

# YEMEN ARAB REPUBLIC

## Country Implementation Plan for IEES Activities

MAY 1987

### IEES

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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## YEMEN ARAB REPUBLIC COUNTRY IMPLEMENTATION PLAN (1987-1988)

### 1. INTRODUCTION

The Yemen Arab Republic (YAR) has received considerable short-term technical assistance and training from the IEES project over the past three years. Beginning in October of 1984, an extensive assessment of the country's education and human resources (EHR) sector was conducted. Its purpose was to review the nation's education and training system in terms of national plans and goals, the current status of activities in the sector, the existing needs and constraints, and the available options and opportunities for change.

The success of the sector assessment has been demonstrated by the support obtained from the government officials of the YAR, the officers and staff of the Educational Research and Development Center (ERDC), and the staff of the USAID/Yemen Mission. This broad base of support has provided the impetus for the past and proposed activities set forth in this report.

Significant changes have taken place over the past sixteen months. In addition to the IEES activities implemented from 1984 through the first six months of 1987, there have been related changes in the education and human resources sector that serve as the background for IEES activities in the YAR. Most recently, for example, the Ministry of Education (MOE) completed the education component of the nation's forthcoming five-year plan without any direct external assistance. This reflects a significant advance in capacity building related to the IEES project goals, as some of the IEES project activities contributed to the data preparation and analysis aspects of this work. Related to this, the 1985 annual school data collected by the MOE was analyzed by district. This information replaced the older 1975 data which had been used for planning until very recently.

Computers purchased by USAID have been ordered and shortly will be delivered to the MOE to be used in data analysis for future planning. This USAID contribution is coordinated with the training in microcomputers for the MOE staff and ERDC staff that has been provided by the IEES project. This training will continue after the arrival of the computers. In addition, USAID is about to begin a long-term project, in cooperation with the government of the YAR, to improve the relevance of the curriculum and the effectiveness of instructional materials at the primary school level. The above developments and the planned IEES project activities will continue to contribute to the improvement of the analytic capabilities of the MOE staff and to the efficiency of the entire education system.

#### 1.1 PURPOSE OF THE COUNTRY IMPLEMENTATION PLAN

The Country Implementation Plan represents a consensus view among all participants in the IEES project. In addition to the government officials from the host country, participants involved have included USAID personnel from both the Sana'a Mission and Washington office, major EHR sector donors, private sector representatives, and IEES project staff.

The purpose of this plan is to review progress to date under the project, assess recent changes affecting the education sector, and to identify, justify, and set priorities for IEES activities in the YAR for the coming year (June 11, 1987 to June 10, 1988). The criteria employed in this process will combine the long-term goal of the YAR to improve its planning, implementation, and monitoring of EHR development with the short-term goals of IEES to provide activities designed to meet specific, identified needs and which will build on each other to achieve this long-term goal.

A central objective of the Country Implementation Plan is to identify priority activities for IEES project assistance that will improve the efficiency of resources

allocation within the YAR's education and human resources sector and strengthen the institutional and individual capacity of the sector to achieve and maintain a fully integrated approach to educational planning and management. This central objective will focus on ensuring a close coordination of current and planned activities with the overall goals of capacity development and improved efficiency.

The ultimate criterion for all project activities is improvement in the efficiency of resources utilization in the education and human resources sector. The criterion will be applied at the school and classroom levels as well as the regional and national levels.

Other aspects of the Yemen country plan are the following.

- to identify IEES activities to be conducted in the YAR and clarify the interrelationships among these efforts
- to assess the YAR's ability to effectively and efficiently utilize available resources to meet educational needs
- to describe IEES activities within the YAR that address both priority IEES objectives and YAR national goals.

## 1.2 THE IEES CONSORTIUM

The IEES project is managed by the staff of the Learning Systems Institute of Florida State University, which is the prime contractor for the consortium. Participating institutions include Howard University, the Institute for International Research, and the State University of New York at Albany. Management responsibility is vested in the Executive Management Committee consisting of the Project Principal Investigator, the Project Director, the Institutional Coordinator from each of the three participating subcontractor institutions, and the Cognizant Technical Officer of the Agency for International Development.

The resources available from the consortium are primarily technical assistance

services for planning, research, and training activities. Resources also exist for the procurement of local consulting services and for some equipment acquisition.

The project activities in the YAR are coordinated for the Agency for International Development by the Cognizant Technical Officer in Washington, D.C., the education and human resources (EHR) Officer in the USAID/Yemen Mission, and the YAR Ministry of Education representatives.

## 2. EHR CONDITIONS IN YEMEN

This section establishes the context for the IEES activities in the YAR in terms of the present status and plans of the EHR system. The major source of the information contained in this section is the EHR Sector Assessment Report (January, 1986). Information and interpretations have been modified or updated to reflect changing conditions, where appropriate.

### 2.1 HISTORICAL AND SOCIAL SETTING

The Yemen Arab Republic is located in the southwestern corner of the Arabian peninsula and shares borders with the Kingdom of Saudi Arabia and the People's Democratic Republic of Yemen. Its capital city is Sana'a, and the Sana'a-Taiz-Hodeida triangle is an important social and political designation as well as a geographic one. The total land area is 195,000 square kilometers and the population was estimated at 8.5 million in 1981. It was further estimated that 15 percent of the population was working abroad at that time, primarily in the Kingdom of Saudi Arabia. The nation is divided into eleven political governorates which are further subdivided into administrative districts.

Yemen became formally independent in 1918. Prior to that time, under the government of the Hamid al-Din dynasty, the country placed little emphasis on formal social or economic development activities. Civil war lasted from 1962 through 1968, culminating in a defeat of the Royalists and victory for the Republicans. By 1970, national reconciliation had resulted in the proclamation of the national constitution. Before the 1962 Revolution, Yemen was one of the most isolated nations in the world. Tribal traditions and a long history of conservative administration had left the country with a largely undeveloped education system, transportation infrastructure, and communications network.

Before the 1940s the educational system was limited to teaching the principles of Islamic law, and an emphasis on basic reading and writing as well as classical Arabic literature. In the mid-1940s it was estimated that there were over 500 schools, the majority of which were Koranic (Katateeb) schools. These provided only very limited training in science and mathematics. At that time the capital city of Sana'a had only seven schools, five of which were at the primary level. The only other secondary educational institutions existed in Hodeida and Taiz.

## 2.2 FISCAL CAPACITY

The present status of the Yemen economy is characterized by six major economic aspects. These represent opportunities as well as constraints for the government in its effort to improve the overall quality of life for the Yemeni citizens. These conditions are briefly described in the following three sections.

### 2.2.1 External Economic Dependence

The economy of the YAR is highly dependent on the economic conditions in other nations. For example, the personal income of over one million Yemenis is the result of employment in other Arab Gulf States, principally the Kingdom of Saudi Arabia. The educational system and other social services are heavily staffed by expatriate personnel whose salaries are sometimes paid directly by other Arab Gulf States. Yemen has become a major importer of agricultural products and foodstuffs. It is primarily dependent on other nations for all high-level technology necessary for its development efforts. Finally, the YAR has been heavily dependent on foreign donors for financing both capital and recurrent costs of its developmental plans implemented to date.

The recent decline in world oil prices has had two detrimental effects on the economy of Yemen. First, Yemeni remittances from abroad have declined as the number of Yemenis working abroad has decreased. Second, the substantial donor

aid received from the Arab states has declined. This will be partially offset by the recent discovery of oil in commercial quantities in Yemen. Given the limited reserves and the current low prices of oil, however, this will just about offset reductions in remittances and in Arab donor aid.

### **2.2.2 Limited Industrial Base**

As a result of remittance income from Yemeni citizens working in foreign countries, which has rapidly increased personal incomes, Yemen has made an economic transition from an agrarian society to a service/retail economy. Because the transition has taken place without the economy passing through a stage of industrial development, this has led to the previously cited dependence on imports and a negative balance of foreign trade and payments. This remittance income has recently decreased and if this trend continues there could be serious consequences for this aspect of the economy.

### **2.2.3 Limited Skills Workforce**

The scarcity of skilled manpower is partly a consequence of the country's limited industrialization which has not required the development of a highly trained workforce. In addition, the fact that the present education and training systems have existed for only about two decades has not provided sufficient time to develop a necessary number of skilled workers to staff government and private sector organizations. The demand for highly paid unskilled workers in neighboring nations has enticed many Yemeni males to pursue immediately available employment opportunities as opposed to acquiring formal schooling.

Three cultural factors have also contributed to difficulties in developing an adequate supply of skilled labor. First is the common belief that education is valuable only if pursued through the university level. Second, there is a general skepticism toward schooling which is further strengthened by the large number of

non-Yemeni educators. And third, there is a lack of consensus regarding the role of women in education.

