

PD-AMM-926

ISA 30067

App 8C, Ch 8, HB 3 (TM 3:35)

AGENCY FOR INTERNATIONAL DEVELOPMENT <b>PROJECT DATA SHEET</b>		1. TRANSACTION CODE <input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____	DOCUMENT CODE 3
2. COUNTRY/ENTITY Interregional		3. PROJECT NUMBER <input type="checkbox"/> 936-5923 <input type="checkbox"/>		
4. BUREAU/OFFICE S&T/ED <input type="checkbox"/> 10		5. PROJECT TITLE (maximum 40 characters) Improving the Efficiency of Education Systems II		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY         9   3		7. ESTIMATED DATE OF OBLIGATION (Under 'B' below, enter 1, 2, 3, or 4) A. Initial FY <input type="checkbox"/> 8 <input checked="" type="checkbox"/> 9 <input type="checkbox"/> 0 <input type="checkbox"/> 1 B. Quarter <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 C. Final FY <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1		

8. COSTS (\$000 OR EQUIVALENT \$1 = )						
A. FUNDING SOURCE		FIRST FY <u>83</u>			LIFE OF PROJECT	
		B. FX	C. L/C	D. Total	E. FX	F. L/C
AID Appropriated Total						
(Grant)		( 1979 )	( )	( 1979 )	( 20,000 )	( )
(Loan)		( )	( )	( )	( )	( )
Other U.S.	1.					
	2.					
Host Country						
Other Donor(s)						
<b>TOTALS</b>		1979		1979	20,000	

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) EHR	680	660						20,000	
(2)									
(3)									
(4)									
<b>TOTALS</b>								20,000*	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODES

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	B. Amount

13. PROJECT PURPOSE (maximum 980 characters)

The project consists of support for human resource development in selected developing countries. It will provide sector assessments, planning, research and project design and will strengthen host country capacity in these activities. It will also provide networking and knowledge dissemination. It will focus on increasing the efficiency of the country's education systems, beginning with the formal primary education system.

14. SCHEDULED EVALUATIONS

Interim	MM	YY	MM	YY	Final	MM	YY
	0	9	8	5		0	9

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000  941  Local  Other (Specify) \_\_\_\_\_

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 1 page PP Amendment)

\*Up to \$17,000,000 will be S&T central funds and up to \$3,000,000 may be provided by the Regional Bureaus during LOP. Up to \$20,000,000 may also be added on by missions during LOP.

17. APPROVED BY

Signature: *[Handwritten Signature]*

Title: \_\_\_\_\_

Date Signed: MM DD YY  
 | 5 | 20 | 8 | 3 |

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DISTRIBUTION, DATE OF DISTRIBUTION

MM DD YY  
 | | | | | | |

ATTACHMENT A

PROJECT AUTHORIZATION

Name of Country/Entity : Interregional Name of Project : Improving the Efficiency of Education Systems II

Number of Project : 936-5823

1. Pursuant to Section 105 of the Foreign Assistance Act of 1961 as amended, I hereby authorize the centrally funded Improving the Efficiency of Education Systems Project involving planned obligations of not to exceed \$20,000,000 grant funds over a 10 year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The Project consists of support for human resource development in selected developing countries. It will provide sector assessments, comprehensive planning, research, and project design and will strengthen host country capacity in these activities. It will also provide networking, knowledge exchange and dissemination. It will focus on increasing the efficiency of the country's education and training systems, beginning with the formal primary education system.

3. Special conditions of approval. - None.

4. Source and Origin of Goods and Services

- a. Each developing country where training or other assistance takes place under this project shall be deemed to be a cooperating country for the purpose of permitting local cost financing.
- b. Goods and services, except for ocean shipping, financed by A.I.D. under the project shall have their source and origin in a cooperating country or in the United States except as A.I.D. may otherwise agree in writing.
- c. Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

5. Mission add-ons:

It is also approved that up to \$20,000,000 of mission funds may be added on during LOP.

Signature

Nyle Brady

S&T

Date: 4/19/83

Clearances: ST/HR, R. Zagorin RZ

ST/ED, D. Sprague DS

ST/PO, G. Eaton GE

References:

- 1. Project Paper Face Sheet
- 2. Action Memo (Office Director to Authorizing Official)

May 17, 1983

**ACTION MEMORANDUM FOR THE SENIOR ASSISTANT ADMINISTRATOR**

**FROM:** S&T/HR, Ruth K. Zagorin RKZ

**Problem:** Your signature is required on the attached PAF for the Improving the Efficiency of Education Systems II project because the project costs exceeds my delegated approval authority of \$10,000,000. This project will support human resource development in at least five countries in Africa, and one each in Latin America and Asia.

**Background:** Demand for basic schooling is high in most LDCs and likely to increase where fertility rates remain high. Yet schooling does not efficiently reach present populations. Furthermore, government revenues are not expanding, especially for education. There is great potential for improvement in the delivery of education without loss in quality, at equal or less cost. Governments of developing countries have expressed the desire and willingness to receive assistance in improving their education systems.

When human resource problems are massive, systemic improvements take time to have an effect. Also, conducting a project in several countries permits comparison of problems and strategies; increasing the spread of innovations. Finally, long-term, comprehensive efforts are likely to have a significant impact.

This project seeks to address these problems through long-term support to the human resources sector with particular emphasis on the formal primary system. Project funds will finance sector assessments, project design, some research and provide networking and knowledge exchange. Participating missions, host governments, and other donors will finance the cost of long-term projects.

**Discussion:** This Project was approved by the Human Resources Sector Council at its meeting of May 9. Although there was unanimous agreement that the project was technically sound, three regional bureaus were concerned about the disproportionate concentration of funds and activities in the Africa region.

**Recommendation:** That you sign the attached PAF approving \$17,000,000 OF S&T funds for the 10 year project This project has an LOP total of \$20,000,000, of which \$3,000,000 may be funds originating from the Regional Bureaus. There is also a possibility of up to \$20,000,000 in mission add-on funding.

**Clearance:**

S&T/PO, George Eaton [Signature]  
S&T/ED, David Sprague [Signature]  
GC/CP, Jan Miller (draft) [Signature]

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE  
 A ADD  
 B CHANGE  
 C DELETE

2. DOCUMENT CODE  
PP

3. COUNTRY/ENTITY: Interregional

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 936-5823

6. BUREAU/OFFICE  
 A. SYMBOL: S&T/ED  
 B. CODE: 10

7. PROJECT TITLE (Maximum 40 characters): Improving the Efficiency of Education Systems II

8. ESTIMATED FY OF PROJECT COMPLETION: 9 | 3

9. ESTIMATED DATE OF OBLIGATION  
 A. INITIAL FY: 8 | 3  
 B. QUARTER: 4  
 C. FINAL FY: 9 | 2 (Enter 1, 2, 3, or 4)

10. ESTIMATED COSTS (\$300 OR EQUIVALENT \$)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FY	C. L/C	D. TOTAL	E. FY	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						
GRANT	1979		1979	20,000		20,000
LOAN						
OTHER						
U.S.						
HOST COUNTRY						
OTHER COUNTRY						
TOTALS	1979		1979	20,000		20,000

11. PROPOSED BUDGET APPROPRIATED FUNCS (\$300)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY 83		H. 2ND FY 84		K. 3RD FY 85	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) EHR	680	660		1979		2398		2374	
(2)									
(3)									
(4)									
TOTALS				1979		2398		2374	

A. APPROPRIATION	N. 4TH FY 86		O. 5TH FY 87		LIFE OF PROJECT		12. IN-DEPTH EVAL. SCHEDULE
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1) EHR	2280		2034		20,000		MM   YY 19   85
(2)							
(3)							
(4)							
TOTALS	2280		2034		20,000		

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PEP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

with up to \$20,000.00 of mission add-ons during LOP

1 YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: *David Spangler*

TITLE: Acting Director, S&T/ED

DATE SIGNED: MM | DD | YY  
15 | 20 | 83

15. DATE DOCUMENT RECEIVED IN AID/F OR FOR AID/F DOCUMENTS, DATE OF DISTRIBUTION

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## Part I SUMMARY AND RECOMMENDATIONS

### A. Recommendations

It is recommended that \$20,000,000 be approved to finance a ten year project beginning in FY83 and conducted jointly by the Science and Technology and Africa Bureaus. Participation by other regional bureaus will depend upon their commitment to the project and willingness to allocate fiscal resources. The project will, however, concentrate upon the Africa region. This project grows out of the joint HRD initiative planned and developed during the past year by an Africa/S&T task force. It will be implemented in conjunction with mission programs in at least three to five African countries and, if bureau commitments are made, one country in each of the Latin America and Asia regions. If these regions are included, \$3,000,000 in project central funds will be reserved for project activities there.

