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EDUCATION IN JORDAN

WORKING PAPER NO. 51

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U.S. Agency for International Development

April 1984

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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LIST OF ABBREVIATIONS

GOJ	Government of Jordan
ICA	International Cooperation Administration
IDA	International Development Administration
ILO	International Labor Organization
JVA	Jordan Valley Authority
MOE	Ministry of Education
PL	Public Law
SC	School Construction
TA	Technical Assistance
UAR	United Arab Republic
UN	United Nations
UNESCO	United Nations Education, Scientific, and Cultural Organization
UNRWA	United Nations Relief and Works Agency
VTC	Vocational Training Corporation

FOREWORD

In October 1979, the Administrator of the Agency for International Development (AID) initiated an Agency-wide ex post evaluation system focusing on the impact of AID-funded projects. These impact evaluations are concentrated in particular substantive areas as determined by AID's most senior executives. The evaluations are to be performed largely by Agency personnel and result in a series of studies which, by virtue of their comparability in scope, will ensure cumulative findings of use to the Agency and the larger development community.

This impact report on U.S. bilateral aid for education in Jordan since 1952 is based on a 2-week survey analysis conducted in May 1981 by a team of three officers from AID's Washington headquarters and the social analyst on the AID Mission staff in Jordan. The team was assisted by members of the AID Mission staff and received full cooperation from the Ministry of Education, which provided office space, transport, and access to institutions and people throughout the Kingdom. The study does not cover AID activities and support for programs on the West Bank, over which Jordan lost control in 1967 and which the team did not visit.

Completion of the report has been delayed by administrative circumstances and other commitments of the team members. The report reflects the team observations and data collected in May 1981. No attempt has been made to reflect other analyses and education developments in Jordan subsequent to the team visit.

The report was drafted by Frank Method, one of the evaluation team members, with editorial assistance from Devres, Inc.

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## I. PROJECT SETTING

### A. Brief History of Jordan

#### 1. Socioeconomic and Political Situation

The area now called Jordan was part of the Ottoman Empire until World War I, after which Britain took control. Although the British recognized the Hashemite family as the local government, they remained to advise the Hashemite ruler, Emir Abdullah. After gaining independence in 1946, Jordan was caught up in the continuing crises and conflicts of the Middle East and confronted with the problem of providing for and winning the loyalty of its population. The largely nomadic people did not think of themselves as part of one nation state. The country was almost entirely desert, with few exploitable natural resources and, unlike some of its neighbors, no prospects for oil. In 1948, the Jordanian army gained control of the West Bank, the more settled and more developed part of Palestine. Three years later, Abdullah was assassinated. The army remained loyal to the Hashemite family and Abdullah's grandson, the present King Hussein, gained the throne in 1953 following his father's abdication.

Britain's role declined after 1955, when the army's British chief of staff was replaced by a Jordanian and British assistance was ended. The United States assumed a major role in supporting the government with economic and military aid, beginning with assistance to education in 1952 and expanding in other areas after 1955.

In 1967, Jordan lost effective control of the West Bank, the site of important development projects, many of which had been financed by U.S. aid, and many West Bank people (perhaps 400,000) sought refuge on the East Bank, bringing Jordan's population close to three million.

As the government struggled to deal with the new circumstances, its authority was challenged by commando organizations operating against Israel from within the country. The army finally reestablished the government's authority in 1971. Since then, Jordan has experienced relative tranquility and substantial economic and social progress. The country, which imports most--perhaps 85 percent--of its food and has little of its own manufacturing industry, benefits from the prosperity of the oil-producing states of the Persian Gulf. Increasing

numbers of its people go to work in the Gulf states. An estimated \$1.5 billion in external earnings was reported to Jordan in 1980. There has been, as a result, both substantial investment in housing and consumption goods and an expansion of light industries and commercial services.

## 2. Education System and Objectives

Jordan's educational system, which inherited fewer than a dozen elementary schools from the Turkish empire, had grown to accommodate over 30 percent of the country's population by 1977, with almost 98 percent of children in the 6-11 age group attending.<sup>1</sup> It now includes free and compulsory education for the first nine grades, free secondary education (the next three grades), and free higher education in 70 vocational and technical training institutes.

The substantial growth of Jordan's free education system has required a large investment on the part of the government. Behind such investment has been the widespread and strong popular demand for education. Schooling has been seen not only as a virtue within Islamic tradition, but as a necessity for children of Palestinian families who had lost their land and the status, wealth, identity, and security which land provided. Education is considered the one asset that cannot be "taken away" in an uncertain world where one may be forced to pick up and move at any time. This background may help to explain the pressure which the government is under to provide schooling opportunities, the willingness of Jordanian families to use their resources for overseas schooling and to sustain a growing private education sector in Jordan.

The educational system in Jordan has evolved, in large measure, in response to social demand rather than to the perceived economic needs of the country. Early in Jordan's history, a need was seen for people who could operate the infrastructure of modern industry, commerce, and agriculture at all

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<sup>1</sup>Available statistics are not reliably precise, and often still include the West Bank. Officially, the first 5 years were made compulsory in 1939, though in fact only a small percentage of the children were enrolled. Most of the education expansion has occurred following independence in 1946 (Article 20 of the constitution made primary education free and compulsory for all) and following the sharp increase in demand for social services of all kinds which resulted from the refugee absorption after 1949.

levels. Young people and their families, however, sought education primarily in academic and professional studies and not in studies preparatory to nonprofessional or non-civil service work. They saw inadequate opportunities to use their talents within the country. This perspective was reinforced by Jordan's limited resource base and undeveloped economy. For many years, Jordanians have sought work opportunities outside the country, especially in Saudi Arabia, the Gulf states, and North Africa. Until the 1973 oil boom, new jobs in or outside the country were not sufficient to absorb the increasing output of Jordan's schools.

Given the public demand for expanded school opportunities, there was no way the government could go back on its promise of educational opportunity for all. It could not limit significantly the academic school streams, and as larger numbers of pupils moved through the primary grades, the pressure grew for intermediate (grades 7-9) school spaces. The flow of pupils through these grades led, in turn, to pressures to open up secondary schools. The Government of Jordan (GOJ) has sought to foreclose opportunities for further schooling towards academic degrees by directing students into terminal postsecondary programs and by confining the power to grant baccalaureate degrees to universities.

With their increasing wealth, Jordanians responded by sending larger numbers of their children out of the country for the postsecondary education not possible at home.

The economic boom in the neighboring oil-producing states ended Jordan's concern about a surplus of highly educated young people. Since 1973, there appears to be no unemployment among graduates of the academic secondary schools or among people with industrial, agricultural, or commercial skills. Rather, there is a serious shortage of skilled personnel domestically due to more lucrative opportunities abroad. There are a large number of foreigners in Jordan performing skilled and unskilled work in the cities and countryside. Vocationally oriented training is being greatly emphasized, with planners assuming that the output of trained people must be at least 30 percent over domestic needs to take care of overseas demand. Given the great wage disparities, however, it is doubtful that those workers remaining domestically would include the most talented and motivated Jordanians.

A decline in overseas demand for Jordanian workers could cause the return of many of them. Accompanied by a domestic economic decline, this might frustrate the rapidly rising

expectations of the country's young people. The domestic economy's expansion into diversified and light industries might, however, benefit from and absorb well a return of skilled workers.

Development in the field of education, at any rate, is proceeding as if the foreign demand and domestic activity will continue to grow at the pace it has recently.

## B. U.S. Bilateral Assistance to Jordan

### 1. General Historical Perspectives

U.S. bilateral assistance to Jordan began in 1952, shortly after the West Bank area of Palestine was joined with the East Bank State of Trans-Jordan as the Kingdom of Jordan. Jordan was one of the first countries to receive aid under the Point Four Program. U.S. economic aid has been part of a U.S. effort to help strengthen the country as an independent state and to promote peace and development in the Near East. The effort has also included military and budgetary support, especially after the British presence declined in 1955.

