensive document and literature review described above, it will be necessary to conduct a series of interviews in order to clarify and expand on the issues as they are identified during the course of the development and preparation of the status report. Interviews and/or group meetings will be conducted to gather information from relevant policy makers, administrators at central, regional and local levels, community leaders and parents.

Intended interviews
It is intended that the following key persons at central and local government and community levels will be interviewed (figures in parenthesis reflect maximum number of interviews):

- Ministry of Education (6 senior and middle level officers)
- Ministry of Finance and Development Planning (3 officers)
- Ministry of Local government and Lands (3 officers)
- Ministry of Home Affairs and Labor (2 officers)
- Department of Public Personnel Management (3 officers)
- District Education Officers (Primary and Secondary Schools, 6 officers)
- Council Secretaries and District Commissioners (8 officers)
- Local Authorities (Chiefs and Councilmen, 8 persons)
- Headmasters, Primary and Secondary Schools (10 persons)
- Community Development Committee (including governors of Community Junior Secondary Schools, 6 members)

Total Interviews: 55 persons.

The interviews will take the research team to five of the nine districts in Botswana. In addition, education officers and community leaders will be selected from the town of Sobatse and the city of Gaborone.

The interviews will be open-ended and structured to elicit information which will,

1. from interviews with ministry personnel,
   - describe and clarify administrative (formal) structure.
   - provide a preliminary description of informal structure.
   - identify a range of policy issues and options.
   - justify or determine representativeness and importance of selected policy decisions.
   - identify (express) perceptions of other input of other stakeholders for comparisions involving the decision-making process
   - describe range of current policies and priorities.

2. from interviews with school directors and teachers,
   - loosly define policy impact and priorities.
   - describe school-community relations or interaction.
   - describe community-related student characteristics pertaining to performance.
   - describe basic elements of school quality.
   - describe parental participation in schooling.
   - identify policy relevant needs.

3. from interviews with community leaders:
   - describe resource base in general terms.
   - describe existing or potential local resource contribution.
   - outline attitudes toward schools and community differences.

- explain special community-school relationship.
- describe exceptional cases of community influence.

In summary, it is intended that the interviews will provide information on,

i) current policies and procedures that affect the manner in which local officers, teachers, community and private organizations participate in education activities
ii) perceptions from a sample of education policy makers in the central, regional, and local offices concerning policies and policy issues related to SLEC
iii) system wide behavior that results from policy interpretation
iv) the impact of current policy, that is to say, how particular policies are actually operationalized (whether they are followed in their entirety, in part, or not at all)
v) characteristics of the school system and the extent of school-community relatiorships, this will include but not be limited to, types of schools, their locations, relevant school quality factors, human and institutional resources, existing and potential local (non-centrally) funded education activities

The results of the literature and document review and the analysis of interview data will be used to describe the current status of regional and local education support activities. These results will be presented at the end of July 1987 in the form of a draft status report.

During the first week of August a one day workshop will be held to discuss the draft status report. There the key policy issues and potential research agenda for the second phase of the project will be determined. One tangible result of the workshop will be input from participants that will used to guide the revision of the status report. By August 31 a final version of the status report will be available.

Personnel

Six persons will be actively involved in the preparation of the status report. Except for the Country Team Leader, Research Associate (Status Report) and the Project Secretary, these will be engaged on a part-time basis for periods ranging from two weeks to two months. The six are,

- The Country Team Leader (CTL)
- Research Associate (for status report)
- Research Associate (for field work)
- Two Research Assistants
- The Project Secretary

Anticipated duties

1. Country Team Leader, Dr. Patrick Mulutsi - as the manager of the project the CTL will be involved throughout the preparation of the status report. He will also,
   - recruit the personnel required, prepare job descriptions, and monitor personnel performance
   - actively participate in the document review and the preparation of an annotated bibliography and together with a Research Associate conduct the interviews (up to fifty-five)
   - identify and select decision makers in the Ministries of Education, Finance and Planning and other appropriate

organizations whose support and input are essential to the SLEC study
- prepare the intermediate and final reports (the status report will be prepared jointly by the CTL and the Research Associates)
- organize the workshop
- communicate the status report findings to relevant national and IEES personnel
- prepare a proposal for Phase II of the study during the sixth month.
- maintain all necessary financial recordsand submit receipts and vouchers at specified intervals to IEES