#### **2.2.4 Agricultural Deemphasis**

Over the past two decades the YAR has shifted from a net exporter of food products to a net importer. Although agriculture remains a major occupation in Yemen, the changed nature and reduced commitment to the growing of food crops has severely reduced the country's potential for self-sufficiency in food. This is in part the result of three factors. First, the high salaried job opportunities in other Arab Gulf States have reduced the number of male workers available domestically for farming. Second, the availability of inexpensive foodstuffs from abroad has deemphasized internal agricultural effort in spite of the fact that the government has provided protection for farmers in the form of tariffs and subsidies. Lastly, the premium prices for qat make it an economically more attractive crop than food.

#### **2.2.5 Significant Informal Economic Activity**

The statistics used to measure the levels of gross domestic product and personal income significantly underestimate the actual resources available to the Yemeni citizens. This is partly because a substantial portion of the economic activity in Yemen takes place in village markets. This makes it impossible for the government to accurately determine the value of the sales and services activities which transpire in these markets. Finally, a flow of goods and services exists which is not accounted for in the nation's trade statistics because of the relatively open border with the Kingdom of Saudi Arabia.

#### **2.2.6 Linkages Among Policy, Research, and Planning**

Although the Central Planning Organization (CPO) has made impressive accomplishments, the organization has been beset with fiscal and manpower limitations. There is a need for a greater coordination of research efforts among

the ministries including centralization of data collection and analysis. Planning and policy would be more effective if they were more closely linked to database descriptions of the present status in conjunction with desired program outcomes.

Although the fiscal capacity of the government has improved in recent years, existing revenue levels are only adequate for financing recurrent costs. A continuing budget deficit results partly from development costs which are not covered by donor support. Although continued revenue growth is projected for the next decade, the increase is not expected to be adequate to meet anticipated public sector obligations.

Obligations for education and human resources sector expenditures are projected to increase from 23.4% of the total government expenditures in 1984 to 45.6% in 1992. The EHR system will have enrollment pressure from three sources. First, the normal growth in the number of school-age children, at a projected rate of over three percent, will result in an increase in the number of potential students. Second, the high income levels both in rural and in urban areas is expected to cause an increased demand for schooling. Third, as government efforts to improve educational quality continue to be implemented, attrition and repetition rates should both decline. Since attrition exceeds repetition, the net effect of these improvements will be a short-term increase in enrollment.

The basic government policy related to educational finance is to provide free education to all Yemeni citizens at all educational levels. Historically, the Local Councils for Cooperative Development (LCCDs) have assisted with school construction costs, and in some instances have provided all or part of housing expenses for the teachers. There also is community assistance in the form of land donations, building materials, or labor.

Parents also contribute to educational costs. At the primary level, school administrators may assess fees to parents for special school needs. It is estimated

that parents pay an average of 133 Yemeni Rials (YR) per year for primary schooling. Preparatory and secondary costs for uniforms amount to YR 168 and YR 205 respectively. In addition to these direct expenses, postprimary education has other costs to parents in the form of lost income that their children could earn if they were not in school. At Sana'a University, stipends are available to defer living and housing costs for students in the Faculty of Education (FOE). Although the stipends range up to YR 13,400, the high opportunity costs associated with attending the university have led to a high rate of part-time study.

Donor financing has had a supportive role in the school construction and teacher salary costs at the pre-university level. At Sana'a University, donor support has financed a majority of both capital and recurrent costs.

The bulk of nonformal education consists of the District Training Centers (DTCs) and the National Literacy Campaign (NLC). These activities are principally financed by the central government, although local communities, ALESCO, and UNESCO have also had important roles.

### 2.3 LABOR MARKET CONDITIONS

The YAR has virtually no unemployment as a result of the continued overflow of workers to neighboring countries. The existing domestic incentives encourage a polarized distribution of the manpower supply in educational terms. At one end, the large demand for unskilled manual laborers, coupled with attractive wage and employment conditions, has created a demand for lower levels of education because of the increased opportunity costs associated with schooling. In contrast, the status and salary incentives associated with public and private sector employment offer significant rewards only at the secondary and postsecondary levels.

Employment projections indicate that the number of workers in the formal economy will increase from 1.20 to 1.36 million between 1981 and 1986. The

largest proportion of workers and the greatest demand for new workers will continue to be in the area of agriculture, although the highest *percentage* increase in demand will be in the Electricity and Water sector (12.4%) and Government Services (7.4%). Wholesale and retail trade will continue to be the second largest employment sector.

The two major characteristics of the labor market are the dependence on expatriate workers and the current underutilization of female workers. Non-Yemeni workers fill many positions from manual to clerical to senior advisory positions. The country's extensive dependence on expatriate workers is most predominant in education where almost 9 of every 10 teachers at the pre-university level are foreign, with the majority from Egypt.

Although cultural restrictions on the education and employment of women are changing only slowly, the government is fully committed to improving educational and employment opportunities for women as clearly outlined in the Second Five Year Plan. An increased utilization of Yemeni women will aid in reducing dependence on foreign workers. This is an especially attractive option in terms of the teacher shortage issue.

Using an optimistic forecast, it will be at least a decade before Yemenis will comprise a majority of the primary school teaching force. It may be the next century before this can be accomplished for the higher educational levels. The most serious projected education manpower imbalance in supply and demand is at the university level. A special problem will exist in terms of the production of skilled vocational and technical workers. Continued shortages are also projected for clerical and middle-level management personnel.

The solution to these manpower problems is two-fold. First, the government must establish effective employment and training incentives to produce and retain the workers necessary for the YAR economy. Second, these incentives must

become part of the labor market information program with a special emphasis on their distribution to parents and students. In addition, the program should be closely linked to school counseling activities.

## **2.4 NATIONAL GOALS, PRIORITIES, AND STRATEGIES**

The Second Five Year Plan (SFYP) 1982-1986 cites seven broad objectives related to national development. In summary, these are:

- improve the utilization of human, natural, and financial resources in its economic development efforts
- increase citizen participation in planning, implementation, and evaluation of development
- unite the land and people in one Yemeni homeland
- improve the standard of living for all citizens
- ensure justice, job opportunities, and developmental benefits for all Yemenis
- improve State contributions and increase private sector contributions to the national economy
- continue Yemen's participation in the promotion of regional Arab and Islamic integration.

To realize these national objectives, the following eight educational options were identified in the education and human resources sector assessment:

- implement educational policies to assure the achievement of internal and external efficiency
- assess the appropriateness of current teacher credential requirements and available options regarding alternative accreditation programs for preservice teachers without teacher training experience
- expand teacher training programs based on the relative cost effectiveness of the production and retention of Yemeni teachers versus the use of expatriate teachers
- emphasize the establishment of coeducational schools with secondary education available in each governorate

- expand program participation and cost sharing in adult education programs
- assess the feasibility of parents contributing to educational expenses
- increase the scope of nonformal education, emphasizing literacy acquisition and skill training
- remove barriers to the efficient participation by women in the educational system and the economy.

The primary strategies pursued by the government to achieve these goals are as follows:

- emphasis on regionalized educational access at all pre-university levels
- at the university level, increasing dormitory space and considering the establishment of branches of Sana'a University in other cities
- expansion of postsecondary education alternatives so that students can choose among vocational, technical, and commercial education, teacher training, and other specialized training options.

## 2.5 OVERVIEW OF EHR SUBSECTORS

This section gives a brief overview, based on information in the sector assessment, of the following subsectors: primary education, preparatory/secondary education, teacher training, higher education, and nonformal education.

### 2.5.1 Primary Education

In the 1982-1983 academic year over 650,000 students were enrolled in the six-year primary education cycle or scientific institutions. Although the majority of enrollments were in the governorates of Sana'a and Taiz, successful government efforts for regional access are indicated since enrollment distributions are not greatly divergent from population distributions by governorate.

While the encouragement of female participation in formal education is a fairly recent policy emphasis, there are approximately 87,000 female students currently enrolled. Female enrollment is highest in the governorates of Taiz, Sana'a, and Hodeida, and lowest in Sa'ada, Ma'rib, and Hajjah. The government is faced with a special problem regarding educational facilities because of cultural

traditions which have created a preference for female-only classes. At present, a majority of the male and female primary students attend coeducational schools.

There are many "incomplete schools" because of the practice of initially establishing schools with a single first grade class and then adding the next higher grade each succeeding year. Only 43% of primary enrollments are in schools with all six grades. This figure is 35% for male-only schools.

A major problem in primary education is attrition and repetition, which contributes to the inefficient use of scarce educational resources. An ERDC study estimates that only 21 of every 100 students graduate in six years, and only seven more graduate in the seventh year. Repetition rates increase from 8% in Grade 1 to 25% in the higher grades. The major causes of attrition identified by the ERDC study include unsympathetic parental attitudes, cultural factors, school locations, and crowded classrooms.