### 2. Education Sector Programs

USAID and its predecessor agencies have been the main bilateral source of assistance to education in Jordan since 1952. This assistance has included the provision of undergraduate and graduate training for many of Jordan's current leaders, the construction of schools throughout the country, advice on education programs and teaching methods, and the promotion of contact between Jordanian educators and counterparts abroad. In addition to its own bilateral program, the United States has provided a substantial part of the UN Relief and Works Agency's (UNRWA) budget, as well as the budgets of other UN agencies (e.g., UNESCO) which have helped the education sector. AID has also encouraged the World Bank to play an increasingly more important role as a supplier of aid for the education sector in Jordan.

Since 1952, AID has funded more than 30 projects directly related to education, including technical advice, support for school building construction, training opportunities in the United States and other countries, and equipment. It has also provided indirect support through other means such as general

participant training, development assistance and training and technical services programs which provided technical assistance and support for all sectors, and local currency funding channeled through institutions such as the Municipal and Village Loan Fund which indirectly provided substantial funding for village school building on a self-help basis.

Appendix C summarizes the principal education projects supported by AID, the years in which the projects were implemented, and the amount of money spent to carry them out. The nominal value of the education projects has been \$25-30 million. Other indirect support for education is conservatively estimated at an additional \$20-25 million, perhaps half of which was provided as local currency. The nominal value of the assistance, however, underestimates the present value of these resources by perhaps 3 or 4 times, given that about half of the total and most of the technical assistance was provided in the 1950s and early 1960s.

## II. DESCRIPTIONS OF AID-SUPPORTED EDUCATION PROJECTS

In the early years, U.S. bilateral aid support for Jordanian education efforts stressed five themes--teacher training, agricultural education, vocational/technical training, preparation of national leadership, and the expansion of education facilities in rural areas. AID also sought to encourage the use of audiovisual techniques, home economics education, radio and television education, and school-community relations. Since the early 1970s, AID's activities in the education sector in Jordan have focused primarily on development administrative training, improving the university faculty, and school construction. The following paragraphs describe U.S. bilateral assistance to five areas of emphasis--teacher training, agricultural education, vocational training, participant training, and school construction.

### A. Teacher Training

#### 1. Program

AID supported a variety of activities during the 1950s and 1960s that promoted teacher training in Jordan. These activities included the provision of teacher training institutions, demonstration elementary schools, an in-service training program, and considerable technical assistance.

Jordan's first teacher training institutes--one on the West Bank and four in the East Bank area--were established in the 1950s with the help of the U.S. bilateral aid program. Two institutes (at Ramallah and Amman) were built and equipped with support from AID. Other institutes received support from AID for plant expansion, dormitory building, equipment, and supplies. The United States also supported the development of in-service training programs, which, in the early years, were needed to upgrade teacher quality as quickly as possible. The major portion of the AID participant training program, for example, was directed toward upgrading staff for the teacher training institutes. Considerable technical assistance was provided, especially with respect to certification of teachers and accreditation of the teacher training program. Other support for teacher training was provided through two rural training centers, the agricultural college at Khadoorie (West Bank), and the Amman trade school.

The first demonstration elementary school was built and equipped with AID support. An advisor was provided between 1959 and 1961 and the demonstration school teachers and administrators received participant training. The school was successful enough to justify construction in 1961 of two additional demonstration schools with AID help. These schools, attached to the teacher training institutes at Amman and Irbid, have become well known for high quality education and the comparative excellence of their facilities.

Perhaps the most lasting impact of AID's support for teacher training, aside from establishment of the institutes, grew out of the emphasis AID advisors placed on in-service training and teacher skills upgrading. AID support included extensive technical assistance, commodities, and funds for the salaries of the substitute teachers who replaced those selected for in-service training. Initially, the in-service programs were necessary because the rapidly expanding system had to depend on recruitment of teachers with little or no professional preparation. As the in-service programs evolved, however, they became integrated with the teacher training institutes and are now a regular activity, with many teachers participating in one or more in-service training workshops each year.

## 2. Results

The results of these efforts are generally positive. The four East Bank teacher training institute schools now provide the core of Jordan's teacher training capacity, as well as the

base for the evolving public community college system. They are the main source for recruitment of teachers in grades 1-9. A 1-year training program is required of graduates of other postsecondary institutes, such as polytechnic graduates, who wish to teach these grades. Secondary school teachers (grades 10-12) are generally required to have university degrees. Together with other institutions in Jordan, these institutes are capable of producing 3,000 new teachers per year. However, while these efforts have resulted in the provision of better and much expanded training for Jordanian teachers, the accreditation efforts which were to be part of a planned upgrading of the 2-year teacher colleges to 4-year degree status were not so successful.

As for the demonstration schools, while they were intended to provide practice teaching opportunities in "model" schools, it has become clear over time that the schools did not provide good models of the less-than-ideal conditions teachers actually encountered in the real world--namely, overcrowded and ill-equipped classrooms. Thus, additional demonstration schools have not been built, and most teacher trainees are sent to local schools for this part of their program.

While the demonstration schools were not successful as realistic practice teaching laboratories, they appear to have been useful as demonstrations of school models for the future. Also, they were very popular with parents. One Jordanian educator suggested that as a result of overuse, deemphasis of the demonstration role (leading to deemphasis of refurbishment and reequipment) and with the improved quality of facilities and materials in other schools, these demonstration schools may be more realistic models for practice teaching today than when they were established in the 1960s.

The in-service teacher training effort has been described as "one of the most significant and successful efforts in which the U.S. has been involved." Many faculty members and administrators of the teacher training institutes and Ministry of Education (MOE) officials responsible for teacher training have personally benefited from AID-sponsored study and visits abroad. Perhaps more important, the series of education conferences and in-service training programs appear to have had a powerful impact on the professional status of teachers, reducing their sense of isolation and bringing them into fuller participation with the MOE in the shaping of curriculum and education policy.

Finally, in the early years of the program, there was tension between the AID advisors and the GOJ over two issues: (1) whether the GOJ should focus on quantity or quality (AID's preference) in teacher training institutions and (2) whether plans should be made to expand the two teacher training institutes into 4-year degree-granting schools or reserve degree-granting authority for the planned new university (which the government favored and about which the AID advisors were unenthusiastic). The AID advisors lost on both counts, but their promotion of quality appears to have left its marks, and the day may not be far off when the growing pressure of secondary school graduates makes it necessary to allow postsecondary institutions other than universities to confer degrees or at least to allow their students to get credit toward university degrees.

## B. Agricultural Education

### 1. Program

From the beginning of the Point Four program in Jordan in 1952, the United States emphasized agricultural education, hoping to divert rural students from the traditional academic curriculum to one that would provide them with basic skills in the agriculture sector. School gardens, poultry units, rabbit hutches, and farm workshops were established as part of the regular curriculum at 11 village primary and preparatory schools (grades 1-9).

During the 1950s and early 1960s, the United States provided substantial support for agricultural education at the secondary level. AID promoted the development of agricultural secondary schools at Khadoorie (West Bank), which provided training for many officials now in the agricultural extension service and in agricultural education, and constructed and equipped the agricultural school at Shobak. The World Bank is helping to transform the latter into a community college with less emphasis on agriculture. An additional agricultural secondary school has been built and another is expected to be opened soon in the Jordan Valley.

At the University level, AID provided participant training and research opportunities for the Faculty of Agriculture at the University of Jordan, to develop their capacity to plan and implement research, education, and extension programs that will contribute to the long-range development of Jordan's agricultural sector. AID also provided technical assistance and commodity support.