### B. Description of Project

#### 1. Project Purpose

The purpose of this project is to support human resource development in selected developing countries. This will be done by providing sector assessments, comprehensive planning, project design and strengthening host country capacity in these activities. In keeping with the education sector strategy, it will focus on increasing the efficiency of a country's education and training systems, beginning with the formal primary education system.

The project will:

- improve educational planning by conducting comprehensive assessments of the human resources sector

- transfer technologies that have demonstrated their ability to deliver effective education and training in various countries around the world
- establish exchange among countries participating in the project to share information and facilitate dissemination about innovative solutions

The project will be :

- Long Term

The project will last ten years, thereby maintaining continuity.

- Comprehensive

The effort will concentrate initially on the formal school system but all human resource programs in all sectors for the entire nation will be reviewed to identify critical problems and relationships.

- Coordinated

Assessments, plans and projects will be developed in close collaboration with USAID missions, host countries, and other major donors, especially the World Bank.

- Analytical

The project will provide technical assistance for policy analysis, planning, and project design. Specific projects that result from these plans will be implemented through subsequent mission-funded contracts, country contributions or other donor aid activities.

## 2. Problems to be Solved

This project addresses the following problems in developing countries :

- LDC education systems do not reach all populations efficiently.
- Resources are limited and planning is hampered by lack of data, qualified manpower and administrative coordination.
- Short-term projects by donor agencies tend not to have a lasting impact.
- Isolated endeavors by single donor agencies often result in confusion and redundant effort.

(Details on these problems follow in Part II.)

## 3. Site Selection

Specific countries will be chosen on the basis of the following criteria :

- strong host country commitment to education, government record of attention to education, existence of concerned professionals in government or private sector of the country, and the possibility of establishing firm ties to local institutions
- Absorptive capacity, ability to effectively use money and technical assistance on a scale which will allow substantial changes in government policy

- inefficient education and training system, where completion rates are low, wastage rates are high and quality is substandard.

#### 4. Beneficiaries

- a. The ultimate beneficiaries are students in the selected LDCs. Others who will benefit are their parents, teachers, and school administrators.
- b. Secondary beneficiaries are the planners and administrators of education and training systems in the selected LDCs who will improve their professional skills and strengthen the institutions for which they work.
- c. Potential future beneficiaries will be any other developing country which uses or adopts the techniques and research generated by this project.

#### 5. Project Implementation

The project has three parts which may not occur strictly chronologically. Rather, they may be addressed simultaneously or as cycles of planning, implementation and feedback. For instance, the analysis of human resource impediments, and the design of strategies will occur periodically throughout the project.

### Comprehensive Planning

Conducted first on a comprehensive basis in each country, then refined throughout the project.

- a. conduct a human resource sector assessment for the country
- b. specify ten year goals in education in coordination with the country's own plan
- c. derive specific objectives
- d. identify strategies to accomplish these objectives

### Research and Development

Also begun on a national level and then focussed on particular strategies derived from the plans.

- a. analyze impediments to human resource development
- b. investigate alternative ways to overcome critical problems
- c. design projects and research any difficulties of implementation
- d. maintain relationships with projects as they proceed and provide backup support for implementation and evaluation as requested

### Network Exchange

To share experiences and methodologies of planning and research among groups working in participating countries

- a. study visits between countries of national planners
- b. seminars, workshops, training sessions held jointly for members of selected country institutions
- c. exchange of research findings, strategies and plans.

**C. Management**

The project will be jointly managed between S&T and the Africa Bureau. The nature of this joint management will be specified in an agreement between the two bureaus, separate from this project paper. Before any project activity occurs in another region, a similar separate agreement will be worked out between J&T and the relevant regional bureau.

## Part II PROJECT BACKGROUND AND DETAILED DESCRIPTION

### A. Background

#### 1. The Problem

a. LDC education systems have limited resources and inadequate provision of schooling for their populations.

i. Internally inefficient. Education systems in LDC's generally have very high rates of repetition. UNESCO estimates that 12-14 percent of pupils enrolled in primary school in developing countries for 1977/78 were repeaters. This compares to 2 percent in Europe. Drop-out rates are also very high. UNESCO statistics for 1977 show that for 47 developing countries, 25 to 50 percent of those who began first grade did not reach the fourth grade.

ii. Externally inefficient. LDC school systems for many groups often do not provide an education that is sufficiently helpful for later employment. There is often a large discrepancy between the skills taught in school and those required for productive work in the local economy. Subjects which are of vital use to a growing economy -- agriculture, engineering, and health may not be given emphasis in the curriculum. Severe shortages of textbooks and qualified teachers often aggravate this situation.

iii. Limited Access. The provision of basic education to all is still an unmet goal in most countries. In LDC's generally, less than 60 percent of children between the ages of 6 and 11 years are

enrolled in school. In addition, opportunities differ by sex, socioeconomic status, region, urban or rural area, and sometimes by ethnic background. In, many cases, the costs for providing education to more remote and rural areas are much higher.

b. Resources are limited.

- i. High demand for schooling. The less developed countries (excluding China) have an annual population growth of 2.4%. In countries where fertility rates have been high for a long time, this means an increase in the school-age population. If fertility rates don't change drastically, most of Africa, much of Central America, the Middle East and parts of South Asia, face an enormous impediment to achieving universal primary education.
- ii. Budgets not expanding. Due to the recent economic performance in much of the developing world, government revenues are not as large as expected. The education sectors in developing countries face the prospect of a budget reduction either in rate of increase or absolutely. The average percent of the public expenditure allocated to education in LDCs has dropped from 16 percent to 15 percent between 1970 and 1977. Education will also have to fight harder for available resources as political pressures on the budget increase.

c. Existing resources are not always used to best advantage.

- i. Poor planning. Due to lack of accurate data, and in some cases

the capacity to analyze it, planning is rendered very difficult. Without adequate enrollment data, payroll records, and cost figures, ministries cannot make cost projections nor can they make useful decisions about how to shift expenditures to better use. The act of planning becomes mere goal setting and is divorced from charting a course to reach those goals.

- ii. Scarce manpower Planning is further hampered by a shortage of trained manpower, especially those who can conduct the collection and analysis of data. There is a need for more professionals trained in cost-accounting, statistics, educational economics, and curriculum development.
- iii. Poor coordination and supervision. Most education sectors suffer from lack of coordination among functional divisions and among various government agencies concerned with human resource development. There also may be little communication among administrative levels, especially between the capital and peripheral regions. Further, job supervision is often inadequate; teachers and classrooms are rarely monitored.

## 2. The Rationale

- a. Education sustains and accelerates overall economic development. Empirical evidence is now available which documents the crucial role education has in meeting basic needs for the poor in many aspects of life. This research addresses the linkage between education and :

- i. Productivity. Education is positively related to income, a proxy for productivity, and this is uniformly true across many populations, occupations, and levels of education.
  - ii. Employment. Education generally leads to better employment when the graduate joins the modern sector.
  - iii. Health. Education is positively related to life expectancy, child's nutritional status, and lower infant mortality.
  - iv. Fertility. As the level of education in a country rises, then fertility rates fall. In countries with high illiteracy, fertility first rises with more education, and then falls.
  - v. Technical Change. Education leads to better acceptance of technical change. This is especially true in environments where these changes are reinforced by other social or economic changes.
  - vi. Agriculture. Farmer's education is positively related to the value of farm output.
- b. AID Education Sector Policy gives the highest priority to improving the efficiency and distribution of basic formal schooling.
- c. AID has demonstrated its capability in both education sector assessments and large scale comprehensive sector assistance.
- The activity proposed here is unique however, in that it brings together both elements for a sustained large-scale effort working with a network of countries on common human resource development problems.
- i. National education assessments. AID's first major sector assessment activity took place in El Salvador from 1973 through 1977. That analysis concentrated on basic education, addressing

issues of access, efficiency, and relevance. Other educational levels were only examined for how they were affected by changes in transition rates in basic education.

In an earlier exercise, AID took responsibility for the nonformal education subsector in a comprehensive analysis of educational needs in Ethiopia. IDA provided major funding for this 1971-72 review. The GOE provided substantial support over a ten-month period. Subsequent assessments, however, have not managed to emulate the Ethiopia initiative, as data on nonformal programs are notoriously difficult to obtain. The El Salvador study, for example, was unable to conduct an extensive survey because of lack of data. The project proposed here will employ recently developed methodology to increase access to useful nonformal education data. At present AID is conducting surveys in several countries and a procedural guide is being developed which can be used in the assessments proposed here.