Although the overall student-teacher ratio is 46:1 at the primary level, this figure does not accurately represent conditions across all grade levels. A 100:1 ratio may exist in some first grades and there may be ratios of only 5 to 10:1 in some higher grades. The Yemeni teaching force is primarily composed of expatriate males. In 1982-1983 only 15% of the primary teaching staff were Yemeni. Women constituted 23.7% of the non-Yemeni teachers, while representing only 6.9% of the Yemeni staff.

Although current primary school facilities are adequate for present demands, a serious shortage is projected for the next decade. The government will not be able to finance new capital expenditures and will have great difficulty meeting the primary education recurrent costs.

The major policy options for primary education are to:

- continue the development of a programmed teaching system structured on the national curriculum
- reassess the level of required teacher qualifications

- maintain cost sharing with the community and LCCDs
- expand educational access and equity standards
- increase the quantity and quality of administrative school personnel.

### **2.5.2 Preparatory/Secondary Education**

In terms of academic choices, a primary school graduate can attend one of the following:

- an academic preparatory school
- a preparatory scientific institute
- a primary teacher training institute
- a vocational training center.

Beyond the preparatory level students can attend various secondary schools or institutes. In both preparatory and secondary schools the largest student enrollments are in the four most populated governorates. This includes approximately 83% of male and 96.5% of female preparatory students, while 71% of male and 78.7% of female secondary students are located in Sana'a and Taiz alone.

Access to the secondary arts program exists in only six of the eleven governorates. However, science enrollments greatly outnumber arts in all but two governorates. Female enrollments in arts programs exceed those in science. The majority of preparatory and secondary schools are male-only and there are no female-only institutions in these four governorates. A major conclusion of the subsector analysis is that female students enrolled in postsecondary schools have retention rates similar to those for males.

In 1982-1983, there were only 157 Yemeni teachers at the preparatory level and 63 at the secondary level. Five of the governorates had only two Yemeni teachers in postprimary schools while over half of all Yemeni teachers at both levels are located in the Taiz governorate. Women constitute 10.9% of Yemeni teachers.

Over 90% of the teachers at both levels are expatriate with Egyptians comprising 87.1% at the preparatory level and 92.4% at the secondary level. Approximately 9% of the expatriate teachers are women.

The average student/teacher ratio is 18:1 but ranges from 7:1 to 22:1 across governorates. At the secondary level, the average student/teacher ratio is 11:1 and ranges from 2:1 to 15:1. While these averages indicate an excess teacher capacity, this is offset by high, new demands in the urban areas.

Success rates on preparatory school leaving examinations have declined over the past four years both in arts and in science. In 1980, 52.6% of the arts students and 58.4% of the science students passed the secondary school leaving examination. These figures dropped to 29% in arts and 39% in science in 1984.

Postprimary financial issues center on new construction costs, the high cost of teachers, and the costs associated with increasing educational access throughout all regions. Although generous donor support for new school construction exists, the present need is for assistance to support the improvement of the national curriculum. Other needs of preparatory and secondary education are:

- improving instructional materials
- increasing the teacher supply
- improving organization and communication
- increasing female access
- enhancing school and employment counseling.

Fiscal constraints on capital projects require reforms having low recurrent costs and either minimum or no capital expenses.

Policy and research options proposed for this subsector are to:

- assess appropriate teacher qualification levels
- institute alternative teacher training options outside the TTIs

- develop improved instructional materials which will provide teachers with day-to-day guidance
- increase counseling of students on postschool training and employment opportunities
- increase female participation by using existing facilities for female-only classes on a half-day basis.

### 2.5.3 Vocational and Technical Education

The vocational and technical education (VTE) programs in the YAR consist of the two-year, postprimary and postpreparatory Vocational Training Centers (VTCs), the three-year post-preparatory Technical Secondary Schools (TSSs), and the three-year post-preparatory Commercial Secondary Programs (CSPs). In the context of this review, "vocational education" refers to training that is oriented toward craft-level skill development, while "technical education" refers to academic and occupational training for higher order mechanical and engineering skills.

In 1983-1984, VTC enrollment numbered 417. TSSs had 587 students in 1982-1983 with 498 students being enrolled in CSPs. Total female enrollment in all VTE programs numbered 123 with all being in CSPs. VTC programs exist at four sites: Sana'a, Taiz, Hodeida, and Dhamar. They vary in size, programs, quality of instructional staff, facilities, and equipment.

Sana'a and Taiz are the only sites offering TSS programs. Enrollment has tripled since 1978-1979 and attrition rates are low. Student demand for TSSs is expected to increase as a result of the establishment of a Faculty of Engineering at Sana'a University. The availability of dormitories and stipends allow these schools to attract a national student body. The most popular specializations are building construction, electricity, and automotive repair.

CSPs differ from the other two VTE activities in that they operate in the same buildings as secondary education or teacher training programs. CSPs exist at six sites, four in secondary schools and two in PTTIs.

The supply of teachers for VTE is a growing concern. Expatriates comprise the majority of VTE and TSS staffs while Yemenis constitute a majority of CSP staffs due to the employment of Faculty of Commerce and Economic graduates. This is somewhat misleading since the heavy reliance of CSP programs on "host" institution personnel makes it unlikely that even CSP students will receive the majority of their instruction from Yemeni teachers.

VTC curriculum emphasis is on manual training which constitutes 60% of instructional time. Classroom work comprises the remaining 40%. Instructional time in the TTSS is 60:40 in favor of classroom work. General business studies (accounting and communications) constitute the CSP curriculum. The TSSs and CSPs curricula are similar to academic secondary schools although instructional hours are fewer.

Issues facing VTSS include further orienting the curriculum in the VTCs to more practical skills and providing students with improved employment and postsecondary training opportunities. Counseling about VTC opportunities should be extended to primary students while TSS, CSP, and agricultural educational information should be made available to preparatory students. The VTE programs have constraints in equipment, facilities, and curriculum. Efforts are needed to offset the high opportunity cost for skilled workers which makes it difficult to recruit and retain adequately trained teachers.

Available policy options in the VTE subsector include:

- improving the coordination among programs and manpower needs
- improving VTE teacher training
- counseling about employment
- developing a data base to track VTE graduates
- organizing a national VTE advisory board
- developing a new national training strategy
- promoting increased private and parastatal participation in training.

#### **2.5.4 Teacher Training**

Expansion of teacher training programs has been a central issue for the YAR due to the nation's dependence on expatriate personnel to staff primary, preparatory, and secondary schools. As the result of a 1981 reform, there currently are three principal sources for training of Yemeni teachers, all of which have a heavy emphasis on non-pedagogical courses.

- the five-year Primary Teacher Training Institutes (PTTIs)
- the three-year General Primary Teacher Training Institutes (GPTTIs)
- the four-year Faculty of Education (FOE) at Sana'a University.

The PTTIs are postprimary programs to train primary teachers. The PTI curriculum was expanded from a three-year to a five-year program as the result of the 1981 reform. In 1983, there were 37 PTTIs; 31 male-only institutions with an enrollment of 2,445, and six female-only institutions with an enrollment of 911. Sixteen new male-only PTTIs have been established in the last few years. The programs at these PTTIs are generally small and are attached to existing preparatory schools. Courses in the PTTIs are similar in name but not in time allocation to those in academic preparatory and secondary schools. The overall student/teacher ratio is 14:1.

GPTTIs are three-year postpreparatory programs to train teachers for upper primary school grades. In 1983-1984, there were 12 GPTTIs with an enrollment of 1,233 of which 461 were female and 772 were male. All but one GPTTI share facilities with a PTI, but unlike the majority of PTTIs which are located in rural areas, all of these are in urban centers. Like the PTTIs, course names are similar to those in preparatory and secondary schools although the instructional time differs. The overall student/instructor ratio at GPTTIs is 4.5:1.

The training of teachers for preparatory and secondary education levels is the responsibility of the Faculty of Education (FOE) at Sana'a University. The FOE offers only the educational courses for its students and the remaining coursework is taken from other faculties at Sana'a University. The FOE staff are primarily expatriates; only three of eleven members are Yemeni. The 1982-1983 enrollment in the FOE was 807 of which 781 were Yemeni. Female enrollments at the FOE consisted of 132 Yemeni and 12 non-Yemeni women.

The government's commitment to expand teacher training opportunities is influenced by an expected increase in the demand for education. This commitment is further strengthened by the fact that in recent years an increasing number of expatriate teachers have been put on the government payroll. Recent reforms have expanded teacher training incentives and increased TTI locations. For example, larger subsidies are paid to science trainees as compared to arts trainees. Subsidies to cover living costs are YR 8,200 for the PTTIs, YR 10,600 for the GPTTIs, and YR 13,400 for the FOE. In addition, expenses for clothing, travel, housing, and books are also paid. The latter two subsidies are paid only at the FOE. Low attrition rates in these programs are in part due to these generous stipends.