## 2. Results

Over the last 30 years, U.S. enthusiasm for agricultural education, especially at the precollegiate level, has not always been shared by the Jordanians despite the fact that Jordan imports over 85 percent of its food. As a result, some of the programs initiated by AID have been dropped or deemphasized because of a lack of interest on the part of the Jordanians. Additionally there have been numerous bureaucratic disputes between ministries as to where responsibility lies for agricultural education--in Agriculture or Education.

The agricultural school at Shobak, for example, illustrates some of the problems of promoting education. The Jordanian students who attend are frequently there because they were unable to obtain places in general academic schools. Few of them come from the immediate vicinity, are members of landholding families, or have any expectation of ever farming their own land. They are not motivated to seek careers in agriculture in Jordan, and the training they get generally does not fit the demand for skills in the agricultural sector. Also, the school is in an isolated area, requiring boarding facilities for most students, which this makes it inaccessible to women. There has been little progress or initiative to provide agriculture-related training for females. Postsecondary training is a goal of most of the students, although the program was intended as a terminal one. A small number of graduates with the highest grades get into the agriculture school at the University of Jordan, but they perform poorly because of weak academic backgrounds. Some go to universities in other countries, including Pakistan.

The demand for agricultural engineers overseas, where the pay may be six times or more that of agricultural secondary school teacher salaries, makes it difficult to keep Shobak or other agricultural schools staffed with experienced and motivated faculty members. Hence, many perceive the major value in agricultural education to be the payoffs it may provide through remittances from skilled Jordanian agricultural technicians working abroad. For this purpose attention is given to university training at home and abroad, rather than to programs aimed at encouraging lesser skilled Jordanians to do farm work at home. There are signs, however, that attitudes may be changing. Recently, the idea of prevocational programs, including agricultural ones, at the primary and preparatory levels has been reintroduced by the GOJ as a "new idea," this time without AID involvement.

A problem for both the agricultural training and the vocational training is that most programs have been offered either as terminal training in specialized schools or as a supplementary practicum added to the academic curricula of the preparatory and secondary schools. Hence, because both demand and the examination bias were on the academic emphasis, the practical subjects have tended to be subordinated and to atrophy. The current Jordanian plans appear to be the integration of practical content in a more comprehensive academic curriculum.

AID's effort to expand and strengthen the faculty of agriculture at the University of Jordan has been more successful. The faculty as well as the enrollment has grown. Most full-time members have Ph.D.'s, and many more are in training. Practical research projects are underway and several buildings have been completed. The major lesson learned from the project has been the necessity for providing a better balance between institution-building and practical involvement in development problems.

### C. Vocational Training

#### 1. Program

Since 1952, AID has encouraged vocational and technical training as part of Jordan's educational system in an effort to increase the number of skilled laborers in Jordan. From 1952 to 1965, AID supported the construction and equipment of two trade schools--the Amman Technical Institute and the Nablus (West Bank) Trade School, which operates at the secondary level. AID also equipped 32 preparatory schools and provided commodities as well as technical assistance for these schools. AID developed, printed, and distributed 2,000 copies of a "Hand Tools Dictionary" for use in vocational schools. The United States also encouraged and provided aid for handicraft and industrial arts classes in the intermediate grades (7-9). This type of vocational training was available only to boys. More than 5,000 participated in this AID-supported program.

Few vocational or technical training programs have been available for girls. AID provided commodities and technical assistance for the home economics program and assisted with the establishment of seven home-living centers. The program, which has been taken over completely by the Ministry of Education, is an important component of female education in Jordan.

In the mid-1960s, the United States dropped its vocational education emphasis after a joint GOJ, UNRWA, and AID committee advised that the country's manpower needs could be met from existing vocational training institutions. However, with the growth of high-wage, overseas employment opportunities in neighboring oil-rich countries, paralleled by a scarcity of locally available skilled workers to serve the rapidly expanding national economy, Jordanian and external donor interest in vocational training has revived. The World Bank has become the principal advisor and donor to vocational training programs. Since 1973, with World Bank aid, the government has moved forward with the establishment of polytechnical institutions at the postsecondary level. The GOJ recognized that the traditional vocational education programs and institutions operated by the Ministry of Education as part of the school system were inadequate to fill the practical needs of Jordanian industry and were not able to do a satisfactory job of linking trainees to jobs. Though AID has not provided significant assistance to vocational training in the 1970s, many of the new initiatives reflected the planning and training of Jordanian technical educators during the earlier period of AID technical assistance.

In 1979, at the government's request, AID started to support a new government-sponsored institution, the Vocational Training Corporation (VTC), which runs apprenticeship and skills-improvement programs in collaboration with industry. AID provided construction funds, technical assistance, commodities, and participant training for the VTC that identifies training needs and develops appropriate curricula as well as on-the-job training. Special emphasis is put by AID on the integration of women into the program, though it is not clear that the VTC will be successful in doing this. The Vocational Training Corporation is a semi-autonomous corporation, linked to the Ministries of Education and Labor but not part of either. An important feature of the VTC is a strong advisory role for employers. The training programs are developed in response to specific employer requests; employers provide work experience and apprenticeship during training, in most cases providing partial wages and contributing to training costs. In some case, employers are expected to provide experienced technicians and master craftsmen for the training staff.

"White collar" vocational education, such as a clerical training program supported by the United States in the 1950s, has become popular and has provided a basis for a rapidly growing private education sector in the form of postsecondary community colleges which provide technical--including secretarial, computer, and engineering--courses as well as academic offerings. As of May 1981 there were approximately 20 of these

institutions, in addition to 10 public sector community colleges, which are growing out of teacher training institutions. While most of the assistance for the expansion and diversification of these colleges has been provided by the World Bank over the last decade, much of the inspiration for them is said to have come from observations made by Jordanians after visits--some of which were funded by AID--to community colleges in the United States. Leadership for the private institutions comes, in notable instances, from former government officials, including former education ministers, who have taken part in AID-sponsored training programs and who have in the past worked closely with AID technical assistance experts.

## 2. Results

Aside from counting specific buildings and numbers of students, it is difficult to pinpoint the real impact of the vocational training efforts supported by AID. Few observers or Jordanian officials would disagree with the judgment that Jordan still does not have as good a vocational training program as it needs. The trade schools have provided some good training opportunities for a number of Jordanians. Likewise, the home economics centers, despite their bias in favor of the homemaker stereotype of female vocational choices, did have the effect of beginning to inject a practical vocational emphasis into the girls' secondary schools. The girls' secondary schools today, for example, have more workspace allocated for vocational activities than do the boys' schools. In several instances, the principals of these schools are, on their own initiative, stretching the home economics curricula to include woodworking, home electricity, and other practical skills. There is still substantial potential for expanding vocational options for girls.

General shortages of technical training staff appear to exist, and the trade schools have serious problems of outdated equipment and facilities. The most effective training appears to be technician training at the 2-year colleges. There is inadequate support for out-of-school training at lower levels, despite recognized skills shortages and growing small-business and informal-sector economic activity. This is a gap which it is hoped the VTC will begin to fill.

The VTC, which has substantial promise, is still relatively new and cannot be evaluated at this stage. While a number of youths have benefited from the training, most of the apprentices participating in the program are from lower income families and from the lower 25 percent of intermediate school

graduates. There is low public esteem for vocational training, and the VTC must overcome the notion that students and trainees in vocational programs are from the "bottom of the barrel." The VTC also faces a serious shortage of instructors. Although still a stepchild in terms of the country's needs and the placement of young people in jobs, this new program has support and it has more promise than any other approach currently being attempted for providing vocational skills training.

#### D. Participant Training

##### 1. Program

During its early years, there was an acute shortage of college-trained people to guide and manage the development of Jordan and to teach its people. The United States helped to meet this need by sending qualified young people to the American University of Beirut for undergraduate training. This program continued into the 1970s, when 45 U.S.-funded Jordanians were transferred from Beirut to the United States because of the disturbances in Lebanon.