Since the El Salvador experience a number of shorter assessments have been carried out, the most recent of which is just now being completed in Liberia. That activity has examined all elements of the education and human resource sector, and AID is negotiating with the Government of Liberia to continue possible further activities. From the Liberia experience, S&T/ED has concluded that approximately ten person-months of consultancy/TDY

time are needed for compilation and initial analysis of data. Accordingly, the assessments proposed in this project will be scheduled to be completed in considerably less time than was spent in the initial El Salvador activity.

- ii. Examples of comprehensive assistance to education systems. For a period of twenty years, beginning in 1951, AID and its predecessor agencies supported Nepal's efforts to establish a national school system. Through a series of projects the U.S. development program provided most of the financial resources, training and technical assistance for creation of Nepal's education establishment. Less than one percent of school-age children were enrolled in the country's 321 primary schools in 1951; by 1975, 59 percent of eligible children were attending 8,708 schools. Secondary, tertiary, and vocational schools were also expanded dramatically. A recent impact evaluation concluded that "significant impact" can be achieved with sufficient and consistent support and time to allow the assistance to take effect.

The Korean Educational Development Institute is an independent R & D unit which received substantial support from AID from 1972 to 1977. AID provided \$7,000,000 to develop an institutional capability to design and carry out a nationwide educational reform for grades one through nine. The KEDI project began with a sector assessment involving some 15 person-months of expatriate technical

assistance and heavy participation by high-level Korean educators. The reform's focus was cost-effectiveness, and the project supported changes in classroom structure, teacher-student ratios, and delivery mechanisms. Major emphasis was given to the use of educational technology. Since AID's participation ended, the Government of Korea has continued to support the reforms, and the innovations are moving toward nationwide implementation. The current project is proposed for ten years because it was observed that even in a dynamic, reform-oriented country like Korea, five years was not enough time to implement major changes on a national scale.

Numerous other examples could be cited to show that comprehensive assistance can be provided in the form of loans to LDCs which have set specific goals for improving their education system. Brazil borrowed \$82 million in the early 1970s, and used the money to multiply the number of teachers threefold while increasing the enrollment of school-age children from 54 percent to 86 percent. The MOE's planning and administrative capabilities were strengthened and the curricula redesigned. The entire basic education infrastructure was expanded and improved with new infusions of financial resources from state and municipal treasuries. AID also placed five sector loans in Columbia between 1969 and 1973, totalling \$75 million. They resulted in

improved planning and coordination of education, particularly in budgeting, quality control and the monitoring of funds.

d. AID can contribute specific technical expertise because of its unique experiences in educational planning and project design.

i. Teacher training. An example of major AID involvement in teacher training is the massive effort undertaken in Nepal between 1954 and 1975. In 1951 there were 640 primary school teachers and in 1975 there were 17,728. A normal college was established with 13 campuses around the country and an infrastructure created for pre-service and in-service teacher training.

ii. Curriculum and textbook reform. AID has provided support for the revising of curricula, and the production and distribution of textbooks. The most notable examples are in Brazil, Nepal, El Salvador, and Korea. This last country was supported in a large-scale adoption of programmed learning. It involved feedback techniques, learning objectives and design of material in discrete units. Many of these methods were originally designed in the U.S. A current project is adapting this approach for primary education in Liberia.

iii. Technological innovation. The Agency has particularly rich experience with educational innovations, especially instructional techniques that use advances in technology.

Educational radio: Through pilot projects in Nicaragua and Kenya,

AID is demonstrating that mathematics and language arts can successfully be taught through radio broadcasts to primary schools. It has also shown, in Korea and Kenya, that it is effective for correspondence education at the high school level.

Educational television: Experiences in Korea, El Salvador, and the Ivory Coast have shown the advantages as well as the problems of educational broadcasting on television. Useful knowledge was gained on the production and distribution of effective programs for schools. New advances in cost-reduction, portability, and photovoltaic power promise to radically change this medium into a much more decentralized one, more under the control of its users.

Other technology: Advances in other communication forms have radically expanded the possibilities for educational innovation. Micro-computers, small earth stations for satellites, two-way radios, all represent new possibilities for education. They may be particularly suited to special problems of developing countries -- isolated communities separated by rough terrain, low education quality, and lack of trained manpower. Present AID projects are helping developing countries adapt these new technologies to their own uses.

- e. The U.S. has had much experience in the administration and planning of large-scale decentralized education systems. AID is in a position to tap this expertise for the benefit of developing countries.

## **B. Detailed Description of Project**

### **1. Goal Statement**

The project goal is to improve the efficiency and distribution of human resource systems in developing countries. It will do this through developing methodologies for improving the planning and administration of education and training.

### **2. Project Purpose**

The purpose of this project is to support human resource development in selected developing countries. This will be done by providing sector assessments, comprehensive planning, project design and strengthening host country capacity in these activities. In keeping with the education sector strategy, it will focus on increasing the efficiency of a country's education and training systems, beginning with the formal primary education system.

The project will :

- improve educational planning by conducting comprehensive assessments of the human resources sector
- transfer technologies that have demonstrated their ability to deliver effective education and training in various countries around the world
- establish exchange among countries participating in the project to share information and facilitate dissemination about innovative solutions

### **3. Project Outputs**

At the conclusion of the project the following outcomes will have been produced :

- a. Human resource sector assessments - comprehensive study of all education subsectors for each selected country, annual sector updates consisting of processing new data and revised estimates of projections
- b. Country education plan - operational schema detailing specific national objectives for basic education and human resources and strategies for achieving them in collaboration with the country's education sector plan
- c. Research and development support - investigations of problems in education; specific studies which relate to the development of educational plans or projects and their implementation; pilot projects which test innovative solutions
- d. New projects - formulation of new project designs to be funded by USAID missions or other donors, which realize the objectives of the human resource plan; maintenance of relationships with projects as they proceed and provide backup support for implementation and evaluation as requested
- e. Network exchanges - communication and knowledge exchange between the missions, human resource specialists, and all participating countries. These will be the countries where the sector assessments occur but will not be limited to them. Other countries where AID

missions have large human resource activities and who express interest, will also be included. The exchange will take the form of seminars, conferences and country site visits by groups from the participating countries.

- f. Institutional development- the project will leave the host country nationals with the capacity to conduct long term human resource assessment, analysis and planning. To this end, short-term training will be sponsored for host country nationals in human resource subjects (no long-term training will be funded by this project), courses and materials will be developed on educational planning, for use in-country, and a local institution will be identified and improved to carry out these activities.
- g. Dissemination - development and distribution of publications on the techniques developed in this project and the field experiences in implementing them
- h. Collaboration - close coordination with other donors, especially the World Bank, in the identification and development of plans and projects

#### 4. Project Methodology

The methodology used in this project will include :

- a. Education and Human Resource Sector Assessment
  - i. The assessments will cover the following areas of the human resources sector:
    - general financial and economic analysis
    - formal school system : primary, secondary, and higher, teacher training

-training sector : vocational/technical training, health and  
agriculture education, adult basic and nonformal education,  
management training

ii. For each area, the following topics will be examined :

-administration and supervision

-access and equity

-costs and financing

and for formal schooling :

-internal efficiency

-external efficiency

iii. Assessments will also involve :

-gathering education statistics that permit flow analysis and  
supply projections

-gathering and processing manpower surveys, tracer studies,  
wage data

-advising in the collection and analysis of related basic  
demographic, economic, and social data

-introducing classroom observation techniques for collecting  
data on anthropological and cultural aspects of schooling

-investigating the feasible use of microcomputers to  
analyse data, project costs and enrollments

iv. Assessments will identify local training needs in the area of  
human resource planning.