Although these reforms are increasing the number of teacher trainees, there are concerns regarding their effect on the long-term problem of teacher retention. The high opportunity cost for males in particular, with the equivalent of a secondary education, suggests that continuing teacher attrition may occur after these newly trained teachers have fulfilled their teaching service requirement.

The sharing of facilities and joint teaching in PTTI/GPTTI or PTTI/academic programs is an efficient utilization of both physical and human resources. The difference in cost between the teacher training programs and other academic programs is the result of the student subsidization policy. Although the relative

training costs are high, long-term savings may be realized due to the lower costs of employing a Yemeni teacher compared to employing expatriates. If the government programs increase teacher retention, there will be substantial savings in teacher salaries.

The major issues in this subsector relate to the limited capacity of current teacher training programs to fully meet increasing teacher demands. It thus seems feasible to examine certification alternatives as a means of increasing the teacher candidate pool. Teacher retention is another major issue in this subsector. Determining whether current teacher salaries are sufficient to retain teachers is an important research need.

The major research and policy options are to:

- identify alternative systems of teaching credentials
- review the efficiency of present qualifications requirements and salary levels in terms of retention
- coordinate teacher preparatory curricula more closely with existing academic programs
- promote increased recruitment of female teachers and teacher trainees.

#### **2.5.5 Higher Education**

Postsecondary education in the YAR is provided by Sana'a University, the National Institute for Public Administration, and the Police College. In addition, foreign study is available under government and donor financing.

The University was founded in 1970 with two facilities, the Faculty of Shari'a and Law, and the Faculty of Arts and Sciences. The latter faculty was divided into two faculties in 1973 and the new Faculty of Education was added. The Faculty of Commerce and Economics was created in 1974. The Faculty of Medicine and the Faculty of Engineering were both established in 1983, and the Faculty of Agriculture was established in 1984.

Originally under the authority of the MOE, the University in 1974 became an autonomous institution headed by a governing council. The President of the Council is the Minister of Education. The University's development has had major support from Egypt in terms of faculty and from Kuwait as a consistent funding source for capital expenditures, although the funding from Kuwait has been considerably reduced in 1987.

Students at the University are predominantly Yemeni (97%), and mostly males (88%). The largest proportion of female faculty are in Arts (36%) and Commerce and Economics (21%), while the lowest percentage of females are in the Faculty of Shari'a and Law (8%).

There are high levels of student attrition in all faculties, with the noted exception of Education because of the subsidies. The high repetition rate is partially because many students engage in part-time study so that they may work and contribute to the support of their families. Thus, repetition in some cases is not the result of academic failure but simply the effect of taking two or more calendar years to complete an academic year.

Estimated annual costs for a University staff member are approximately YR 20,000, not including subsidies for FOE students, which would increase this estimate by about 50% to 75%. Also included are estimated personal budget expenses of YR 11,000 per year.

Foreign study is a popular option which attracts what some observers believe are many of the best students. Approximately 4,600 students were pursuing degree work in some 13 specializations in over 21 countries during 1982-1983. The most popular degree programs are in engineering and agriculture and the most frequented countries are Egypt and the Kingdom of Saudi Arabia.

Residential space availability at the University is a major issue in this subsector and the creation of new facilities was outlined as a key goal in the SFYP.

Although the policy and research options are less clear in this subsector than in others, they include:

- increasing enrollments and Yemeni instructional staff
- revising curricula to help meet the existing manpower needs
- evaluating students and instructors, and providing long-term staff development for instructors
- developing and using internal planning data
- employing more female instructors and administrators
- increasing the use of facilities and equipment
- promoting full-time study as the norm for University study.

#### **2.5.6 Nonformal Education**

For purposes of the EHR sector assessment, nonformal education (NFE) was defined to include programs designed to eliminate illiteracy and support basic adult education and training. More generically, the term was defined as any learning activity, outside the structure of the formal education system, that is organized to achieve specific and explicit education or training outcomes.

The 1975 census estimated that only 13% of Yemenis are functionally literate. The literacy estimate for males was 25%, and for females was less than 2%. These low skill levels in reading and writing are a result of the pre-revolutionary government's failure to provide educational opportunities for Yemeni citizens. In 1982, the government initiated the National Literacy Campaign (NLC), a twelve-year plan to achieve universal literacy. Goals for the Second Five-Year Plan (1982-1987) include a 50% literacy rate and an enrollment of 1,250,000 in literacy training. In spite of this substantial effort, illiteracy remains a severe problem.

A second major NFE initiative has been the implementation of the District Training Centers (DTCs), which provide introductory level training in many fields. These include agriculture, electricity, carpentry, automotive mechanics, construction, handicrafts, health, and nutrition, as well as basic literacy training. In 1982-1983, there were 13,329 participants in programs at seven centers with 3,944 having completed their training.

Enrollments in these programs are predominantly male. In 1983-1984, there were 87,863 male registrants compared to 22,059 females. Attrition was somewhat higher for males (26.8%) than for females (22.7%).

The NLC curriculum was originally designed to incorporate skills training but this aspect has only been partially implemented due to lack of funds. The major curriculum areas of the NLC are literacy, numeracy, and religious studies. At some locations skill training in sewing is offered to women. The basic NLC instructional sequence comprises three 40-minute sessions a day, six days a week, six months a year, over a period of two years. A special two-year follow-up program, designed to promote skill-equivalency with primary school completion, is available after program completion. All NLC instructors are primary school teachers working in addition to their primary school responsibilities, although some teachers have not received instruction in methods of adult training.

The DTCs' curriculum varies by skill specialization although the basic structure involves an eight-month instructional sequence. Men attend afternoon classes, and women attend evening classes. Several special skill courses, however, are on an intensive four-month, four-hours-a-day schedule. Expatriate teachers constitute the majority of DTC instructional staff although literacy trainers are more typically locally-employed primary school teachers.

NLC and DTC programs were originally planned to share existing facilities, but the availability of World Bank funding has made it possible for the DTCs to

construct special-use buildings. The cost of additional DTCs is estimated to be as high as US \$1 million, inclusive of land, equipment, and furnishings. Recurrent salary costs for a single DTC appear to be more responsible to clients than those of the NLC, since the former combines both skill and literacy training in response to the nation's social and economic needs while placing less time demands on clients. However, the organizational costs of the DTCs are closer to formal than nonformal educational programs.

Other nonformal education programs outside the NLC include the LCCDs and the cooperative operated by the General Federation of Local Councils for Cooperative Development. The programs vary from several weeks to six months and cover skill areas such as midwifery, rug making, machinery usage and maintenance, electricity, welding, and literacy.

The major policy and research options for this subsector include:

- expanding all literacy programs to include basic skills training
- continuing the emphasis on literacy programs
- continuing required teacher training for NFE instructors
- improving the use of existing facilities and equipment
- investigating the use of media for literacy education
- acquiring rural NLC and DTC participation.

### 3. RATIONALE FOR ACTIVITIES

This section gives the overall rationale for IEES activities in the YAR. Three target opportunities are identified, each presented with their related objectives. These target opportunities are improved management of EHR development, teacher recruitment and retention, and literacy and income production training.

#### 3.1 TARGET OPPORTUNITIES

There are two goals of the IEES project in Yemen. The first is to assist the government to increase its capacity to plan, develop, deliver, and monitor quality programs in the area of education and human resources development. The second is to improve both the external and internal efficiency of its educational system. The specific needs of Yemen within these two areas were identified through the EHR sector assessment, conducted in the fall of 1984 and reviewed with government officials in the fall of 1985. The six major problems identified include the following:

1. Shortage of current, reliable, and appropriate data on which to base planning decisions; problems of data quality, availability, and utilization.
2. Different access to schooling, particularly between males and females.
3. High attrition and repetition rates, particularly at the primary level.
4. Lack of effective incentives to retain teachers.
5. Financial consequences of Yemenization of the teaching force.
6. Needed improvements in the quality of instruction.

Based on the findings of the sector assessment and the subsequent sector assessment review, the most appropriate opportunities for IEES assistance appear to be in the following three areas:

1. Improved planning and management of education and human resources development, particularly in the Ministry of Education, the Educational Development and Research Center (EDRC), and the Ministry of Civil Service and Administrative Reform (MOCSAR).
2. Teacher recruitment, training, and retention.
3. Literacy and income production training, particularly as this can be accomplished through nonformal education. This area of concern will be addressed during the early years of the IEES project through long-term planning activities. More specific project activities in literacy and income production training will be developed in later years of the project.