In the early 1960s, AID began to place major emphasis on graduate level advanced training to meet the need for specialists--both governmental and nongovernmental--in the most critical areas of Jordan's development effort and to provide professional training for Jordanians to replace American technicians. AID provided the GOJ with grants and technical services to train the planners, analysts, and managers needed to determine policy and implement development projects. Training was conducted in the UAR and the United States. Beneficiaries included government personnel in the Central Bank, Departments of Statistics and Tourism, and MOE teachers. Later, special attention was given to support for graduate training for instructors at the University of Jordan where the American effort focused on the public administration, business administration, and plant production and protection departments. Help has also been given to the newer Yarmuk University, from which 100 students were in the United States in 1979 pursuing higher degrees in science.

The current participant training activity deals primarily with short-term training and visits in the United States and other countries for Jordanians who work in areas considered essential to the country's economic and social development. Three priority areas of training are manpower development, project planning and management, and project maintenance. The program does not include degree studies.

## 2. Results

The participant training program supported by AID has provided a pool of talent which has proved indispensable to Jordan's development. Many of the former participants now occupy important positions throughout the public and private sectors, although many are also working outside Jordan. In Jordanian eyes, however, the fact that trained people are using their talents abroad is not seen as a loss but as a national benefit because they contribute to the country's foreign earnings.

The impact of the undergraduate and graduate degree programs sponsored by the U.S. Government is particularly noticeable in the Ministry of Education, where senior-level people benefited and where the training, experience, and continuing professional contacts have had a lasting effect. Participants in these programs also occupy key positions in the Department of Agriculture and elsewhere throughout the government.

### E. School Construction

#### 1. Program

The availability of adequate school buildings has been a serious problem in Jordan for several decades because of the rapid expansion of educational demand and the massive population increases resulting from refugee flows as well as a high natural rate of population growth. In addition to the need to expand education in rural areas, the refugee influx and internal migration have led to very rapid urban growth. The astronomical cost of urban land has made it very difficult to provide new schools in the older urban areas such as central Ammon. Land costs are reported to be half or more of the costs of school construction in these areas. About 55 percent of the school buildings are rented, although very few of these buildings, which were designed for other uses, are adequate in terms of light, sanitation, space, or specialized instruction areas. Most are overcrowded and use two shifts. In response to these needs, AID began supporting school construction programs as early as 1968 with a needs survey assessment. Technical assistance efforts led to the establishment of a school building program in the form of grants and loans for buildings and facilities.

AID's School Construction I project undertaken in 1976 supplied funding for the construction of 18 new elementary schools in rural and urban areas where excessive overcrowding or rental facilities problems were most severe. These schools contained 414 classrooms and were capable of serving about 13,000 pupils. The School Construction II Project in 1980 provided an additional 351 classrooms for over 11,000 pupils in grades 1-9, in nine cities, towns, and villages on the escarpment highlands where 70 percent of the people live. In addition, the Village Development I Project, initiated in 1976 in the Jordan Valley, resulted in the construction of 25 new schools containing 384 classrooms. Under Phases II and III of the Village Development Project about 45 additional schools (289 classrooms) are being constructed.

## 2. Results

The school construction programs supported by AID have encountered the usual types of problems that can be expected. These include delays and coordination difficulties, vandalism, poor workmanship, and a shortage of skilled workmen, resulting in much of the construction being done by foreign firms which supply the labor from abroad. Also, actual needs have overtaken construction plans, so that new schools designed for one shift have had to stand the wear and tear of two and even three shifts. Often, new schools designed for one level (preparatory, for example) have had to accommodate other grades as well, and so on.

Despite these problems, however, these newly constructed schools are an important component of the improving education picture in Jordan. Evidence indicates that new schools experience higher enrollment rates (especially of girls), 50 to 75 percent fewer dropouts, 75 to 85 percent fewer repeaters, and about 10 percent fewer examination failures. Costs per student in newly built schools are considerably lower than those in the older rented schools. New schools also facilitate teacher recruitment efforts, especially of scarce science and mathematics teachers. Prospective teachers indicated that they were very willing to be assigned to new schools, even those in relatively remote areas. Instructional quality benefits from greater flexibility in the use of classroom space and assignment of teachers, reduced crowding, and addition of special purpose areas such as laboratories.

Other indirect benefits accruing from AID's school construction programs include a stimulus to other donor agencies, such as the World Bank, in the area of school construction and

promotion. In the Ministry of Education, there appears to be a high degree of professional competence in programming and managing school construction programs. Many believe that AID technical assistance and training and experience with AID-supported capital assistance projects have contributed to this capacity.

Finally, the two evaluations of the impact of the Village Development Programs, by USAID/JVA/MOE and by A. D. Little, concluded that the construction of school facilities has been among the most critical inputs to the entire development effort in the Jordan Valley. While other elements are also critical (especially electricity and water), the evaluations suggest that until the schools were established and operational the people did not fully believe the GOJ and JVA were serious about developing communities in the Valley.

Further discussion of school construction programs in Jordan can be found in Appendix B.

### III. GENERAL CONCLUSIONS ABOUT PROJECT IMPACTS

The specific results of U.S. support to Jordan's education system are hard to trace beyond those detailed in the above paragraphs. It is clear, however, that U.S. assistance has encouraged and helped provide a basis for a widespread, relatively equitable and efficient education system. The education sector has had, and continues to have, an important role to play in promoting a sense of nationality and in laying a basis for economic development.

As noted above, U.S. bilateral assistance helped numerous key administrators and educators at all levels to prepare for their jobs and to upgrade their skills in the early days of the country when this kind of support was not available from other sources. U.S. technical advisors, who worked closely with Ministry of Education officials in the 1950s and early 1960s, helped to launch Jordan's successful teacher training programs, vocational education schools, and agricultural schools. Some ideas, including teacher conferences, parent participation, and practical training in the lower grades, which did not appear to "take" when they were first offered, now are being revived. Finally, the school survey, design, construction, and equipping efforts supported by AID were essential to bringing modern education to the people, especially in rural areas, and also laid a basis for financial support from other donors, especially the World Bank. With the help of this program, over

1,500 classrooms have been constructed in diverse locations around Jordan, accommodating tens of thousands of students at the elementary and secondary level. Additionally, these facilities are used for a large number of adult education programs and have become in some places a center for community activity.

Beyond these quantifiable results, however, loom the large questions of the impact of an improved education system on Jordan's economy and society. The statistics are not good enough to draw conclusions about the precise distribution through Jordanian society of the benefits of U.S. efforts or of Jordan's development in general. However, the AID/Jordan Mission's social analyst, who is a long-time observer of the Jordan scene, believes that the spread of education, in which the United States has played an important role, has contributed significantly to the rise and wide distribution of wealth. With a universal education system to which equal access is provided by legal mandate and actual practice, a population that insists on educating its children, an economy which enjoys full employment, and a strong external demand for skilled manpower, any other conclusion, in his view, is inconceivable.

The expansion of educational opportunities appears to have had a significant impact on the progress of women in Jordan. A striking aspect of the picture of rapidly expanding enrollments throughout Jordan is the marked increase in school attendance by girls and women during the past three decades. In 1979-1980, according to GOJ figures, 94.7 percent of girls 6 to 14 years old were enrolled, compared with 98.7 percent for boys. For secondary school ages, the corresponding figures are 52 percent for females and 68 percent for males. In the post-secondary age group, 13 percent of women, as compared with 16 percent of men, are enrolled. Forty percent of the students enrolled in Jordan's two universities are women. In the public community colleges, 63 percent of the students are women. Practically all elementary school teachers are women. Appendix B provides additional information on female education.

The expansion of education has also made it possible for more than one-third of the labor force to take advantage of opportunities for relatively skilled jobs abroad, from which earnings are remitted to families at home. It should be noted in this connection that agricultural and menial work in Jordan is now being done by unskilled or low skilled foreign workers, who were not considered in our analysis.