**b. The following planning methods are available to the project:**

**Education System Planning**

- comprehensive systems modelling
- demographic and enrollment forecasting
- manpower requirements planning
- rate of return studies
- production functions : internal and external

**Institutional planning**

- organizational analysis
- decision modelling
- financial planning
- cost accounting
- long range planning and budgeting

**Project Planning**

- project activity scheduling
- costing procedures
- monitoring and feedback systems
- project evaluation

**c. Research and development support**

**i. investigations of critical problems such as :**

- conditions influencing girl's access to education
- causes of drop-out and repetition
- causes of academic performance

**ii. studies on the development or implementation of plans such as :**

-evaluation of pilot projects involving programmed learning  
for possible expansion

-private and public sector programs for management training

iii. implement projects with mission funding to test innovative  
solutions such as:

-use of radio to teach science education, analagous to the  
successful efforts using radio in math and language arts

### 5. Critical Assumptions

- a. Long-term projects which build lasting and continuous institutional ties will have greater impact on solving problems.
  - i. Human resource problems are massive and enduring.
  - ii. Systemic improvements take time, especially in education where it takes six to eight years for a cohort to complete primary school.
  - iii. Sustained relationships between donor and host countries are better able to overcome opposition, apathy and attrition in implementing reforms.
  - iv. Substantial time is required to build relationships, to evaluate progress, learn from mistakes, and change course where appropriate.
- b. Comprehensive efforts will have a greater impact.
  - i. A sustained and broad external stimulus can encourage change by generating enthusiasm and fostering needed momentum.
  - ii. Broad-based projects can be flexible, open-ended, with provisions for mid-term evaluations.

iii. This approach allows confrontation of problems on a national level.

c. Conducting the project in several countries permits comparison of problems and strategies, and increases the spread of innovations

i. Coordination of efforts and exchange of experiences among countries stimulates learning among planners.

ii. This approach emphasizes the commonality of problems in developing countries' education systems.

iii. Exchanges permit techniques to be applied in different settings and thus increase the chances for replication.

d. Concentration on the human resources sector will allow more likelihood of achieving other development goals as education is also central to other development efforts.

### Part III PROJECT ANALYSES

#### A. Technical Analysis

This project is one of technical support for an entire sector. Some of the techniques for analysis and planning in the field of human resources are listed in the "Project Methodology" section of the Detailed Description of Project. As these techniques are ways to collect, organize and analyze knowledge to make policy decisions, they have only indirect effects on the economy or social structure of the host country.

The project intends to leave each country with the capacity to conduct their own sector assessments, prepare long-term plans, and design and implement their own projects in the human resources field.

This will be done through the following means :

- creating or strengthening an institution in the host country which can conduct educational planning and research. The form of this institution will vary with each country but AID's prior work in El Salvador and Korea gives two examples of what form it might take. In the former, a planning unit was added to the Ministry of Education. In the latter, the Government of Korea established an independent research and development institute that guided the educational reform in that country.
- exchanging knowledge through the interaction of host countries, missions, human resource specialists and other project countries.

This would occur formally through seminars, conferences, workshops and site visits; and informally through collaboration on projects.

-short-term training of host country nationals who work with the project either locally, in the U.S., or at international institutions in fields related to educational planning

-training materials and manuals developed from project activities

## B. Economic Analysis

### 1. Hypothetical Exercise

The economic impact of this project will be to strengthen administrative and planning capacities in order to :

- increase internal efficiency
- mobilize and effectively allocate resources
- control recurrent costs
- increase external efficiency

A conventional cost-benefit or rate-of-return economic analysis is not useful in this case. First, the purpose of the project is support of planning and project design, which only indirectly affects specific changes in educational systems. Second, no numbers are yet available from specific countries to allow any true estimations.

Instead, since this project will result in recommendations for improving efficiency, we will conduct a hypothetical exercise. It will illustrate the savings that are available in a primary education system when selected policy options are taken.

The data is from Liberia in 1981/82. It is meant purely as an example. It includes assumptions which are perhaps unrealistic but useful for simple illustration. Liberia was chosen because the data was available and it has a fairly typical, if small, African education system.

#### Assumptions:

1. There is no time element. The options are calculated for the latest year available (1981) and no time is assumed for the implementation of changes. Thus important variables are held constant : inflation,

population, teacher salaries, and enrollment ratios.

2. Other, non-personnel costs are ignored. Data for supplies, equipment and maintenance were not included because they are generally quite minor in comparison to personnel costs. They would vary somewhat with the number of students in the system, but not substantially. Capital costs were also left out because these options assume a constant number of school buildings and classrooms.

The following is a list of policy options and their implications for the unit cost of a primary school graduate. They are summarized in Table One, which also gives the present, or base-line data. The base-line unit cost per graduate is \$724. For each option except the final one, only one variable is changed so that its economic implications can be compared with the other options.

All these options may involve a loss in quality of instruction. The purpose of this exercise is not to advocate that, but merely to explore the cost implications of possible options. Other factors would have to be considered before any of these options were seriously adopted.

Option A     Reduce the number of years required to obtain a primary certificate.

This alternative is a drastic one since it involves a substantial loss in quality. The required number of years to obtain a primary degree in Liberia is six. Given repetition rates, the average student takes 10.56 years. If the required years were reduced by one, it would take the average student 9.56 years.

Unit cost per primary graduate : \$656

**TABLE ONE**

**Primary Education Cost Options**

<u>Case</u>	Students	Teachers	Pupil/ Teacher Ratio	Teacher Annual Salary (\$)	Average yrs. to complete Prim. level <sup>1</sup>	Cost per student per yr. (\$)	Cost per student Prim level (\$)	Gross Enrollment Ratio (%)
Present <sup>2</sup>	155,166	4,433	35:1	2,400	10.56	69	720	52
A	155,166	4,433	35:1	2,400	9.56	69	660	52
B	155,166	4,433	35:1	2,400	8.00	69	550	52
C	226,083	4,433	51:1	2,400	10.56	47	500	76
D	155,166	4,433	35:1	1,978	10.56	57	600	52
E	167,070	4,433	38:1	2,400	10.56	64	670	56
F	310,332	4,433	35:1	3,600	10.56	51	540	1.00
G	215,641	4,433	40:1	1,978	8.00	41	330	73

1. This figure takes into account the repetition rates.

2. This data is from USAID, Liberia Education Sector Assessment, Dec. 1982

Option B    Reduce repetition rates.

This alternative assumes that some policy changes were made (at uncounted costs) that would reduce repetition rates. It is assumed that the average student would take 8 years to complete primary school.

Unit cost per primary graduate : \$550

Option C    Expand pupil/teacher ratio to 51:1.

This is an option that was called for in the Liberian 1978 Education Plan and never fulfilled. It assumes that no additional classrooms are necessary.

Unit cost per primary graduate : \$497

Option D    Lower teacher salaries.

This option is difficult to do directly, but is possible to effect by hiring teachers with lower average credentials or by not giving cost-of-living increases. In this example, a direct reduction is assumed from \$2,400 to the pre-1981 minimum in Liberia of \$1,978.

Unit cost per primary graduate : \$597

Option E    Reduce drop-out rate.

In Liberia the drop-out rates are 25 percent for Grade 1 and 17 percent for all other primary grades. If they were assumed to be lowered to 20 percent and 15 percent respectively, then a higher pupil/teacher ratio would result.

Unit cost per primary graduate : \$672

Option F    Institute double-shift.

This is not possible in Liberia because most schools are already doing it. But that is not the case in many developing countries and

promises to be a good option for lowering the per unit cost and greatly expanding coverage. It may not be possible in sparsely populated areas, however. It is assumed here that teachers get a 50 percent raise to compensate for their longer hours.

Unit cost per primary graduate : \$543

Option G    Combination policy.

This option is a combination of several of the most attractive policies. It is the simultaneous adoption of Options B, D, E and a milder version of Option C. Thus repetition and drop-out rates, and teacher salaries are reduced and the pupil/teacher ratio is expanded to 40:1.

Unit cost per primary graduate : \$325

Total Cost Implications

The government instructional costs (teachers x teacher salaries) for these options are as follows :

Options A, B, C, E	\$10,639,200
Options D, G	8,768,470
Option F	15,958,800

As the above figures show, Option F is much more expensive but it raises the gross enrollment ratio (pupils in primary school/ all children 6 - 11 years old) to over 100 percent. Option G, as the combination of most likely options, has the lowest per graduate cost and raises the gross enrollment ratio to 73 percent. It also reduces government costs by \$2 million. This is equal to the country's budgetary allocation for educational materials, supplies and other services or 4 percent of the entire education budget. Thus, policies

for changing various variables in the education system, which are well within the possibilities of developing nations, could both reduce costs and increase coverage.

## 2. Sources of Inefficiency

This section will explain and summarize recent research on the causes of inefficiency in basic education for developing countries.

### a. Introduction

Efficiency in education has two aspects -- internal and external.

Internal efficiency is the relation between inputs and immediate outputs such as the completion of a course or the receipt of a diploma. An example is cost per pupil who graduates. External efficiency is an evaluation of the system by longer-term social welfare goals. These are usually economic ones such as lifetime earnings, employment or productivity of graduates. They could also be social equity, health, or fertility reduction. The most widely used such quantified measure is the social rate of return for completion of a level of schooling.