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

### **3.1.1 Improved Management of EHR Development**

The management challenges to the MOE flow from three sources: (1) the rapid growth of the education system; (2) the lack of sufficient administrative and management training for school and ministry level personnel; and (3) the shortage of reliable information on which to base decisions. Between 1973-1974 and 1981-1982, primary school enrollments increased by an average annual rate of 32.7%, a rate that would strain the financial and administrative capacity of even a highly developed country. From 1982-1983 to 1994-1995, primary enrollments are projected to increase from 602,202 students to 2,546,374. Enrollment increases at the preparatory and general preparatory levels are estimated to be as high as 454%

and 590% respectively. This rapid growth has exceeded the capacity of the MOE to supply schools with Yemeni teachers and administrators.

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

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

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

### **3.1.2. Teacher Recruitment and Retention**

The need for a rapid increase in the number of Yemeni teachers comes from three sources. First, school enrollments are growing rapidly, resulting in an increasing demand for teachers at all levels. Second, attrition of Yemeni teachers

has been high due to alternative and more highly paying employment opportunities available to trained personnel. Third, the majority of teachers are non-Yemeni.

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

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

### **3.1.3. Literacy and Income Production Training**

The 1975 census estimated that only 13% of the population was functionally literate. This low level of literacy poses a serious impediment to the development of the modern sector of the economy. Consequently, the government has assigned considerable importance to nonformal education as a means of increasing literacy,

both in the adult population and in the large population of school age children (over 50%) who do not achieve literacy within the formal system. Two programs have been undertaken, the National Literacy Campaign (NLC) and the District Training Centers (DTC).

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

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

It is essential that the NLC and DTC programs develop instructional strategies that are realistic in terms of government resources, client interests, and the social and economic needs of the nation. Serious consideration should be given to expanding all literacy programs to include basic skills training and emphasize functional literacy rather than formal school equivalence.

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

It is anticipated that the research, development, and training conducted through IEES activities will support and enhance the curriculum implementation

activities of the bilateral project. This has already occurred as the results from the sector assessment have contributed to the curriculum project planning and as IEES provided an economist to participate on the design team for the project. This cooperation is expected to continue. For example, studies conducted by the IEES project, such as the impact of salary level on teacher attrition, or the types of employment secured by secondary leavers, may contribute to the planning and implementation of the bilateral project. As appropriate, the IEES project is available to collaborate more closely with the bilateral project, particularly in the conduct of specific studies that would support curriculum planning and improvement activities at the school, regional, and central ministry levels.

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

### 3.2 OBJECTIVES

The proposed objectives for the IEES project work in the YAR are presented within the three targets of opportunity identified above in section 3.1. It is anticipated that these objectives will be further elaborated upon and that additional objectives will emerge from continued IEES work in the YAR. This will occur both because of rapid economic and social changes underway in the country and because of new insights that project personnel develop over time. The eight activities addressing these three targets of opportunity are summarized below.

### **3.2.1 Improved Management of EHR Development**

The first five objectives focus on improved management of development within the education and human resources sector. These five objectives are described below in detail.

**Objective 1: Assist the MOE with long term planning for the education sector.** In addressing this objective during IEES project years two and three, IEES teams assisted the MOE with the preparation of a design for an educational management information system (EMIS) and the development of background information for the education portion of the national Third Five Year Plan. Continued IEES work addressing this objective will be in combination with IEES assistance to the MOE with the implementation of the EMIS. The continued work will include the following activities:

- identification of appropriate indicators of internal efficiency, external efficiency, costs, and financing of the educational system
- identification and analysis of existing data to use in implementing the Third Five Year Plan
- specification of priority data needs for continued long-term planning
- procedures for monitoring and implementing the Third Five Year Plan
- assistance to the MOE with analysis and interpretation of data to support long-term planning.

IEES personnel will assist in (1) updating projections of student enrollment and flow through the education system; (2) updating teacher supply and demand projections; (3) improving facilities utilization; (4) analysis of educational costs; and (5) projecting financing based on the data collected with the new school level data forms developed by the MOE with IEES assistance during 1987.

**Objective 2: Assist the MOE design, implement, and use a national Information system.** Initial IEES activities will continue to assist the MOE design an information system that can be used for planning and policy analysis. The

design stage has already included efforts to: (1) identify appropriate indicators of external efficiency, internal efficiency, access, costs, and financing of the education system; and (2) identify existing data sources to suggest ways to integrate available data into the system. These activities will continue as emphasis shifts to implementation of a computer-based EMIS.

Year Four project activities will assist the MOE to collect, analyze, and interpret data identified as high priority and to integrate these data into the larger information system. This will be accomplished through direct IEES project participation in the conduct of studies to collect data relevant to key policy issues and through continued training of selected Yemeni ministry personnel.

**Objective 3: Analysis of MOE organization, operation, and preparation of proposals for realignment; and preparation of workplan for an MOE organization and training needs assessment.** The object of this activity is to identify constraints on the communication and decision-making processes in the MOE and to suggest ways these constraints can be removed. The study will consist of three parts: (1) a structural analysis, to identify functional responsibilities within and across general directorates and departments in the MOE and between the MOE and the ERDC, Sana'a University, and the training department in other ministries; (2) a communication audit, to assess information patterns and content in relation to information needs; and (3) a manpower analysis, to identify the appropriateness of the distribution and training of staff. The outcome of this study will be a set of recommendations for improving organizational and administrative structures of the Ministry, and the identification of training needs for MOE personnel. This study was delayed due to the lack of a detailed scope of work, but is now scheduled for a Year Four activity.

**Objective 4: Improve the capacity of the MOE and the ERDC to conduct**

**research, planning, implementation, and evaluation activities. Initial activities will concentrate on training central MOE and ERDC staff in the following four areas:**

- **planning and forecasting**
- **data analysis and interpretation related to policy formulation**
- **economic and financial analysis, particularly with respect to the computation and interpretation of unit and cycle costs of education at different levels**
- **program monitoring and evaluation.**

As central MOE personnel are trained in these areas, the focus of training will shift to governorate and eventually to regional and school level administrators. However, training for these groups will be designed by central MOE staff working with IEES consultants. This shift of responsibility for the delivery of training moves IEES into a more collaborative role with MOE officials and recognizes that the delivery of instruction at the regional and local level should be by Yemeni staff.

**Objective 5: Assist the Ministry of Civil Service and Administrative Reform to improve the quality of information on the relationship between education and training to employment.** One finding of the sector assessment was the need for more detailed information on the subsequent education, training, and employment experiences of graduates from each level of schooling. Such information can assist educational planning and contribute to policy discussions that can lead to improved external efficiency of the educational system at all levels.

A research capacity to conduct this type of study already exists within the MOCSAR, the MOE, Sana'a University, and the ERDC. However, due to the rapid growth of the education system and changes in the economy, more current and relevant information is available to support educational planning activities.

The IEES project will work with a research team primarily drawn from the MOCSAR to design and conduct tracer studies of subsequent education, training,

and work experiences of primary, secondary, vocational technical, and university graduates. These studies will provide both a training activity in the conduct of research and data of direct relevance to current policy discussions regarding the external efficiency of education.

In addition, IEES will assist the MOCSAR to design and conduct manpower analyses to identify the education and training needs of public sector employees. This activity will involve: (1) identification and synthesis of existing data; (2) specification of high priority data needs; (3) training in data analysis and interpretation; and (4) assistance with the conduct of tracer studies. One goal of these activities is to assist the MOCSAR to develop a database on public sector training needs that can be used in the needs assessment and the design of future public sector training. This study was scheduled earlier but postponed at the request of the YAR government. It is now planned to begin in Year Four.

### **3.2.2 Teacher Recruitment and Retention**

Objectives 6 and 7 support the target of improving teacher recruitment and retention. These objectives are described more fully below.

**Objective 6:** Assist the MOE to identify, design, and implement specific strategies to increase the recruitment and retention of Yemeni teachers. The sector assessment identified four ways that teacher recruitment and retention could be improved. These included: (1) a review and possible modification of current teacher qualification levels; (2) the development of certification alternatives for secondary school and university graduates who have not specialized in teacher preparation; (3) increased use of female teachers, who may have lower attrition from teaching due to a lower opportunity cost; and (4) an alteration in the incentive system to reward teachers more for remaining in the teaching force rather than only for completing teacher training.

IEES and the MOE will collaborate in the design and conduct of three activities to support this objective. These include: (1) a study to assess the relevance of current teacher qualification levels and teacher training options beyond the TTIs and the University; (2) a study of the current and projected impact of teacher incentive systems on recruitment and retention, examining both the teacher training stipends and teacher salary levels; and (3) a study to identify and implement a strategy for increasing the entry of females into teaching.