2. Research Associate (Status Report), Mr. F. Moorad will be employed by the project for two months on a part-time basis. His duties include,
   - preparation of initial bibliography;
   - review of all literature pertaining to local education support activities
   - participation in the preparation of reports
   - the collection of documents from various districts
   - limited interviewing

3. Research Associate (Field Work), Mr. M. Mpotokwane will be employed by the project for one month on a part-time basis. His duties include,
   - training of two research assistants
   - interviewing persons identified above (along with the CTL)
   - supervision of field work
   - preparation of part of the status report
   - assisting in the preparation of intermediate reports

4. Two research assistants will be engaged for two weeks. These will accompany both the CTL and Research Associate (Field Work) during field trips. Research Assistants will, when necessary, be required to assist the project secretary.

5. A project secretary will be employed by the project for six months on a part-time basis. The secretary duties will include responsiblity for the preparation of letters, reports, questionnaires, photocopying and filing.

An advisory committee of six persons will be formed and will meet twice during Phase I of the study, the committee will be responsible for the following,
- Reviewing the progress of the project and offering suggestions and guidelines that will assist in producing a quality final product
- Advising the CTL on the role of their respective agencies or offices in respect to the formation, dissemination and implementation of policy recommendations resulting from the project's activities

Workshop

Date	To be arranged
Venue	To be arranged
Participants	To be determined
Anticipated Outcome	· Revision of the status report · Development of a research agenda for Phase II of the SLEC project · awareness of the need for SLEC research in Botswana
Deliverables (to IEES)	· Agenda for the workshop · Report of the workshop proceedings and consequent recommendations

Proposed Budget

I First quarter: March - May 1987
II Second quarter: June - August 1987

		I	II	Total
Personnel				
1. CTL*	6 mths, 50% @ $45 p.d.	1485	1485	2970
2. Research Assoc.*	5 mths, 50% @ $40 p.d.	1100	1100	2200
3. Secretary*	6 mths, 75% @ $ 9 p.d.	455.5	455.5	911
	sub-total	3040.5	3040.5	6081
* personnel service contract				
4. Research Assoc.	11 days @ $40 p.d.	440		440
5. Research Assists.	28 days @ $ 9 p.d.		252	252
	sub-total	440	252	692
6. Advisory Committee	6 persons, 2 meetings @ $25 per meeting	150	150	300
Materials and Supplies				
Office Supplies etc.		240	240	480
Document purchasing		228		228
	sub-total	468	240	708
In-Country Travel				
2960 miles @ $0.225 p.m.		333	333	666
Bus and Taxi		45	45	90
Per Diem	7 days @ $25	100	175	275
Food Allowance		100	150	250
	sub-total	578	603	1181
Duplication		225	225	450
Communication				
1. Telex & Telephone		390	390	780
2. Postage & DHL		140	140	280
	sub-total	530	530	1060
Workshop				
Travel Costs	10 persons @ $ 20		200	200
Per Diem	6 persons @ $ 15		90	90
	4 persons @ $ 30		120	120
Meeting Room, Equipment and Refreshments			245	245
	sub-total		655	655
Contingency		250	250	500
	Totals	5681.5	5945.5	11627

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IEES
POLICY RESEARCH INITIATIVE

STRENGTHENING LOCAL EDUCATION CAPACITY

INDONESIA

Project Proposal

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STRENTHENING LOCAL EDUCATION CAPACITY
Phase I. STATUS REPORT

Introduction

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Goals, Objectives and Products

The overall goal of the project is to provide relevant data, background information, systematic procedures, policy, recommendations and analysis of policy alternatives so that policy makers can select and implement appropriate strategies to develop local education capacity and thereby increase the access, relevance, and quality of education in Indonesia.

The objectives in preparing a status report are to provide,

i) a comprehensive description of the current local/community support/involvement in educational activities, and

ii) an indication of the policy research needs for SLEC.

It is assumed that an understanding of the extent of current regional and local involvement in educational, and education related activities in Indonesia, and the constraints on and opportunities for such involvement will greatly assist in defining a valid research agenda for the second phase of the study.