Finally, recent AID efforts have been concentrated on the Jordan Valley, and they include support for school

construction. The AID Mission's social analysis work in that area indicates that these efforts have made a substantial contribution to the quality of life and have helped to reduce out-migration. Also, female enrollments have increased about twice as fast as male enrollments in recent years; the schools have had a positive impact on the morale of the pupils, teachers, and the communities in general; and illiteracy rates for both males and females have dropped significantly in the Valley.

#### IV. LESSONS LEARNED AND POLICY IMPLICATIONS

##### A. Lessons Learned

1. Evaluations of education programs generally need to be conducted after some considerable time has elapsed so that their real impact can be accurately assessed.

Some projects in Jordan which initially appeared to have had only a modest impact (or to have been unsuccessful) appear from a longer perspective to have been the seed of a substantial success. For example, USAID assistance in the late 1950s for a media center (a modest building, some equipment, two participant trainees) was not considered very successful at the time and USAID provided it no further assistance after about 1965. Today, the MOE audiovisual center appears to be one of the strongest such centers in the region and, in the opinion of the team member who visited it, one of the best seen in any developing country.

The effort from about 1957 through 1967 to encourage in-service training and upgrading for teachers was slow to take hold but is today prominent in all the teacher college programs. The home economics assistance during 1956-1963 was very modest, yet it provided a start toward the home economics courses now included in all preparatory and secondary schools as part of the required curriculum. On the other hand, an effort that was initially considered to be successful was the assistance to industrial secondary schools, one of the first programs assisted. Almost 30 years later, Jordan still does not have an adequate system of training in industrial skills, and the Amman Industrial Secondary School remains as one of the few available programs, with apparent declines in instructional quality.

2. Time is a great arbiter of differences between AID and host country education strategies.

There were periods of intense disappointment on the part of AID technical advisors in the 1950s and early 1960s, before the permanent AID educational team was withdrawn. They failed to persuade the Jordanians to carry forward some of the ideas they considered important. There was friction between AID's technical advisers and Ministry of Education personnel. On the Jordanian side, there was disagreement over how influential the U.S. education advisory team in the Ministry had become. On the AID side, there was a high degree of frustration with the disorganization and political discontinuity in the government. Upon reflection it appears that the Jordanians were right on some issues (for example, the emphasis on quantitative expansion of academic education and the creation of the University of Jordan), and the Americans were right on others (such as the emphasis on teacher training and in-service education conferences). Moreover, some of the ideas which appeared to be rejected, abandoned, or forgotten at an earlier stage are now being reintroduced. At bottom, it is important for the outside advisers to be sensitive to the socioeconomic and political context when they promote new ideas in education.

3. Two-year "community" colleges may be an innovative option for postsecondary education and training programs in developing countries needing to provide technical, job-oriented programs for expanding populations of young people.

In Jordan, an indirect result of the initial establishment of 2-year teacher colleges is that as the teacher shortages have eased, the colleges have evolved into 2-year community colleges providing training in additional fields. The community colleges (including a number of new, privately funded ones) are likely to become a major source of Jordan's technician-level training in the future. As noted earlier, the "community" colleges are already involved in "white" and "blue" collar training programs, and demand seems to be increasing. Over the last decade, most of the assistance for the expansion and diversification of these colleges has been provided by the World Bank. However, the base for the 2-year system was established with AID assistance in the 1950s and 1960s and through several small travel/study awards which enabled key Jordanian educators to examine the U.S. community college system.

4. The achievement of general education for all, or nearly all, citizens in a developing country with a high-school-age population and little preexisting infrastructure is possible in a relatively short period of time, even in the context of a weak economy and severe social and political problems.

Three decades of experience in Jordan illustrate what can happen when substantial amounts of external assistance are made available for the education sector in combination with determined government policies to make educational opportunities available and accessible to all. Jordan's initial and persistent commitment to a 9-year compulsory schooling policy that broadened the impact of education programs rather than targeting them on an elite few has had the impact of improving literacy rates and economic opportunities for the population as a whole.

5. Issues of national pride and political realities impinge on the education decisionmaking process and must be given serious attention by external donors in planning and implementing educational programs.

The development and expansion of the educational system in Jordan had, and continues to have, political importance for the government and the people. It cannot be judged solely in terms of educational accomplishment or economic return, even if the available data were adequate for sophisticated analysis. Attempts to do so would have led to frustration and could have defeated objectives which are shared by the Jordanian government and aid donors. Moreover, for some small countries such as Jordan, economic development needs and opportunities cannot usefully be measured and education systems cannot be planned solely or primarily in terms of the country's nationals and the situation within its borders. Jordan's economy and perhaps even its political future depend on (1) continuing prosperity abroad, the freedom of its youth to work outside the country, and their willingness to send money home; and (2) the availability of foreign workers willing to perform jobs that are unacceptable to local workers or that would otherwise go unfilled.

## B. Policy Implications

This evaluation of the impact of U.S. assistance to education in Jordan and the "lessons learned" from it as described above suggest the following implications for AID policy regarding education sector programs (additional observations are reported in Appendix B):

1. The economic impact of education investments depends on long-term economic events; short-term assumptions and current labor market conditions or financial and administrative constraints may give misleading signals. The education level may be a determining variable for long-term possibilities.
2. Expansion of primary schooling is necessary for long-term change in adult literacy rates.
3. The enrollment capacity (including proximity) of preparatory and secondary schools may be the key to enrollment and participation rates at lower levels, particularly for females.
4. In countries such as Jordan with substantial refugee populations, the expansion of educational opportunities may be a strategic necessity for social integration and stabilization and may be a political imperative, responding to strong social demand.
5. The establishment of schooling opportunities which are comparable to those in the already developed areas of a country may be an essential component of strategies aimed at resettlement or development in new areas such as the Jordan Valley. The lack of schooling opportunities or the uneven distribution of schooling may be a significant factor in internal migration (contrasting with the assumption in much of the development literature that schooling in excess of rural employment capacity may be a "push" factor in encouraging out-migration).
6. Where the economic and political future is relatively uncertain (as it was in Jordan for much of the 1950s and 1960s) it may be advisable to concentrate assistance to education on the basics of education infrastructure (schools, teachers, instructional materials, administrative capacities) and on the core academic curricula (leaving specialized programs and curriculum additions to a later date).
7. Technical assistance concentrated on developing local technical, administrative, and analytical/planning capacities may have lasting policy impact. The direct provision of external advisors may have less lasting impact than the training of local experts.
8. Substantial amounts of capital assistance may be required to obtain the full value of technical assistance.
9. The political commitment of the local government to equitable, quantitative expansion (that is, to meeting social demand as equitably as possible) may be an essential precondition for education reform.

## APPENDIX A

### HISTORY OF THE EDUCATIONAL SYSTEM IN JORDAN

#### I. THE EARLY YEARS: 1921-1946

In 1921, the State of Trans-Jordan inherited from Ottoman rule a traditional and very limited education system, consisting of a number of primary schools offering 3 years of religious and social instruction, basic penmanship, and arithmetic; four 6-year elementary schools covering the same subject areas as well as history, geography, basic science, and geometry; and several Islamic "Kuttabs" and Christian missionary schools. The entire system enrolled a few hundred boys and essentially no girls.

Between 1921 and independence in 1946, education in Trans-Jordan expanded slowly but steadily. In 1946, there were 70 schools, including one secondary school, with a total enrollment of 9,874 students, 80 percent of whom were boys. The first five grades had been made free and compulsory for all in 1939, although in fact the majority of children were not enrolled. Though educational opportunities were still very limited, the accomplishments of the previous 25 years appear greater when seen in the context of Jordan in 1946: a country of fewer than 400,000 people, one-sixth of whom were desert Bedouin and nomadic pastoralists; an economy based almost entirely on smallholder agriculture; and a conservative society with diverse identities and loyalties seeking to create a modern national identity while preserving its cultural and religious heritage.