**Objective 7: Assist the MOE to strengthen its forecasting and planning capacity, with particular attention to financial planning for the Yemenization of the teaching force.** The sector assessment suggested that, given the current expansion rate of the formal education system, the production of Yemeni teachers will not meet the demand for Yemenization and indeed may not even meet replacement needs. Specific planning for Yemenization of the teaching force will involve at least four factors: (1) the projected supply of Yemeni teachers; (2) the costs of using Yemeni versus expatriate teachers; (3) the coordination of teacher's content training with the subject area needs of the schools; and (4) the ability of the MOE to reassign teachers among schools.

The initial project activities to address this objective will be a series of training workshops in financial forecasting that will estimate the cost implications of different rates and strategies for Yemenization of the teaching force. This will be followed by workshops oriented toward developing a management information system to help coordinate teacher assignments during a time of rapid growth of the education system and to provide data on the cost implications of different assignment patterns.

### **3.2.3 Literacy and Income Production Training**

The eighth and final objective is focused on literacy and income production training, as described below.

**Objective 8: Assist the MOE to improve the quality of school instruction by assisting and supporting efforts of the bilateral curriculum enhancement project.** The sector assessment identified improved implementation of the national curriculum as a priority concern within primary, preparatory, and secondary education. It specifically recommended improvement of instructional materials used in the schools. Consequently, curriculum improvement has become a major focus of the bilateral project. While IEES is not expected to be the primary source of technical assistance to the bilateral project, IEES activities will assist, complement, and support its efforts.

This already has occurred as the sector assessment contributed to the needs assessment and rationale for the bilateral project. Additionally, IEES provided an economic consultant to assist with the development of the Project Paper, which specified the design of the project. Results of the studies and training workshops to be conducted through the IEES project will continue to assist the bilateral project as IEES activities yield improved data on the education system and trained personnel who will be available to that project. Additionally, the IEES project will support the bilateral project through other related research and evaluation activities.

These objectives will be addressed through three types of activities over the life of the IEES project: (1) training activities to provide appropriate Yemeni personnel with necessary background and skills to examine and respond to the issues of educational improvement; (2) research and development activities to further define relevant issues and formulate appropriate interventions; and (3)

implementation activities in which IEES supports MOE efforts to initiate new or revised programs in the areas identified for improvement.

### 3.3 ACTIVITIES COMPLETED THROUGH YEAR THREE

The following table summarizes all IEES activities in the YAR for the first three years of the project (1984-1987). These activities are described more fully in last year's plan "Yemen Arab Republic Country Implementation Plan," February, 1986.

#### COUNTRY PLAN ACTIVITIES (1984-1986)

Date	Activity	IEES Staff	Coordinating Agency
October-November, 1984	Prepare draft Education and Human Resources Sector Assessment	D. Windham F. Kemmerer J. Applegate D. Chapman W. Howard H. Nassif M. Riyani	Ministry of Education (MOE) and Educational Research and Development Center (ERDC)
January, 1985	Distribution of draft sector assessment and Arab-language version of Executive Summary	D. Windham F. Kemmerer	Ministry of Education
October-November, 1985	Revision of draft sector assessment	D. Windham D. Chapman M. Riyani	Review committee chaired by Deputy Minister Abdoraboh Garadah
January, 1986	Publication of sector assessment	D. Windham D. Chapman	Ministry of Education
February, 1986	Country Implementation Plan	D. Chapman	Deputy Minister Abdoraboh Garadah
February-March, 1986	Training workshop for computer operation and data coding	R. Boothroyd	MOE Statistics and Planning Office and ERDC

Date	Activity	IEES Staff	Coordinating Agency
April-May, 1986	Data assistance: MOE Five-Year Plan	D. Windham J. Messec	Ali Ahmed Al-Komeim Director General of Technical Affairs; Hamud Abdu Naji, Chief of Statistics and Planning Office
May-June, 1986	Phase II of Data assistance activity (in Albany, N.Y.)	J. Strudwick	MOE Statistics and Planning Office
June-July, 1986	Phase III of Data Assistance Activity (including enrollments and teacher requirements projections)	J. Strudwick	MOE Statistics and Planning Office
July, 1986	Data processing/micro-computer workshop (in Albany, NY)	M. DeMasi R. Boothroyd J. Kaufman A. Lobosco W. Tehyuan	YAR Participants: Hassan Ali Abdulmalik Samira Abdul Kader Ghaleb Hamood Sultan Abdul Baki Anam Ali Mohamed Al Kowri Hamud Abdu Naji
July-August, 1986	(A) Design of Educational Management Information System	D. Chapman C. O'Brien	MOE
	(B) Planning of training needs assessment	D. Chapman C. O'Brien	Ministry of Civil Service and Administrative Reform
	(C) Manpower planning exercise	C. O'Brien	Ministry of Agriculture
November-December, 1986	Economic and financial analysis of USAID/YAR Project Paper	S. Hoenack	MOE
November, 1986	Policy Research Initiative on Educational Management Information Systems (in Kathmandu, Nepal)	D. Chapman D. Windham	Kassim Berihe; Sana'a University (Consulting with MOE)

Date	Activity	IEES Staff	Coordinating Agency
November, 1986	Policy Research Initiative on Teacher Incentives	S. Thiagarajan F. Kemmerer	Noman Alaswadi; MOE
November, 1986	Revision of 1986-87 Country Implementation Plan	D. Windham	Abdoraboh Garadah, Deputy Minister of Education
January-February, 1987	Development of basic data collection questionnaire and formats for educational finance data	R. Boothroyd J. Strudwick	Statistics and Planning Office

#### 4. PROPOSED YEAR FOUR ACTIVITIES

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

The activities are in four groups: continued assistance to the MOE in the collection, analysis, and use of information for decision making (Activities 1-5); assistance to the MOE to conduct an organization and training needs assessment (Activities 6-7); assistance to the MOCSAR to conduct a manpower and training needs assessment across public sector agencies and ministries (Activities 8-9); and generic project activities (Activities 10-11). Detailed scopes of work for these activities are given in Annex A.

**PROPOSED COUNTRY IMPLEMENTATION PLAN ACTIVITIES (1987-1988)**

<b>Grouped Activities</b>	<b>Level of Effort</b>	<b>Proposed Time</b>	<b>Proposed Staff</b>
<b>A. Continued assistance to the MOE with the collection, analysis, and use of information for decision making</b>			
1. Microcomputer Workshop I (computer use)	2 pm	July 1987	R. Boothroyd M. DeMasi
2. Microcomputer Workshop II (policy analysis)	2 pm	January, 1988	R. Boothroyd C. O'Brien
3. Sector Assessment Update	8 pm	October, 1987	TBA
• Financing			
• Teacher data base development			
• Further work to develop EMIS			
4. Continued participation in the IEES Policy Research Initiative for EMIS	1 pm	July 87 & June 88	D. Chapman K. Berihe
5. Continued participation in the IEES Policy Research Initiative for Teacher Incentives	1 pm	TBA	S. Thiagarajan F. Kemmerer N. Alasawadi and staff
<b>B. Analysis of MOE organization, operation, and proposals for realignment; and preparation of a workplan for an MOE organization and training needs assessment</b>			
6. Analysis of the current organization and operation of the MOE	1 pm	July-September, 1987	TBA
7. MOE organization and training needs assessment	4 pm	January-February, 1988	TBA
<b>C. Assistance to the MOCSAR to conduct a manpower planning and training needs assessment across public sector agencies and ministries</b>			
8. Assistance in study design, instrument development, and pilot testing procedures	2 pm	June, 1987	J. Strudwick TBA
9. Analysis of pilot study data and revision of study design and instrumentation (continues in year 5 @ 6 pm).	3 pm	November, 1987	J. Strudwick TBA
<b>D. Generic Project Activities</b>			
10. Country plan development for Year Five	0.5 pm	March, 1988	V. Cieutat
11. International conference		June, 1988	N/A

## ANNEX A. SCOPES OF WORK FOR YEAR FOUR ACTIVITIES

- A. Continued assistance to the MOE for the collection, analysis, and use of information for decision making. Work in this area will include six types of activities, some of which will be scheduled to occur simultaneously:
- assistance with the database design and implementation of a teacher database system
  - assistance with the design of school record keeping forms
  - microcomputer training
  - assistance to the MOE staff to write and debug the computer program (within SPSS-PC) to be used for analysis of the data to be collected during 1988 with the new school-level data form
  - policy analysis workshop to assist MOE personnel with use of the new data and further develop analytic capacities to address policy issues
  - continued participation in the IEES Policy Research Initiative on the impact of educational management information systems on educational policy formulation.