### b. Internal Efficiency

#### i. Repetition

Repetition rates are one of the most important measures of inefficiency in a school system. They signal that many students are not learning. Some argue that learning is reduced for the repeating student,<sup>1</sup> and that it hampers the learning of other students in the same classroom.<sup>2</sup> (Footnotes are found at the end of this section.) Repeaters also occupy places that could be filled by others entering the system. This reduces access and increases the costs for countries that can ill afford it. In 1977, for primary school, twenty African countries had repetition rates

that exceeded 16 percent.<sup>3</sup>

There are three kinds of repeaters. One kind comprises those who failed a grade and are asked to repeat it. This is most common in the first year of school. The causes of low academic achievement are many and controversial and will be discussed later. However, for multi-lingual societies, a prevalent problem is language. Most developing countries have large numbers of students whose mother tongue is not the same as the medium of instruction. When no special provisions are made, students must simply repeat the first year until they have grasped enough of the new language to progress in school.

The standards for promotion to another grade are arbitrary, set by the teacher or the school system. Large changes in repetition rates tend to follow switches in promotion policy. High rates of repeaters who have failed academically signal a need to review promotion policies as much as it does the existence of low levels of learning.

A second kind of repeater is the student who drops out in the middle of the year or is often absent and falls behind. Then he returns the next year to repeat the grade. This is really a drop-out problem and will be discussed later. However, it illustrates that repetition and drop-out are closely linked.

The third group of repeaters is often the largest. They constitute students who have passed a grade but return to school anyway to repeat. In El Salvador, 70 percent of all repeaters in the first six grades of primary school were 'repeater-passers'.<sup>4</sup> This type of repetition is most common in the last year of the cycle but can occur anywhere along the cycle.

The principal cause of this type of repetition is lack of space in the next grade. When there is overcrowding in the fourth grade and the teacher refuses to admit (or the classroom cannot hold) more students, many students prefer to repeat the third grade rather than leave school altogether. This is common also, in rural areas where there are incomplete primary schools. For example, in El Salvador, 42 percent of all primary schools in the country in 1977 were located in rural areas and offered only two grades.<sup>5</sup> Since large numbers of successful second-graders repeated the second grade, the overcrowding also forced many first-grade passers to repeat first grade. Thus repetition in the final year causes blockage and repetition all the way through the system.

This problem is also caused by a shortage of places in secondary school. The competitive exams for secondary entrance often create high repetition rates in the final year of primary school as students who failed, prepare for another attempt. Or students may repeat the final year before even sitting for the exam, just to increase their chances. Short of providing more secondary education, the school system might change its exam policies, to reduce this problem.

#### ii. Dropouts

Drop-out rates are another measure of inefficiency. They signify the numbers of students who begin schooling but do not finish the final year of the primary cycle. Drop-out rates, like repetition rates, have multiple causes but unlike repetition are as likely to be external causes, as internal ones.

There are two basic kinds of drop-outs -- temporary and permanent. The problem of temporary drop-outs is the same as long-term or frequent

absenteeism, or 'repeater-drop-outs'. Both kinds of drop-outs can also be distinguished by whether they leave the system at the beginning or the end of the year. All of these various ways of removing oneself from the school system make measurement of the problem very complicated. Nevertheless some estimates have been made. UNESCO statistics show that for 54 developing countries, 50 percent of those who began first grade in 1970 did not reach the fourth grade.<sup>6</sup> For most countries, the greatest loss is often the first grade, and it diminishes in higher grades. In many countries, 20 to 25 percent of those enrolled in Grade 1 never continue.<sup>7</sup> This is particularly inefficient because research seems to indicate that on average, literacy is not retained until a pupil has completed four years of school.

A major cause of end-of-year dropouts is lack of space. Schools are overcrowded or they only offer limited grades. In El Salvador, it was found that the fewer the total grades offered, the more likely students will drop out temporarily and take more years to complete the few grades.<sup>8</sup>

There are many other reasons for dropping out. One may be poor scheduling. Absenteeism is high when classes are held on important religious days, during harvest seasons when labor is scarce, for longer hours than parents feel necessary, or at times students find inconvenient. Students are more likely to drop out if they are doing poorly academically. Repetition also leads to drop-out if students become disappointed with their lack of progress.

Another significant cause of drop-outs is the family's attitude towards schooling. If students or their parents are not convinced that an education is useful, they are not likely to continue it. This attitude may be

reinforced if the curriculum is irrelevant to their working life or the schools are otherwise insensitive to their needs. This is often true for girls, who drop out at a much higher rate than boys. This may be due to cultural attitudes about educating women, to the need for girls to help in the home or fields, or to the lack of single-sex schools for girls.

Overall, studies show that the principal causes of drop-outs are factors outside of school.<sup>9</sup> The most frequently cited ones are economic -- the opportunity cost of the time; the direct cost of uniforms, supplies, or transportation; poor nutrition and health problems, or related causes. Some of these may be disputed. The presence of large numbers of over-age pupils in primary schools (53 percent of rural 13 year olds in El Salvador were attending primary schools in 1971<sup>10</sup>) indicates a relatively low opportunity cost for attending school. Evidence for some countries shows no difference in the drop-out rate for urban and rural areas.<sup>11</sup> Nevertheless, there is ample evidence that economic status is a factor in influencing drop-outs for most kinds of students in developing countries.<sup>12</sup>

### iii. Low Quality of Learning

Research on educational achievement shows that students in developing countries do not perform as well on achievement tests as those in developed countries. In a series of studies conducted by the International Association for Evaluation of Educational Achievement on achievement in five academic subjects, primary students were tested in nineteen countries. In the four countries considered less developed -- Chile, India, Iran and Thailand, students tested significantly below the mean in all subjects.<sup>13</sup> Some of the achievement tests for primary level science and reading were also given to

students in Malawi. These students, with four more years of schooling, attained only 50 to 75 percent as many correct responses as younger students in Europe, Japan, or North America.<sup>14</sup>

Poor achievement is also reflected in the other standard measure available of student achievement in developing countries -- the Cambridge Overseas Certificate Exams. In Swaziland the first, second, and third class passes at the "O" level (after ten years in school) were only 31 percent in 1978.<sup>15</sup> Lesotho had a 29 percent pass rate that year.<sup>16</sup>

Developing countries have particularly low student achievement in science, math, and technical subjects. In Tanzania in 1978, only one half of the Form 6 students taking math, physics, and chemistry passed these subjects.<sup>17</sup> For Swaziland in 1977, only 65 students sat for the "O" level exam in agriculture -- 2.1% of all students taking the exam, and fewer passed it.<sup>15</sup>

There has been a great deal of research done on the determinants of student achievement in developing countries. Most of it has been in the form of the education production function. This is an estimation of the contribution of various inputs to student academic achievement.

The consensus of recent research is that unlike the developed world, in less developed countries school-related variables are as important as background variables in determining school achievement and possibly more so. This is important because it implies that direct policy changes can make a difference. We will summarize what factors have been found to be important, dividing them into variables related to school or to home background.

School-Related Variables

-- Lack of equipment and facilities. This most consistently affected primary school achievement in the studies reviewed.<sup>18</sup> There were few equipment variables measured in most studies, but the most common, textbook availability, was always significant. A revealing study in two districts of Malawi indicates the problem.<sup>19</sup> Only one pupil in eight was found to have a seat; and one pupil in 88 had a desk. Each school had an average of two maps, but they were out of date. No primary school had a library. There was one book for two pupils in each of three subjects -- Arithmetic, English and Chewa. Although they are required subjects for eight years, no student in any school surveyed possessed a book in science, history, geography, religion, health, or agriculture. Most school buildings were found to be vastly inadequate.

-- Teacher expectations and ability. Teacher expectations of students seemed to have the most clear positive effects upon students achievement.<sup>20</sup> Other factors which seem to have an effect were the assignment of homework, teacher ability (scores in government secondary examinations), experience and motivation (lesson preparation time, school activities). Studies of teacher credentials were mixed but, overall, the research suggests that teacher training is important.

The variables which did not alter achievement significantly, were also quite revealing. Average teacher salary, the cost of school facilities and the number of teachers on contract had no effects. In El Salvador, no effects were found between schools with double or single shifts.<sup>21</sup> There was no conclusive evidence that class size was an important factor.<sup>22</sup> A good teacher seemed able to overcome the disadvantages of a large class. This also

indicates that many factors are substitutable. Thus, even in conditions of extreme hardship and scarcity, motivated students and teachers can make learning occur.