#### II. DECADE OF EXPANSION: 1949-1959

Following the 1949 war in Israel, the West Bank area of Palestine was joined with the East Bank area of Trans-Jordan, and the flow of refugees from the occupied areas increased the population of Jordan threefold (by about 800,000 people).

While the Palestinians had long enjoyed high standards of education and better educational facilities, and many brought needed skills, the massive relocation of people resulted in rapid and unplanned growth of the urban areas and in a rapid increase in the demand for social services of all kinds, particularly education.

The government sought to provide for the country's educational needs as quickly as possible under a unified and

expanded system for the whole kingdom (both East and West Banks), run by a centralized Ministry of Education. Growing up beside this system was a parallel establishment, funded and managed by the United Nations Relief and Works Agency (UNRWA) to serve refugee populations.

With the influx of refugees and the addition of schools on the West Bank, the enrollment in Jordan jumped to 123,219 in 1950, including 30,411 in private schools and 17,469 in schools organized by UNRWA. There were no institutions of higher education, no teacher training institutes, only a few small trade training schools, and very limited educational opportunity for girls beyond the primary grades. The Ministry of Education had little administrative and planning capacity, few trained or experienced education specialists, too few qualified teachers, and too few schools at all levels. Jordan's economy was clearly inadequate for the burdens placed upon it, and it was obvious to all that external resources were required to support the existing system, to meet the growing demand for social services of all kinds, and to provide for expansion and upgrading at all levels--particularly for higher level vocational, technical, and teacher training. Expansion and modernization of the economy in all sectors appeared to depend critically on the increased availability of educated and skilled people.

Although the next decade was a very difficult period for Jordan, with political and economic problems compounding its burden of meeting its social objectives, it gave a high priority to the expansion of education at the elementary and secondary levels and to training the high-level human resources it needed to develop its economy and administer its public services. Its main sources of external assistance were the U.S. ICA and PL 480 programs and the UNRWA programs, with smaller but significant assistance from some European countries and from private organizations and religious groups (particularly on the West Bank). The assistance from the U.S. programs was concentrated on developing industrial and agricultural vocational training and on establishing teacher institutions.

By 1956, Jordan, with U.S. assistance, had established two teacher training colleges (one for women), four industrial trade schools, and two agricultural schools. Enrollment in elementary and secondary schools had more than doubled since 1950. By 1960, over three-quarters of the 6-11 year olds were enrolled in elementary schools. Adult literacy was estimated at 32 percent in 1961.

This expansion was largely a response to urgent and obvious needs. There was little planning, and the Ministry of Education was not yet well established nor able to coordinate its training systems. There were a number of imbalances and gaps in the training capacities.

### III. PLANNED GROWTH: 1960-PRESENT

In 1959 and 1960, the Ministry of Education developed its first systematic development plan. This 6-year plan aimed at expanding elementary education, expanding and adding vocational training to preparatory education programs, diversifying secondary education, increasing teacher training to 4 years, and expanding a 4-year teaching degree program. These recommendations formed the basis for AID's assistance in the period 1959-1965, which concentrated on teacher training, expansion of facilities, and counterpart participant training for key educators. AID (and its predecessor, ICA) began to phase out its capital and community assistance for the agricultural and industrial schools and the teacher training colleges, and to concentrate more on technical assistance objectives, including an Education Division of U.S. advisors attached directly to the Ministry.

In 1962, the University of Jordan was established, requiring the revision of Ministry of Education plans for postsecondary training. In 1964, the education plans were again revised and the education system was restructured by Law 16 of 1964, which, with administrative revisions and adjustments in quantitative targets, continues to govern education in Jordan. Law 16 reaffirmed the objective of providing free and universal schooling for the compulsory cycle (grades 1-9) as early as possible (setting 1970 as the target), and further diversified the vocational streams at the secondary level.

By 1966, it appeared that Jordan would meet or exceed the quantitative targets set for compulsory education by 1970, though its plans for vocational training, for raising the standards of its higher education institutions, and for upgrading the quality of its school buildings and the qualifications of its teachers continued to lag. The Ministry was functioning with increasing competence and confidence and, despite the heavy financial burden, compulsory schooling was becoming a reality for most children. The main problems perceived were in school buildings at all levels, teacher qualifications, training capacities for skilled workers and technicians, and the beginning of a loss of training workers and teachers to other countries in the region. Total enrollment in 1966 (including the West Bank) was 439,898 in 2,025 elementary, preparatory, and secondary schools. Approximately three-quarters of the 6-14 year olds were enrolled in (the compulsory) grades 1-9. About one-third of this enrollment was female. At this time, USAID began to phase out its technical assistance program for education, except for ongoing participant training and a planning study for school building programs.

In 1967, Jordan was again forced to cope with a massive number of refugees, some 48,000 of whom were accommodated in East Bank schools. Jordan lost its access to training facilities on the West Bank, although it continued to pay teacher salaries and to have responsibility for examinations there. These facilities included the leading teacher training institute for women; one of its three well-established trade training schools; its only postsecondary agriculture school; and the main commercial secondary school for girls, which also trained teachers. All of these had been USAID-assisted. In addition, important parts of the UNRWA capacity were lost, notably the two teacher training institutes for men and women.

Despite the enormous budgetary, political, and administrative problems, Jordan continued to invest heavily in educational expansion at all levels. Since 1973, further strains have been put on the education budget and facilities by yet another flow of refugees, by continuing tensions in the region, and by the drain of skilled workers, including teachers, to other countries. Jordan's education system, however, has continued to expand, reaching a total enrollment of about 730,000 in 1980.

Today Jordan has one of the highest education levels in the developing world--with nearly a third of its total population in school; almost all of the 6-11 year olds enrolled, nearly half of whom are girls; and over 70 percent adult literacy. AID assistance since 1973 has been mainly in school buildings and a small amount of participant training and technical assistance.

#### IV. PRESENT-DAY ORGANIZATION

##### A. Administration

The Ministry of Education is responsible for all major decisions regarding education. It is also responsible for the examinations at the end of secondary schooling, providing educational programs via the mass media, and preparing text books. Through the Civil Service Commission, the Ministry recruits all public school teachers.

A Board of Education was established in 1969, comprised of 16 members, including 6 from the Ministry of Education. Its most important responsibilities are curricula and textbook development and approval. The Board also advises concerning budgeting for education and implementation of educational policy.

## B. Structure

Jordanian children normally begin their elementary education when they are 6 years old. The 6-year elementary cycle is followed by a 3-year preparatory cycle, completing the 9 years of compulsory education. Teaching is in Arabic, with English taught as a second language beginning in the fifth grade. Figure 1 provides an overview of the structure of the education system in Jordan.

Secondary schools, comprising grades 10 to 12, are of three main types: general, preparing students for higher education; vocational, training students in various specialized labor skills; and comprehensive, a recent (1975) innovation attempting to combine the merits of both academic and vocational training.

Postsecondary education is offered at teacher training institutes, commercial institutes, engineering technical institutes, and medical and nursing institutes. Another recent innovation, the "community college," offers teacher training and other specialties such as computer training. There are now about 30 community colleges, 10 in the public sector (most of them growing out of teacher training institutes) and 20 private ones.