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

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

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

Proposed Staff: R. Boothroyd, M. DeMasi

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

This workshop will continue training and support for microcomputer use in the MOE by offering intermediate level training in word processing, data management, and data analysis software. Emphasis of the training will be on (1) helping participants formulate policy questions that can be addressed with data and (2) presenting results of their analysis in ways that are useful for decision makers. Along with this policy analysis

workshop will be a series of special, separate training sessions in computer use for senior staff of the MOE. The emphasis will be on introducing high level decision makers to ways in which data are entered, analyzed, and stored in computers. The purpose of these training sessions is to help senior staff understand the usefulness and limitations of computer-based data systems and the types of policies and procedures they will need to implement and support if an EMIS is to be successful in the MOE.

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

3. Sector Assessment Update (8 person/months)

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

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

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

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

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

Research activities initiated during Project Year Three will continue during Year Four following the implementation plan developed by Kassim Berihe, Country Team Leader for the EMIS research in Yemen. His plan calls for: (1) a study of what education data decision makers need; (2) what education data are already available; (3) a mapping of the current

education data flow to identify constraints on data collection, analysis, and use; and (4) a study of the special problems associated with microcomputer applications in Yemen. During Year Four, the majority of the data collection, and analysis for all four of these studies, will be completed. The one person/month budgeted for this activity reflects the time of the Research Team Leader for trips to Yemen to work with Berihe and his team. Funds to support the work of the in-country research team are budgeted under the Policy Research Initiative.

Proposed staff: D. Chapman

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

Research activities initiated during Project Year Three will continue in Year Four following the implementation plan developed by Noman Saed Alaswadi, Country Team Leader for the teacher incentives research project in Yemen. His plan calls for instrument development, field data collection, and analysis of the data to occur by the end of Project Year Four. The one person/month budgeted for this activity reflects the time of the Research Team Leader for trips to Yemen to work with Alaswadi. Funds to support in-country research costs are budgeted under the Policy Research Initiative.

Proposed staff: S. Thiagarajan, F. Kemmerer

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

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

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

Proposed staffing: TBA

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

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

Proposed staff: TBA

C. Assistance to the Ministry of Civil Service and Administrative Reform (MOCSAR) to conduct a manpower planning and training needs assessment across public sector agencies and ministries is divided into four activities, only the first two of which are scheduled for Year Four. The four activities are the following:

- assistance in developing indicators, instruments, and pilot testing procedures for a study of manpower planning and training needs
- assistance in analyzing data from the pilot survey and using the findings as the basis for revising the study design and survey instrument as necessary
- conduct of a microcomputer training and data analysis workshop (in Albany) to assist the MOCSAR staff to analyze and interpret results of the full study.
- continued assistance in interpreting results of the study within the policy framework of the MOCSAR and identification and implementation of follow-on studies (e.g. tracer studies).

The funding of these activities will be shared by the project and the USAID/Yemen Mission. The more complete proposal agreed to by the MOCSAR, USAID/Yemen, and IEES is attached as Annex B of this plan. The description of year Four activities with the MOCSAR follows.

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

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

Proposed Staff: J. Strudwick, TBA

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

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

Proposed staff: J. Strudwick, TBA

#### D. Generic Project Activities

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

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

Proposed staff: V. Cieutat

11. International Conference

About every eighteen months the IEES Project sponsors a conference of selected Ministry and Mission personnel from each country in which IEES is working.

**ANNEX B. PROPOSED SCOPE OF WORK FOR THE  
MOCSAR MANPOWER PLANNING PROJECT**

**1. Purpose.** The purpose of this activity is to provide technical assistance to the Yemen Ministry of Civil Service and Administrative Reform (MOCSAR) for the development of a data collection and analysis system for labor force information, and training in labor force supply and demand projections.

**2. Background.** A central feature of both the Improving the Efficiency of Educational Systems (IEES) Project and USAID/Yemen's human resource development strategy is to assist the Government of Yemen to improve its capacity to analyze labor force needs and make informed decisions concerning the allocation of training resources. Currently, the government lacks adequate current and relevant information about labor force needs and needs more fully trained personnel capable of analyzing labor force supply and demand information. Thus, it is not now in a position to effectively plan the allocation of training resources.

**3. Scope of Services.** IEES will be responsible for the provision of suitably qualified consultants capable of assisting the MOCSAR with the development of an appropriate data collection and analysis system for projecting labor force supply and demand statistics for selected time periods. IEES will also conduct training workshops both in Sana'a and Albany, New York for the MOCSAR personnel. These workshops will provide training in the construction and maintenance of a labor force database, computer use, and software applications for manpower planning activities.

**4. Proposed Activities.** Senior MOCSAR personnel have expressed the wish that the proposed activities be extended over two years. It is requested, therefore, to

accommodate a smooth continuation of the project, that activities scheduled for the second year be finalized not more than nine months after the project is initiated. Outlined below are the two IEES activities proposed for year one:

**Activity 1.** IEES consultants will assist the MOCSAR by:

- assessing the labor force data needs of the Ministry
- completing an analysis to determine anticipated growth within the public sector (economic indicators analysis)
- developing data collection forms (questionnaires) and coding procedures that will permit the Ministry to gather data on labor force supply and demand
- developing with the MOCSAR a procedure for testing the questionnaires

It is expected that the MOCSAR will, prior to the arrival of the IEES consultants, assign appropriate counterpart personnel and identify those additional personnel (manpower planning trainees) to be trained throughout the project. Following Activity 1, the MOCSAR will be responsible for the timely completion of the pilot study. It has been suggested by the MOCSAR that the pilot study be conducted at two sites, the Ministry of Oil and Mineral Resources and at Yemenia, and that the pilot study will be completed in two or three months.

**Activity 2.** IEES consultants will assist the MOCSAR by:

- conducting an in-country workshop on data base formation employing the completed pilot survey questionnaires. (Note: if computers are available at the MOCSAR by the time this workshop takes place, the workshop will be extended to include an introductory course in their use as it relates to database formation.)
- preparing a final questionnaire and coding system for a full public sector survey
- assisting with the preparations necessary to conduct the above survey

- helping with the identification of up to three additional studies to develop labor force data, and assisting the MOCSAR to design and conduct these studies as necessary

It is expected that the MOCSAR counterparts and manpower planning trainees will attend the workshop. The MOCSAR will be responsible for the timely completion of the full public sector survey. Discussions at the MOCSAR have concluded that this survey will be completed in seven to eight months.

The following two activities are recommended for the second year:

Activity 3. A workshop, held in Albany, to familiarize the MOCSAR personnel with appropriate computer and software applications to the processes of determining labor force supply and demand. Data gathered during the full public sector survey can be used throughout this workshop.

Activity 4. Following the workshop outlined in activity 3 above, IEES consultants will return to Sana'a to assist the MOCSAR with the following:

- the preparation of labor force supply and demand statistics for selected time periods (e.g., projections for the next 5, 10, or 15 years)
- working toward the completion of any additional studies undertaken (see activity 2 above)
- preparation of a series of recommendations that will address the continual development of a labor force database

5. Reports. IEES will provide oral briefings to the MOCSAR and USAID/Yemen concerning the activity progress and results upon request. In addition the following written reports will be submitted to the MOCSAR and USAID/Yemen in a timely manner;

- Labor Force Information Needs: will include methodology employed,

IEES assessment of the MOCSAR needs, and recommendations for appropriate data collection

- Data Collection Forms and Coding System: will describe forms to be used for collection of labor force planning data, coding scheme, and data gathering procedures
- Special Study Reports: will describe rationale for, methodology used, and results of any special studies undertaken as part of this activity
- Labor Force Projections Report: will provide supply and demand projections based on data collected for pre-determined periods (e.g. 3, 5, or 10 years) and policy and programmatic recommendations regarding allocation of training resources for the same time periods
- System User's Guide: will describe labor force data collection system and how to use associated computer programs to maintain and/or analyze the labor force database

6. **Level of Effort.** It is estimated that IEES will be required to provide a total of 12 person months of technical assistance over a period of approximately 24 months. The estimated level of person/months is as follows:

Specialty	Person/Months
1. Senior Labor Force Planner	2.0
2. Labor Force Analyst	4.5
3. Data Management Specialist	2.5
4. Training Specialists	3.0
TOTAL	12.0

**7. Suggested Schedule.**

Activity 1 (Sana'a)	June 1987
Activity 2 (Sana'a)	November-December 1987
Activity 3 (Albany)	July-August 1988
Activity 4 (Sana'a)	August 1988
Additional studies	as necessary

**8. Funding.** These activities will be funded by USAID/Yemen.

ANNEX C. PROPOSED ADMINISTRATIVE AND COST STUDY  
FOR THE  
MINISTRY OF EDUCATION

As a part of the Fourth World Bank loan to the YAR, the World Bank recommended that the MOE conduct a special study of the financing of education in Yemen. The MOE has proposed that this study be conducted during 1987 as a collaborative effort of the MOE, the World Bank, and USAID. This paper proposes a design and preliminary scope of work for this study.