It is also intended that the process of preparing a status report and using that report as a basis for identifying research foci will improve the competence and capabilities of individuals and institutions participating in the project in the areas of policy research design, construction of survey protocols., data collection and analysis, report preparation and project management.

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b. Final products

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  vi) suggesting likely financial or in kind education support capabilities
  vii) showing past regional/local involvement in education support activities
- a description of ministry organizational charts and formal flow of authority - in part to explain regulatory constraints imposed by previously taken policy decisions

In addition to the extensive document and literature review described above, it will be necessary to conduct a series of interviews in order to clarify and expand on the issues as they are identified during the course of the development and preparation of the status report. Interviews and/or group meetings will be conducted to gather information from relevant policy makers, administrators at central, regional and local levels, community leaders and parents.

Intended interviews

The CTL, Research Associate and interviewer(s) will conduct the interviews in the third month of the study (May 1987). Up to ninety-eight respondents will selected from one to three provinces. The data gathered during these interviews will be analyzed during June 1987.

The interviews will be open-ended and structured to elicit information which will,

1. from interviews with ministry personnel,
   - describe and clarify administrative (formal) structure.
   - provide a preliminary description of informal structure.
   - identify a range of policy issues and options.
   - justify or determine representativeness and importance of selected policy decisions.
   - identify (express) perceptions of other input of other stakeholders for comparisions involving the decision-making process
   - describe range of current policies and priorities.

2. from interviews with school directors and teachers,
   - loosly define policy impact and priorities.
   - describe school-community relations or interaction.
   - describe community-related student characteristics pertaining to performance.
   - describe basic elements of school quality.
   - describe parental participation in schooling.
   - identify policy relevant needs.

3. from interviews with community leaders:
   - describe resource base in general terms.
   - describe existing or potential local resource contribution.
   - outline attitudes toward schools and community differences.
   - explain special community-school relationship.
   - describe exceptional cases of community influence.

In summary, it is intended that the interviews will provide information on,

i) current policies and procedures that affect the manner in which local officers, teachers, community and private organizations participate in education activities

ii) perceptions from a sample of education policy makers in the central, regional, and local offices concerning policies and policy issues related to deconcentrating educational management

iii) system wide behavior that results from policy interpretation

iv) the impact of current policy, that is to say, how particular policies are actually operationalized (whether they are followed in their entirety, in part, or not at all)

v) characteristics of the school system and the extent of school-community relationships, this will include but not be limited to, types of schools, their locations, relevant school quality factors, human and institutional resources, existing and potential local (non-centrally) funded education activities

The results of the literature and document review and the analysis of interview data will be used to describe the current status of regional and local education support activities. These results will be presented at the end of July 1987 in the form of a draft status report.

During the first week of August a one day workshop will be held to discuss the draft status report. There the key policy issues and potential research agenda for the second phase of the project will be determined. One tangible result of the workshop will be input from participants that will used to guide the revision of the status report. By August 31 a final version of the status report will be available in both Bahasa Indonesia and English.

Personnel

Ten persons will be actively involved in the preparation of the status report. Except for the Country Team Leader, Research Associate (Status Report) and the Project Secretary, these will be engaged on a part-time basis for periods ranging from two weeks to two months. The six are,

- The Country Team Leader (CTL)
- Research Associate (for status report)
- Two Research Assistants (for documentary research)
- Four Research Assistants (subject experts)
- Interviewer
- The Project Secretary

Anticipated duties

1. Country Team Leader, Dr. Romli Suparman - as the manager of the project the CTL will be involved throughout the preparation of the status report. He will also,
   - recruit the personnel required, prepare job descriptions, and monitor personnel performance
   - actively participate in the document review and the preparation of an annotated bibliography and together with a Research Associate conduct the interviews (up to ninety-eight)
   - identify and select decision makers in the Ministries of Education, Finance and Planning and other appropriate organizations whose support and input are essential to the SLEC study
   - prepare the intermediate and final reports (the status report will be prepared jointly by the CTL and the Research Associates) and make arrangements for their translation
   - organize the workshop
   - communicate the status report findings to relevant national and IEES personnel
   - prepare a proposal for Phase II of the study during the sixth month.
   - maintain all necessary financial recordsand submit receipts and vouchers at specified intervals to IEES