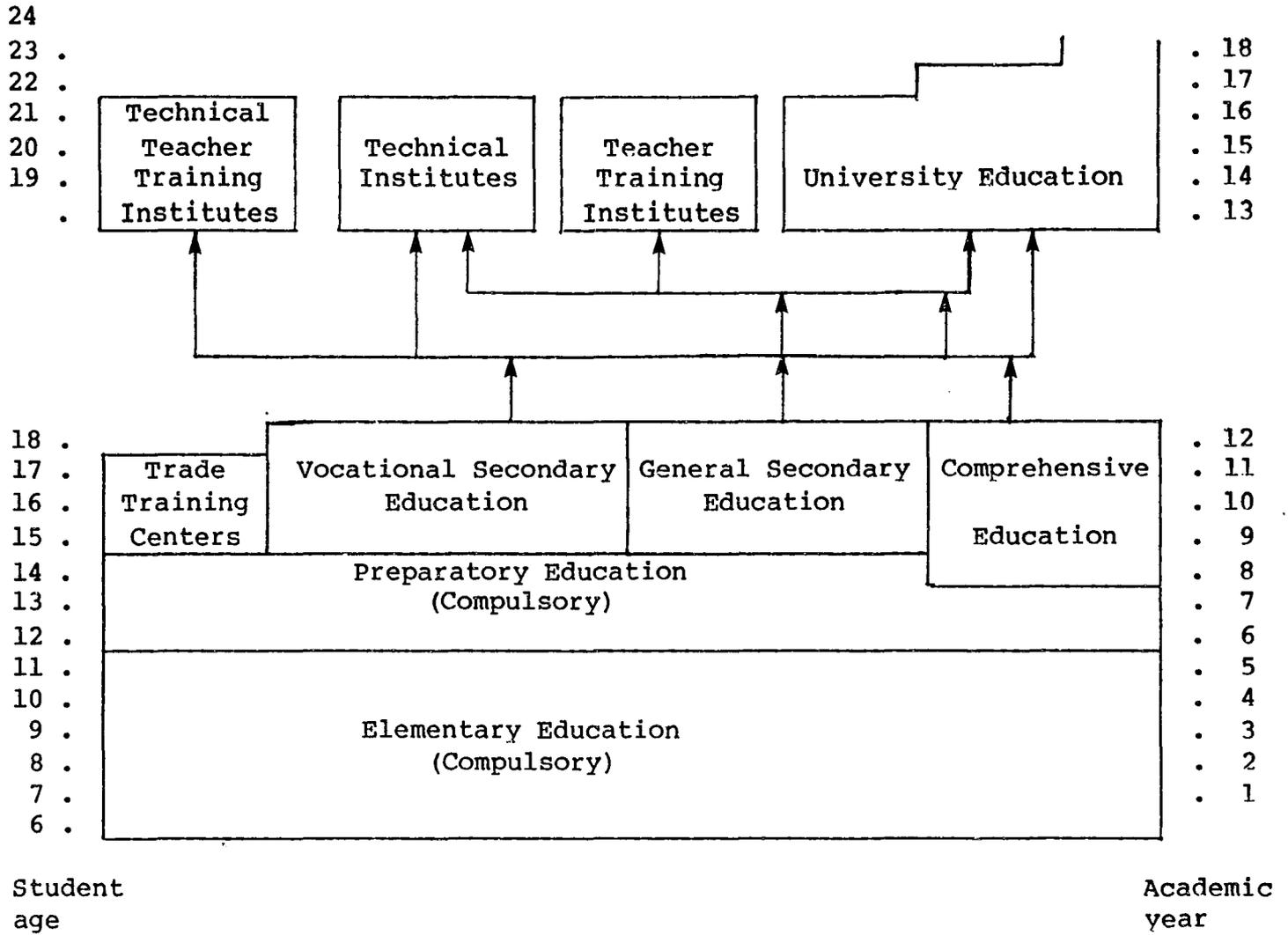
Public sector schools are free, or almost so, but on the postsecondary level their students are generally required to pay or to agree to work for the government for a period of time after graduation.

University education at the two universities on the East Bank reaches less than 20 percent of Jordanian students studying at the university level. The remaining 40,000 students study abroad.

## V. STATISTICAL DATA

While precise statistics are difficult to compile on all aspects of education in Jordan, the following tables provide a statistical overview of the present-day situation and reveal some interesting patterns, such as enrollment growth over the years, or distribution by sex of students and teachers in the various cycles.

Figure A-1. Educational System in Jordan



Source: Ministry of Information of Jordan, Education in Jordan, 1978.

Table A-1. Education Net Enrollment Ratios by Cycle,  
Age, and Sex, 1978/1979

Cycle and Age	Males		Females		Total	
	No.	%	No.	%	No.	%
Elementary, Grades 1-6 Ages 6-11	212,523	92.7	186,733	88.9	399,256	90.9
Preparatory, Grades 7-9 Ages 12-14	82,721	85.3	70,005	78.2	152,726	81.9
Subtotal, Compulsory Grades 1-9, Ages 6-14	295,244	90.5	265,738	85.7	551,982	88.2
Secondary, Grades 10-12 Ages 15-17	52,152	64.7	39,822	51.0	91,974	57.9
Higher Education Ages 18-22+	17,555	17.2	11,199	10.8	28,754	14.0

Source: Ministry of Education. The Statistical Educational Yearbook,  
1978/1979.

Table A-2. Education at a Glance

Literacy rate: 70 percent

Student population: 30 percent of total population

Education budget in 1979: \$118 million, or 7 percent of national budget

Free compulsory education: to age 16

Free education: through secondary level and at technical and vocational training institutes

Number of schools: 2,584

Number of students: 698,205

Number of teachers: 25,855

Student/teacher ratio: 27

Technical and vocational training institutes: 70

Universities: 2, with a 1979-80 total enrollment of 13,500

University education: government-sponsored, at nominal fees

Jordanian university students abroad: over 40,000

Source: Jordan Information Bureau, Jordan, volume 5, number 1.

Table A-3. Illiteracy Rate by Age Group and Sex, 1976

Age Group	Male	Female	Total
15-24	4	13	9
25-34	9	41	27
35-44	23	68	46
45-54	30	75	52
55-64	47	87	66
65-Over	70	94	80
Total: 1976	19	46	32
1961	50	85	67

Source: Multi-Purpose Household Sample Survey, 1976, and UNESCO, Report EFM/105, The Hashemite Kingdom of Jordan, Education and Training for Manpower Development, July 1980, p. 41.

Table A-4. Number of Students, Teachers, and Institutions for the East Bank, 1976/1977 or 1977/1978

Category	1976/77 Preschool	Secondary						
		1976/77 Elementary (1-6)	1976/77 Preparatory (7-9)	1976/77 General	1977/78 Commercial <sup>a</sup>	1977/78 Industrial and Trade	1977/78 Nursing	1977 Comprehensive
Students	14,299	402,401	124,982	53,171	4,016	3,141	393	
Male		214,570	71,733	31,460	2,104	2,578		
Female		187,831	53,249	21,711	1,912	563		
Teachers	435	11,636	6,032	2,097				
Male		5,346	3,397	1,335				
Female		6,290	2,635	762				
Institutions	147	1,123	859	259			8 sections, attached to	2
Male		367	369	150			General	
Female		384	351	97			Secondary	
Co-ed		372	112	12			Schools	

<sup>a</sup>In 1970/1971, the commercial secondary schools had 1,636 students including 985 males and 561 females. The industrial and trade schools had 597 students.

Source: Ministry of Information of Jordan, Education in Jordan, 1978.

Table A-5. Postsecondary Enrollment by Type of Institute, 1978/1979

Category	Teacher Training	Engineering Technical	Commercial	Medical and Nursing
Students	3,919	1,200	500	500
Male	1,421			
Female	2,498			
Number of Institutes:	6	5	6	5

Table A-6. Enrollment at Universities, 1976/1977

Category	University of Jordan	University of Yarmouk	Abroad
Students	6,195	1,350	40-60,000 (Est)
Staff	420		

Source: Ministry of Information, Education in Jordan, 1978.