Home-related variables

-- Health. The most important background variables were those related to health and nutrition. Those studies which directly measured students' physical well-being showed unambiguously that it was an important determinant of academic performance. In El Salvador a survey of secondary students revealed that 83 percent were under-fed. This group obtained scores on the national achievement exams which were 7.1 percent below students with a proper diet.<sup>23</sup> In Malawi, 15 percent of those questioned in a school survey had had nothing to eat before arriving in school.<sup>24</sup> In a study of Chilean primary schools, student height, an indication of nutrition status, was significantly related to achievement scores.<sup>25</sup> Studies summarized by Wilson show a positive relation between nutrition, early mental development, and school performance.<sup>26</sup> A very thorough study of diet, physical growth, verbal development and school performance was done in four villages of rural Guatemala.<sup>26</sup> The study found that the child's total caloric intake was the largest and most significant factor affecting school performance. This held true even when a large number of variables were controlled for including prior nutritional status and prior ability.

Less evidence is available concerning the direct impact of diseases on school performance. However, the high incidence of such parasitic diseases as bilharsia, hookworm, or malaria undoubtedly has an effect on students' academic performance in LDCs.

-- Other home variables. Other variables which have been shown to have an impact on student achievement are the physical conditions of home study and the amount of reading performed at home. Related to these are the books available at home and parents general encouragement of schoolwork.<sup>27</sup>

-- Economic status. The effects of economic background on student achievement are controversial. Some researchers argue that economic variables are the most important. Research from developed countries shows this and some studies from LDCs also support it to a lesser degree.<sup>28</sup> Other researchers think otherwise. They cite studies in which students from wealthy backgrounds perform no better than other groups in school.<sup>29</sup> The El Salvador research found no differences due to economic background.<sup>30</sup> The answer may lie in the amount of industrialization a country has attained. Some countries which showed a large impact of economic status on academic scores were Japan, Chile, and Iran. Countries where students' SES level had no effect were Malawi, Uganda, and Papua New Guinea.

Thus, in poor countries, it seems that the variables which are important in determining achievement are amenable to education policy. These are such factors as school facilities, supplies, teacher motivation and experience. While efforts to improve the health and economic status of students would also help, there are more direct policy actions which can be taken to improve the efficiency of schools. More research is needed on the implications for student performance of such factors as teacher absenteeism, school maintenance, academic schedules, teacher recruitment, assignment and supervision.

#### iv. Costs, Finance and Administration of Education

##### Costs

The other side of maximizing outputs is minimizing costs. The expenses for an education system are capital costs and recurrent costs. Capital costs consist of physical facilities and equipment while recurrent costs are for personnel salaries and maintenance of physical facilities. For the primary level in LDCs, teacher salaries typically constitute 60 percent of the total annual education budget.<sup>31</sup> This represents a large burden on the total government expenditure in some countries. A good indication of the size of this burden is the ratio of teacher salary to per capita GNP. It ranges from 3.8 percent in Liberia to 24 percent in Upper Volta.<sup>32</sup> While some part of teacher wages reflect scarcity conditions, there is also often an effect of political leverage. Teachers are often highly organized with strong public support and are quite effective at demanding wage hikes through strike threats.

##### Finance

Aside from costs, the finance of education systems is also a source of inefficiency. For example, in Malawi, school districts collect school fees from parents for the stated purpose of buying supplies for their children.<sup>34</sup> However, when they turn the money over to the District Councils they often do not receive an equivalent amount of books and supplies. In fact, they may receive supplies worth from 50 percent to only 5 percent of the value of what they turned in. The Central Government prohibits parents and local communities from improving their schools from their own sources of finance. This can prevent school districts from getting the funds to which

they are entitled and from raising their own funds to improve school facilities, for example.

There are several ways to increase sources of finance through charging the users themselves. The big disadvantage of this approach, particularly for the poor, is that private resources are limited, and care must be taken that the funding activity overall is redistributive. It is too easy for the poor to end up carrying a larger burden than those who are better-off.

One possibility is private education. There exist many and varied systems of private education in developing countries. Some are of high quality and cater to the wealthy; others are religious, cater to the population at large, and have community support. An advantage of private schools is that their private source of funding allows them to offer a public good, education, at little or no cost to the government. However, because they are also managed privately, their goals and aims may not always be compatible with those of the government.

Another source of funds is local community support. Through this means, some revenues are raised directly in the community for use in its own schools. Examples include school fees for books or exams, fund-raising for teacher salaries, or such contributions as school construction. Restructuring of administration to encourage more local autonomy and improved management may be required for this method to work well. Other ways to mix national and local funds include conditional revenue sharing and matching grants. This approach does represent fundamental political changes in administration since it changes the balance between central and local power.

Administration

Many of the difficulties of education systems in developing countries lie in their organizational structure and functioning. They are usually planned, financed, and administered in very inefficient ways. Ministries of education often have a severe shortage of adequately trained manpower. Education may be the province of several government agencies with no coordination or clear delineation of responsibility. The agencies often function without a clear set of stated goals and priorities.

Often the weakest link in the administrative structure is the field staff. In formal education, the problem often manifests itself in teachers and principals who are without proper supplies, incentives or supervision needed to function properly. Yet they are the ultimate executor of education policy and usually have the best knowledge of local conditions. Revising personnel policies and improving supervision will often have a large impact on their performance. These changes need not involve salary increases but can be accomplished through such means as improving payroll records so that teachers are paid regularly, assigning teachers more equitably to rural areas, and providing better distribution of textbooks and materials.

c. External Efficiency

Schooling, even if it is of high quality, has limitations if it does not teach skills which are relevant to subsequent economic activity. This section will review the evidence on how well schooling contributes to economic and social welfare, and where it could be improved.

### **i. Employment**

In general, education leads to employment, and more education raises the chances of employment in a superior occupation.<sup>34</sup> The relation between schooling and obtaining a job seems quite different however, depending on which academic level is considered. One study has found that for six years of schooling or less, schooling is positively related to employment.<sup>35</sup> Evidence at higher levels is mixed. Generally, secondary school leavers have a much higher rate of unemployment than do leavers at other levels. For instance, in 1975 secondary unemployment rates were 5 percent in Sudan, 13 percent in Kenya, and 31 percent in Malaysia.<sup>36</sup> Primary rates were much lower and university level rates were lower still. In El Salvador, it was found that those secondary students whose programs had a practical field component were more likely to be employed.<sup>37</sup> This reveals some difficulties in the match between certain kinds of education and gainful employment.

It appears that education not only teaches useful skills but also raises expectations and, especially at the secondary level, orients its graduates towards the modern sector. Evidence shows that education raises participation in the labor force for both men and women, and also increases the propensity to migrate from rural to urban areas. Such migration is mainly influenced by economic motives.<sup>38</sup> However, since most people in developing countries are employed in subsistence agriculture, schooling has little influence on migration overall and these effects occur principally at the secondary level or higher.

### **ii. Earnings**

Education has been found, without exception, to lead to higher earnings. In an exhaustive review of rate of return studies, it was found

that, for LDCs, a typical year of schooling yielded a 14 percent social rate of return.<sup>39</sup> However, like unemployment rates, the returns to education vary by level. The social rate of return for primary school in LDCs is 27 percent. For secondary school it is 16 percent and for higher education, 13 percent.

The rates also vary by subject area and occupation. In a study of the relation between farmers' education and farm output, farmers with four years of education increased output 7.4 percent over those with no formal education. The study also showed that contacts with extension agents or participation in agricultural education was always positively related to farm output.<sup>40</sup> Evidence suggests that the rates of return in urban areas, especially for primary school are strikingly high.<sup>41</sup> This is probably because education curricula is more closely related to a modern, urban environment. Returns are also greater for modern sector workers than for traditional sector workers, for men rather than women, for various occupational groups (non-casual sector, contract employees, sales and service workers), racial groups, and for workers in certain industries (chemical, pharmaceutical, government).

These differentials, however, reveal as much about the nature of society as about the defects of education, since earnings are also determined by many other factors. Rate of return studies, because of this, are limited in their ability to pinpoint particular flaws in education systems such as curriculum choices or teaching policies. Instead, they identify large trends or gross differences. For developing countries, they have simply shown that education leads to economic returns.

d. Limited Access

Institutional education of any sort is still unavailable to 122 million school-age children in developing countries. While this may not appear to be a problem of efficiency it has major implications for the most effective use of scarce resources.