A central purpose of the study is to conduct an in-depth examination of the feasibility and implications of the recommendations on educational finance included in the World Bank "Special Study of Education Administration and Finance" (1982). However, it is proposed that this purpose be addressed within a larger review of administration of Yemeni education. In this way, issues of educational cost and administration will be placed within the larger framework of the conditions and trends affecting education.

The study will be conducted by a team of Yemeni researchers working with a technical advisor provided by USAID through the AID-funded Improving the Efficiency of Educational Systems (IEES) Project. The study will involve the review and synthesis of existing data, further analysis of existing data sets, and, the collection of new data as necessary. The immediate intended outcome is an assessment of strategic options for MOE action to address constraints in financing education.

### 1. Proposed Scope

The proposed study will address the following five issues:

#### 1.1 Educational costs at the school, regional, and national levels.

Data available from the MOE, MOF, and other relevant sources will be compiled to indicate current costs of education at each level. These data would be supplemented through a field study of selected schools to develop more accurate estimates of family and community contributions.

#### 1.2 The administrative structures for distributing, monitoring, and control of educational funds.

A detailed description of the procedures by which educational funds are appropriated, distributed, and monitored will be developed.

#### 1.3 Current and projected sources of educational financing and analysis of government fiscal capacity.

Current and projected sources of education financing will be documented through data available from the MOE, MOF, and donor agencies. The fiscal capacity analysis compares the expected growth of government resources with expected increases in the demands on these resources. The analysis will examine the likely

availability of funds for educational programs compared to the demand for funds from existing or planned education and training activities. Development expenditures are considered in the fiscal capacity analysis in order to project: (1) the effect of government development expenditures on reducing fiscal resources available to finance recurrent costs in the short-term; and (2) the effect of development projects on increasing recurrent cost obligations in the long-term.

#### 1.4 Unit and cycle cost analysis of education.

The unit and cycle cost analysis focuses on specific levels of education and training and, where appropriate, on the major forms and types within a particular level. This information will provide an indication of the internal efficiency of the education system.

#### 1.5 Macro-economic conditions and trends affecting educational cost and financing.

The review of macro-economic data is required because ultimately the ability of the nation to support government recurrent expenditures, in particular, is determined by the vigor and stability of the economy. In addition, the macro-economic data provide the basis for the specific consideration of government's fiscal capacity to absorb increasing expenditures resulting from any new educational initiatives.

## 2. Staffing

The study will be conducted by a team of Yemeni researchers who will work with a technical advisor provided by the IEES project. The Yemeni research team will be appointed by the MOE and drawn from appropriate agencies (e.g., ERDC, MOE, MOF, etc.). (The collaboration of the research team with the technical advisor will follow the model established in the IEES Policy Research Initiative currently operating in Yemen.) The technical advisor will assist the Yemeni team to design the study and specify data needs. The Yemeni team will conduct the data collection and collaborate with the technical advisor in the data analysis. The Yemeni team and the technical advisor will collaborate in developing the final report. This procedure will help ensure maximum participation of Yemeni Ministry staff in conducting and reporting the research.

## 3. Research Activities

The study will proceed through the following six stages:

Stage 1: Detailed design of study and formulation of research methods.

The research team will work with the technical advisor to specify the data needs and research procedures to be followed in the study.

Stage 2: Review and synthesis of available cost and financing data.

Existing reports concerned with education cost and financing available from the MOE, MOF, donor agencies, and other sources will be reviewed and relevant information abstracted.

**Stage 3: Further analysis of existing data on cost and financing.**

At present, responsibility for maintaining educational cost data is not clearly centralized in the MOE. Consequently, relevant data concerning educational costs for any particular level is distributed across several offices. The research team will work with MOE staff to merge relevant data and further analyze them as a means of developing a more comprehensive estimate of total costs.

**Stage 4: Field collection and analysis of additional data.**

Based on the identification and further analysis of existing data, the research team will identify additional data needs. It is expected that field data collection will be conducted on a sample of schools: (1) to gather data not currently available in the MOE; and (2) to confirm the accuracy of data that are available.

**Stage 5: Synthesis of data collected in Stages 2-4.**

**Stage 6: Development of conclusions and recommendations; preparation of final report.**

**4. Anticipated Outcomes**

The principal outcome will be an identification of critical education policy concerns and strategic options for addressing them, including an agenda for action. Of interest, for example, will be the role of central government in financing education and opportunities for better use of the contributions of local development associations and communities. Also of interest will be the cost implications of greater Yemenization of the teacher force and of possible extension of primary schooling from six to nine years.

The study will result in a report summarizing the macro-economic conditions and trends affecting education, the fiscal capacity of government, the costs of education at each level, and issues associated with the administration of educational cost and financing. It will also provide an assessment of the probable impact of each proposal contained in the World Bank "Special Study on Education Administration and Finance" (1982), identify actions to be taken, and recommend methods of implementation.

**5. Costs**

The World Bank will cover the salary of the Yemeni researchers assigned to the study. The IEES project will pay for the costs of the technical advisor. The costs of data collection and analysis will be shared by the World Bank and the MOE.

**ESTIMATED IEES YEAR FOUR (1987-1988) COSTS  
(YAR COUNTRY IMPLEMENTATION PLAN)**

Activity	person months	short-term TA		RTA @ \$8,500/pm		PRI Local Research Team Costs
		@ \$16.00/pm pm	cost	pm	cost	
1. Workshop I	(2.0) <sup>1</sup>	(2.0) <sup>1</sup>	(32,000)	--	--	--
2. Workshop II	2.0	2.0	32,000	--	--	--
3. S.A.U.	6.0	(2.0) <sup>2</sup>	(32,000)	6.0	51,000	--
4. PRI (EMIS)	1.0	1.0	16,000	--	--	25,000
5. PRI (T. Incent.)	1.0	1.0	16,000	--	--	25,000
6. MOE Assm't I	1.0	1.0	16,000	--	--	--
7. MOE Assm't II	4.0	(4.0) <sup>3</sup>	(64,000)	--	--	--
8. MOCSAR I	2.0	(2.0) <sup>3</sup>	(32,000)	--	--	--
9. MOCSAR II	3.0	(3.0) <sup>3</sup>	(48,000)	--	--	--
10. C.I.P. Update	0.5	0.5	8,000	--	--	--
11. Conference	--	--	--	--	--	--
<b>Sub-totals</b>		<b>4.5</b>	<b>88,000</b>	<b>6.0</b>	<b>51,000</b>	<b>50,000</b>

**GRAND TOTAL (IEES) = \$ 189,000**

<sup>1</sup>Year three activity carried over to year four; not included in year four budget.

<sup>2</sup>If 6 pm of the RTA is insufficient for S.A.U., this \$32,000 will have to be added to year four costs.

<sup>3</sup>Funded by USAID/Sana'a.

**Key Personnel Contacted**

**Ministry of Education**

Abdoraboh Garadah, Deputy Minister  
Ali Abdu al-Kobati, Director General of Teacher Education  
Zaeed al-Shamic, Director General of General Education  
Mohamed Adulla al-Shami, Deputy Vice Minister  
Ali Khumein, Director General of Technical Education

**Ministry of Civil Service and Administrative Reform**

Hussein Alahjeri, Deputy Minister

**Educational Research and Development Center**

Mohamed al-Shahary, Director

**Sana'a University**

Kassim Berihe, P.R.I. local coordinator

**World Bank Project Implementation Unit**

Ali Khamis, Assistant Director for World Bank Projects.

**USAID Mission**

Kenneth H. Sherper, Mission Director  
Karl Schwartz, EHR Officer  
Noman Abdul Latif, Assistant in Education

**Private Consultant**

Andrea Rugh, anthropologist

**DRAFT SCOPE OF WORK FOR  
YEMEN ARAB REPUBLIC RTA**

Ph.D. or equivalent experience in educational planning, comparative education, educational administration, or policy analysis. Arabic language ability would be desirable, but is not a requirement for this position. Familiarity with microcomputer applications to the use of educational data for planning and policy analysis. Computer skills sufficient to train local counterparts in questionnaire and survey design, coding, data entry, database management, and data analysis. Sufficient experience with educational systems to assist USAID/Yemen with monitoring the bilateral primary education project. Should be familiar with the areas of instructional technology, instructional systems, preservice and inservice teacher training, classroom management, and evaluation. Will help coordinate activities in areas of common interest between the Ministry of Education and the Educational Research and Development Center. It is important that this individual be familiar with the conceptual foundations of the IEES Project, and if at all possible be someone who has worked on the project.

This is initially a two-year assignment, with the possibility of extension, and the location will be at Sana'a, the Yemen Arab Republic.