2. A Research Associate (Status Report) will be employed by the project for four months on a part-time basis. Their duties include,
   - preparation of initial bibliography;
   - review of all literature pertaining to local education support activities and summarize the data
   - participation in the preparation of reports
   - the collection of documents from various districts
   - limited interviewing
   - preparation of an annotated bibliography

3. Documentary Research Assistants, two research assistants will be employed by the project (11 days each) to assist in the literature study, their responsiblities include,
   - reviewing appropriate literature and documents from various sources
   - assist the Research Associate as requested

4. Interviewer(s) will be employed by the project for the equivalent of one month full-time (for a total of 22 days) their responsibilities will include,
   - conducting in-depth interviews of respondents at the central, regional and local levels
   - assisting in the construction and pilot testing of interview protocols
   - participating in training sessions as requested
   - analyzing interview data
   - presenting a report of the analysis and participating in discussions and workshops as necessary

5. Research Assistants (subject experts) four persons will be employed by the project for a total of eight days, their responsibilities include,
   - reviewing the draft interview protocols and data collection forms
   - advice on status report synthesis, the development of research questions and policy recommendations

6. A project secretary will be employed by the project for six months on a part-time basis. The secretary duties will include responsiblity for the preparation of letters, reports, questionnaires, photocopying and filing.

An advisory committee of eight persons, chaired by the Head of Office of Educational and Cultural Research and Development, MOE, will be responsible for the following,
   - Reviewing the progress of the project and offering suggestions and guidelines that will assist in producing a quality final product
   - Advising the CTL on the role of their respective agencies or offices in respect to the formation, dissemination and implementation of policy recommendations resulting from the project's activities

the advisory committee will meet twice during the first phase of the project.

Workshop

Date	First week of August
Venue	Jakarta, Garden Hotel
Participants	3 Advisory Committee member (the chairman, secretary and one member from Ministry of Home Affairs (MOHA), 2 provincial officers (MOED and MOHA), 2 district officers (MOEC and MOHA), 2 headmasters (primary and junior High), 1 Community Leader, CTL and Research Associate
Anticipated Outcome	· Revision of the status report · Development of a research agenda for Phase II of the SLEC project · awareness of the need for SLEC research in Indonesia
Deliverables (to IEES)	· Agenda for the workshop · Report of the workshop proceedings and consequent recommendations

Proposed Budget

I First quarter: March - May 1987
II Second quarter: June - August 1987

		I	II	Total
Personnel				
1. CTL*	6 mths, 50% @ $54 p.d.	1782	1782	3564
2. Research Assoc.*	5 mths, 50% @ $32 p.d.	1056	704	1760
3. Secretary*	6 mths, 75% @ $11 p.d.	544.5	544.5	1089
	sub-total	3382.5	3030.5	6413
* personnel service contracts				
4. Interviewer(s)	22 days @ $15 p.d.	330		330
5. Research Assists.	22 days @ $15 p.d.	300	30	330
6. Research Assists	8 days @ $25 p.d.	50	150	200
	sub-total	680	180	860
7. Advisory Committee	8 members, 2 meetings @ $35 per meeting	280	280	560
Materials and Supplies		375	300	675
In-Country Travel				
1. Jakarta (in city travel)		45	45	90
2. other regions				
3 trips @ $50		150		150
Taxi, 3 x 10 trips		150		150
Per Diem, 3 people				
7 days @ $30		210		210
22 days @ $25		550		550
	sub-total	1105	45	1150
Duplication		120	120	240
Communication				
1. Telex & Telephone		100	100	200
2. Postage & DHL		160	175	335
	sub-total	260	275	535
Workshop				
Stipends	18 persons @ $30		540	540
Travel Costs	9 persons @ $ 7		63	63
	9 persons @ $40		360	360
Per Diem	4 persons @ $30		120	120
	5 persons @ $25		125	125
Meeting Room, Equipment and Refreshments			420	420
	sub-total		1628	1628
Translation				
300 pages at $3 per page		300	600	900
Contingency		250	250	500
	Totals	6752.5	6708.5	13461

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