First of all, shortages themselves are a cause of inefficiencies. When there are not enough classrooms, the ones that are in use are overcrowded. If there are empty spaces only in urban areas, where the school coverage may be over 100 percent, children from rural areas will often commute long distances or board with relatives in town in order to get those spaces.<sup>42</sup> Thus, items in short supply will be used to overcapacity, which is not always efficient.

Second, inequalities can also cause inefficiencies. For example, textbooks and school materials are often unequally distributed, with urban areas having a good supply of materials and rural areas having very few. Textbooks probably have only a small effect on learning when they are in adequate supply and accompanied by other materials. They most likely have a much larger effect when they are the sole material available. There is probably a certain amount of substitutability of school materials at the basic level and diminishing returns to each additional item. Thus if there were a more equitable distribution of textbooks and school materials, the total amount of learning might increase.

In the end, however, when resources are scarce there must be a trade-off between expanding or improving the system. Under these circumstances, it will not be easy to determine the proper path among the demands of economic efficiency, political possibility, and social justice.

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## C. Social Soundness Analysis

### 1. Compatibility with socio-cultural environment

This project will address issues which are held to be important by the host country. This will be ensured by the process of country selection. The aim of the project is to improve and supplement activities which already take place within the government --the planning and analysis of human resources, the design and implementation of policies. Since the project will involve close collaboration with host country professionals and government agencies, the actual plans derived and policies chosen will be at the discretion of the host country.

### 2. Likelihood of spread

Within the host country, planning and research activities will first involve planners and administrators at the national government level. They will form the nucleus of a strengthened or newly created educational planning institution. This institution can then adapt the improved planning methods for use throughout the system. Technologies of system planning are equally useful at the national, state, and institutional level. Efforts will also be made to incorporate key persons responsible for education policy at all levels into the seminars, workshops and informal exchanges that occur throughout the project.

The close coordination and exchanges among countries participating in the project will ensure that maximum learning will occur from all activities in the countries. Since other donors

and researchers will also be involved, the lessons of the project will be disseminated elsewhere. Publications will also serve to spread these experiences world-wide.

### 3. Social Impact

Better methods of collecting data, analysis, and maintenance of data systems; more accurate enrollment and cost projections, more realistic analyses of policy choices and implications, a clear articulation of goals -- these are the direct results of the project. The first beneficiaries will be planners and policy-makers in human resources. It is expected that through these benefits, more efficient education systems will result and, equally important, that host countries will retain the capacity to further improve their education systems long after the project ends. The ultimate beneficiaries will be the students of these education and training systems.

**D. Environmental Concerns**

A threshold decision has been made that this project will not generate any discernible environmental impact.

### **E. Administrative Feasibility**

The project will be carried out through a contractor who has :

- knowledge and experience on the planning of human resource development in developing countries
- a core group of professionals who can develop a knowledge base with the participating countries and build on it during the life of the project
- the capability to do research and disseminate the results
- institutional stability during the life of the project
- the ability to generate learning beyond that specifically defined in the project through the development of teaching materials
- strong support services in libraries, computers centers etc.
- demonstrated ability to manage and coordinate teams of experts in developing countries, keep careful records, and provide required products by stated deadlines

The project will work closely with host country institutions concerned with the collection of educational and demographic data, planning and research in the education sector, and the setting of education policy. In general, these will be such institutions as the units for planning and data collection within the Ministry of Education. Also, it will include other government ministries concerned with aspects of education or training (such as Health,

Labor, or Agriculture); local university departments of education or social planning; and public and private management institutions.

The project will be managed jointly by the Office of Education in the Bureau of Science and Technology and the Africa Bureau's Division of Education and Human Resources in the Office of Technical Resources. Other Education divisions in other regional bureaus will be involved when appropriate. In the field, collaboration and support will be provided by USAID missions through their education or human resource development officers.

**Part IV FINANCIAL PLAN**

The estimated budget is presented in Tables Two through Six. Table Two is a consolidated budget for the 10-year project with Mission contributions also included. Table Three is a summary budget for the Bureaus and buy-ins by type of input. Table Four is the budget for S&T Bureau, Table Five is the budget for the Africa Bureau, and Table Six is projections for other buy-ins.

The mission is expected to provide support for the sector assessment in the form of lodging, facilities and access to local personnel. The HRD officer where available, will provide liaison with host country counterparts.

The host country will provide collaboration in all stages of the project and four or five key personnel will work with the project throughout its life. They will form the nucleus of the local human resource planning group.

**TABLE TWO : Consolidated Annual Budgets (\$000)**

	YEAR										
	1	2	3	4	5	6	7	8	9	10	TOTAL
<b>S &amp; T</b>	1558	1914	1892	1812	1604	1602	1649	1701	1756	1814	17,000
<b>frica Bureau</b>	421	484	482	468	430	140	146	149	154	159	3,000
<b>Add-ons</b>	-	-	2941	2849	2603	2600	2656	2716	2780	2849	20,000
<b>TOTAL</b>	1979	2398	5315	5129	4637	4342	4451	4566	4690	4822	40,000

**TABLE THREE : Combined Input Budget, S&T and Africa Bureaus and Add-ons (\$000)**

	YEAR									
	1	2	3	4	5	6	7	8	9	10
Salaries	431	540	1101	984	886	758	751	748	741	735
Fringe (22%)*	525	659	1343	1201	1080	926	917	912	904	896
Inflation (7%)*	525	705	1538	1471	1416	1298	1376	1464	1553	1648
Travel--										
International	98	141	236	236	196	167	167	161	161	161
Domestic	3	3	7	7	7	7	7	7	7	7
Per Diem	191	267	695	627	571	539	539	539	539	539
Other Direct Costs	10	10	30	30	30	30	30	30	30	30
Materials and Supplies	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Networking/ Training	624	624	1324	1324	1139	1050	1050	1050	1050	1050
Subtotal	1414	1713	3798	3663	3312	3101	3179	3261	3350	1445
Overhead (40%)*	1980	2398	5317	5128	4637	4341	4451	4565	4690	2023

Grand Total = 40,000

\*These numbers reflect the subtotals i.e. the number preceeding plus the percentage increase. This is true for all the following tables.

**TABLE FOUR : S & T Bureau Input Budget (\$000)**

	YEAR									
	1	2	3	4	5	6	7	8	9	10
Salaries	297	394	377	333	297	285	285	285	285	285
Printing (22%)	362	481	460	406	362	348	348	348	348	348
Inflation (7%)	362	515	527	497	475	488	522	559	598	640
Travel —										
International	73	109	95	95	78	71	71	71	71	71
Domestic	3	3	3	3	3	3	3	3	3	3
Per Diem	152	217	205	176	152	144	144	144	144	144
Other Direct Costs	8	8	8	8	8	8	8	8	8	8
Materials and Supplies	5	5	5	5	5	5	5	5	5	5
Networking/ Training	510	510	510	510	425	425	425	425	425	425
Subtotal	1113	1367	1353	1294	1146	1144	1178	1215	1254	1296
Overhead (40%)	1558	1914	1892	1812	1604	1602	1649	1701	1756	1814

Grand Total = 17,000

**TABLE FIVE : Africa Regional Bureau Input Budget (\$000)**

	YEAR									
	1	2	3	4	5	6	7	8	9	10
Salaries	134	146	139	125	115	21	22	25	25	25
Fringe (22%)	163	178	169	153	140	26	27	30	30	30
Inflation (7%)	163	190	193	188	183	36	40	48	52	56
Travel --										
International	25	32	29	29	26	12	12	6	6	6
Domestic	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Per Diem	39	50	48	43	39	25	25	25	25	25
Other Direct Costs	2	2	2	2	2	2	2	2	2	2
Materials and Supplies	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Networking/ Training	114	114	114	114	114	25	25	25	25	25
Subtotal	301	346	344	334	307	100	104	106	110	114
Overhead (40%)	421	484	482	468	430	140	146	149	154	159

Grand Total = 3,000

**TABLE SIX : Projections of Mission/Other Bureau Add-ons (\$000)**

	YEAR									
	1	2	3	4	5	6	7	8	9	10
Salaries	-	-	585	526	474	452	444	438	431	425
Fringe (22%)	-	-	714	642	578	552	542	534	526	518
Inflation (7%)	-	-	818	786	758	774	814	857	903	952
Travel—										
International	-	-	112	112	92	84	84	84	84	84
Domestic	-	-	4	4	4	4	4	4	4	4
Per Diem	-	-	442	408	380	370	370	370	370	370
Other Direct Costs	-	-	20	20	20	20	20	20	20	20
Materials and Supplies	-	-	5	5	5	5	5	5	5	5
Networking/ Training	-	-	700	700	600	600	600	600	600	600
Subtotal	-	-	2101	2035	1859	1857	1897	1940	1986	2035
Overhead (40%)	-	-	2941	2849	2603	2600	2656	2716	2780	2849

Grand Total = 20,000

**Part V IMPLEMENTATION PLAN**

The project will be implemented through a cooperative agreement tied concurrently to an ordering agreement, and let by competitive bid. The contractor will be responsible for conducting :

1. comprehensive sector assessment for each country, development of reliable in-country data collection mechanisms in the human resource sector, and annual updates of statistics and projections in collaboration with the host country planning institutions
2. educational plan for each country, developed in collaboration with the country's national planners and detailing specific strategies for achieving objectives
3. continuing research and development on problems which arise in the development of plans, projects or their implementation, emphasis on building or strengthening a local institution to continue this process after the project ends
4. new project designs, done with the collaboration of those who will fund them (eg. the Missions), continuing monitoring of the progress of these projects so that special technical support can be provided
5. network exchanges, organization of seminars, conferences, workshops and site visits by other country teams, responsibility for development and dissemination of publications and training materials, management of short-term training courses for host country planners.

The contractor will work closely with the AID missions, other donors in each country, and with local personnel who will form the core of the planning group after the assessment terminates.

The schedule of activities which comprise the project are shown schematically in Figure 1, designed to indicate that the activities in the first year will inform and guide those of the second and following years. Assessments and planning updates will continue throughout the 10-year life of the project. Network exchanges, workshops and conferences will also occur periodically throughout the project. A project implementation schedule shows the key events for the start of the project.

FIGURE ONE

SUMMARY ACTION PLAN

in each of  
FIVE  
SELECTED  
LDCs

SECTOR  
ASSESSMENT

PLANNING  
and  
PROJECT  
DESIGN

MISSION-FUNDED  
PROJECTS

PROJECT TECHNICAL  
SUPPORT: SECTOR UPDATES  
R+D, NETWORKING, CONF'S

PLUS...

OTHER SECTOR ASSESSMENTS  
(contingent on availability of  
additional resources)  
FOR OTHER COUNTRIES  
PARTICIPATING IN THE  
PROJECT NETWORK

**Proposed Project Implementation Schedule**

<b>Month/Year</b>	<b>Implementation Plan</b>	<b>Responsible Agent</b>
<b><u>FY1983</u></b>		
<b>May</b>	<b>PP Approved, FIO/T Memo of Understanding with Africa Bureau</b>	<b>AID/W</b>
<b>June</b>	<b>RFP Teams selected for sector assessments</b>	<b>AID/W USDA/RSSA</b>
<b>August</b>	<b>Contactor selected Assessments completed, Niger, Somalia, Botswana</b>	<b>AID/W USDA/RSSA</b>
<b><u>FY1984</u></b>		
<b>October</b>	<b>Host countries selected</b>	<b>AID/W</b>
<b>November</b>	<b>Initial EHR assessments completed</b>	<b>USDA/RSSA</b>
<b>November</b>	<b>Contractor work plan designed with the following elements: -data collection updates -planning -general research and development -implementation of pilot projects -project design -network exchange -training -knowledge dissemination</b>	<b>AID/W and contractor</b>
<b>November</b>	<b>Work begins in one/two countries</b>	<b>contractor</b>
<b>December</b>	<b>First Annual Advisory Board Meeting</b>	<b>AID/W, Ad. Board</b>

**FY1985 and later : contractor follows work plans**

## Part VI EVALUATION PLAN

The evaluation of this project will be conducted under the guidance of an Advisory Board. This Board will be formed at the beginning of the project and will consist of eight leading U.S. and developing country professionals in the field of education and human resources. It will meet annually to consider the progress of the project and provide advice on future directions.

Evaluation of this project will be based on the findings and recommendations of the sector assessment to be carried out in each participating country. The assessment will define major problems and systematic approaches to their solution. Mission-funded projects will be designed to address specific elements of the education system, and each will have its own evaluation plan. The responsibility of this project will be to monitor overall progress toward the goal of increased systemic efficiency. To accomplish that task an evaluation team will be named for each country at the time the sector assessment is completed. The team will take part in planning sessions which will link the sector assessment to the follow-on projects, and will establish clearly articulated goals in collaboration with the host country/USAID planners.

The overall evaluation team will use a combination of primary and secondary data to carry out its evaluation exercise. Secondary data will consist of the evaluation reports produced by the various Mission-funded projects, as well as complementary projects financed by other donors or the country itself. The team will use those reports to formulate questions for its own regularly-scheduled evaluations. The exact timing of the macro-evaluations obviously will depend on the evaluation calendar for the individual projects.

To assure continuity, the macro-evaluation team will be composed of a mix of direct-hire technicians, host country planners, and outside consultants contracted for the duration of the project. A separate team will be named for each participating country. Teams will be able to exchange information and insights through the project's networking arrangements.

The particular concerns of the evaluation team shall be macro-level and long-term, such as :

- are the most pressing educational problems as revealed in the sector assessment being addressed by planning and project design activities?
- is the focus of planning on cost reduction and efficiency so that solutions have a chance of being adopted and financed totally by developing countries?
- have the means for collecting and updating social, demographic and educational information been installed locally with strong local institutional support?
- is the local government satisfied that it is developing its own expertise in the area of EHR assessment and planning and has education remained a central concern in the country?

The evaluation teams will visit every participating country within one year of its joining the project. The teams will return to each country periodically throughout the life of the project. They will submit a report to AID/W after each review.

**Annex 1 : Present Progress**

The S&T and Africa Bureaus have identified Niger, Somalia and Botswana as countries who have agreed to participate in this project. Teams are now being selected to conduct education and human resource sector assessments in June and August, 1983.

**PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK**

Life of Project:  
From FY 83 to FY 92  
Total U. S. Funding \$20,000,000  
Date Prepared: May 13, 1983

Project Title & Number: Improving the Efficiency of Education Systems II 936-5823

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Region or Sector Goal:</b> The broader objective to which this project contributes: (A-1)</p> <p>Improve the efficiency and distribution of human resource systems in developing countries</p>	<p><b>Measures of Goal Achievement:</b> (A-2)</p> <p>Low repetition rates Low drop-out rates Increased access to schooling Low per-pupil costs Smooth administrative functioning</p>	<p>(A-3)</p> <p>Enrollment data Demographic data Education budget</p>	<p><b>Assumptions for achieving goal targets:</b> (A-4)</p> <p>Long-term and comprehensive projects have greater impact Conducting a project in many countries permits comparison and increases spread of innovations Concentration in EHR will allow achievement of other development goals</p>
<p><b>Project Purpose:</b> (B-1)</p> <p>Provide sector assessments, planning, research and project design and strengthen LDC capacity to do these activities. Also provide networking and knowledge dissemination.</p>	<p><b>Conditions that will indicate purpose has been achieved:</b> End-of-Project status. (B-2)</p> <p>Improved administrative operation of education systems Institutionalized procedures for data collection planning, research, project implementation Reliable data base in place</p>	<p>(B-3)</p> <p>Enrollment data Education budget</p>	<p><b>Assumptions for achieving purpose:</b> (B-4)</p> <p>Political stability Economic situation does not deteriorate Top level support and interest in human resources continues Host country organizations continue to provide technical support</p>
<p><b>Project Outputs:</b> (C-1)</p> <p>Sector assessments Country education plans and updates Research studies New project designs Seminars, workshops Improved data base Institutional development Training materials</p>	<p><b>Magnitude of Outputs:</b> (C-2)</p> <p>5 comprehensive sector assessments 5 preliminary sector assessments 5 country education plans 10 research studies 5 new project designs 5 conferences 5 seminars 5 training manuals 5 planning units functioning</p>	<p>(C-3)</p> <p>Documents are produced New PIDs are developed Seminars, workshops, conferences are conducted</p>	<p><b>Assumptions for achieving outputs:</b> (C-4)</p> <p>Financial resources are available in quantity and on timely basis</p>
<p><b>Project Inputs:</b> (D-1)</p> <p>Technical assistance Local technical support</p>	<p><b>Implementation Target (Type and Quantity):</b> (D-2)</p> <p>500 person-months technical assistance</p>	<p>(D-3)</p>	<p><b>Assumptions for providing inputs:</b> (D-4)</p> <p>Availability and cooperation of local personnel</p>