Table A-7. Education Net Enrollment Ratios by Cycle, Age, and Sex, 1979/1980

Cycle and Age	Males		Females		Total	
	No.	%	No.	%	No. <sup>a</sup>	%
Elementary, Grades 1-6 Ages 6-11	235,440	103.1	212,971	101	448,411	102.1
Preparatory, Grades 7-9 Ages 12-14	86,459	88.5	72,131	80	158,590	84.4
Subtotal, Compulsory Grades 1-9, Ages 6-14	321,899	98.7	285,102	94.7	607,001	96.8
Secondary, Grades 10-12 Ages 15-17	51,947	68	38,106	51.9	90,053	60.1
Higher Education Ages 18-22+	15,613	16.4	11,913	12.5	27,526	14.5

<sup>a</sup>Total of students enrolled excludes kindergarten and other preschool students (ages 3-5), handicapped students, and those enrolled in Jordan's two universities.

Source: Ministry of Education, Education in Jordan in Figures, 1979/1980.

## APPENDIX B

### OBSERVATIONS ON EDUCATION IN JORDAN: EDUCATIONAL PLANNING, VOCATIONAL/TECHNICAL TRAINING, FEMALE EDUCATION, AND SCHOOL CONSTRUCTION AND USE

by Frank Method

During the last 30 years, changes and improvements in Jordan's educational program have been relatively rapid, accelerated in part by substantial amounts of external assistance. The following observations on educational planning, vocational/technical training, female education, and the school construction program provide additional insights into the process by which education in Jordan has been transformed from a traditional to a modern system of universal free education through the secondary level.

#### I. EDUCATIONAL PLANNING

During most of the period 1952 to 1981, Jordan has not had an education plan in the conventional sense of education expansion plans keyed to quantitative manpower targets and macro-economic criteria for education investment rates. There were multiyear planning documents and policies which were used to guide investment and expansion, beginning with a 6-year education plan adopted by the Council of Ministers in 1960. However, these plans appear to have been mainly statements of the actual expansion anticipated during the planning period, with guidance as to priorities and distribution by level and type of education. They were more budgetary documents reporting on project plans, administrative, and financial requirements than strategy documents reflecting choices among alternative rates of education expansion or the relative priority for education investments within a national development plan.

The first education plan in Jordan was in fact largely in response to pressure from the United States and other donors for a clear statement of objectives and expansion plans by the Ministry of Education (MOE), which the U.S. Embassy felt was needed to establish assistance priorities and to avoid misunderstandings regarding the roles and influence of external advisors. The point here is not a criticism of the Ministry's planning capacities, which have become increasingly detailed and articulated over the years; rather, it is suggested here that the fact that conventional planning and investment decision criteria were not applied through most of this period may be part of the explanation for the extraordinary progress which Jordan has experienced, including its persistence with the

expansion objectives in the face of extraordinary short-term financial, political, and refugee-absorption problems and great uncertainty about its future economic prospects. At each stage, but particularly since Law 16 was implemented in 1964, the objectives of universal enrollment have been taken as "given" and the policy debate has been mainly about the most feasible means of implementing the expansion and meeting the social demand for schooling.

Manpower planning and assessment was rudimentary until 1967, when a small unit was established in the Department of Statistics. In 1969, a Manpower Planning Section was established in the Jordan Development Board (now the National Planning Council). These entities have contributed much to the increasingly detailed projections and assessments of needs of Jordan's Development Plans, such as the 1973 to 1975 Three-Year Plan. UNESCO/IDA/ILO assistance has been important in developing these assessments and planning units. The educational implications have been taken to be (1) a concern with the quality of instruction at the primary and secondary level (particularly of the physical facilities and the qualifications of teachers); (2) the need for greater vocational emphasis at the secondary level; and (3) the shortages of commercial and administrative skills. Though there was concern in the early 1970s over the number of students entering the labor market with few relevant skills, all of the recommendations were for additions of more relevant training and improvements and reorientation of the existing programs. The most direct applications of these plans were in the World Bank's first Education Project (1972), which provided for two comprehensive secondary schools, one polytechnic and trade training center, a polytechnic section for training preparatory-level technical teachers, a teacher training college for primary and preparatory level, and, with ILO, a vocational training scheme (the forerunner of the Vocational Training Corporation).

At least through the secondary level, there is little evidence during any of this period of any policy concern with limiting the rate of expansion other than the restraints that resulted from budgetary limitations, bottlenecks in implementing capacity such as school construction, and some concern for shortages of qualified teachers. Though shortages of teachers and lack of school buildings have been serious problems which persist today, neither of these problems has noticeably retarded the pace of enrollment. Children were enrolled and taught with the means available (though some parents chose not to send children to grossly inadequate or inconvenient schools) while efforts continued to resolve these problems as fast as resources allowed.

The main evidence of restraint at any level is the caution in the mid-1960s regarding the expansion of the University of

Jordan in Amman and the establishment of a second university at Yarmouk and the rate of expansion and diversification of secondary technical training. The concerns, raised more vigorously by the external advisors than by Jordanian officials, were over whether Jordan would have the financial capacity to sustain these relatively expensive education institutions (particularly without detracting from investments at other levels and for teacher training) and whether the economic projections for Jordan included the capacity to absorb larger numbers of workers with specialized training. While the effect of this decision, which was to concentrate public investment on the expansion of teacher training and of general education through the first 9 years, has been to accelerate basic education expansion, the caution on the absorptive capacity of the economy appears to have been a misjudgment.

Higher education has continued to expand both in the two 4-year universities and in a growing number of 2-year community colleges which have developed around the core model of the 2-year postsecondary teachers colleges. In addition, large numbers of Jordanians (estimated in 1980 at 66,000) have gone abroad annually for higher education. Jordan today has essentially no unemployment. There are 150,000 to 200,000 Jordanians working outside Jordan and an estimated 60,000 or more foreign workers employed in Jordan. Even acknowledging that Jordan benefits from a unique regional situation which absorbs its "surplus" workers and further acknowledging that part of Jordan's low unemployment represents a low rate of labor force participation of women, it is clear that Jordan has benefited from expanding its training and education capacity beyond what manpower requirements projections would have justified at any time over the past 30 years.

## II. VOCATIONAL/TECHNICAL TRAINING EMPHASIS<sup>1</sup>

While there have been many attempts to orient the general education system in Jordan toward vocational training, including a heavy emphasis in the 1950s and early 1960s on the development of a system of trade schools for boys, secondary commercial schools for girls, and a vocational curriculum in the elementary and preparatory schools, most of the expansion has been in the academic streams at all levels. The plans adopted in 1960 aimed at restricting the academic stream at the preparatory level to 50 percent of the entrants, with the rest

<sup>1</sup> For a full discussion of vocational education in Jordan, see Paula Harrell, Vocational Education and Training in Jordan (Amman: United States Agency for International Development, December 1978).

allocated to agricultural schools (30 percent) and industrial schools (20 percent). At the secondary level, 70 percent of the boys from the academic streams were to be allowed to continue in the academic secondary schools, the rest going to agricultural and industrial schools. Of the girls, 50 percent were to continue in academic secondary schools with the rest going to commercial schools. In practice, these goals were never approached, and it is not clear that there was ever any serious intention that they would be (recalling that the first plan was created in part to satisfy the donors, including the United States).

Until the last few years, every technical training program (agricultural, industrial, commercial) established in Jordan required substantial external assistance. Today, although there is a growing private sector involvement (for example, with the vocational training corporation programs with privately financed community colleges offering technician training) and Jordan itself has not been indifferent to the need for technical training, external assistance is still of critical importance for most vocational/technical training projects. There appear to be a number of reasons for this:

-- Most obviously, Jordan has been heavily dependent on external resources for capital investments in education-- buildings, equipment, and so on. Because most donors have been insistent on supporting education which is demonstrably practical and relevant to economic development, Jordan has found it easier to attract assistance for the technical training institutions than for the undifferentiated support of the general education system. Thus, a kind of division of labor has developed.

-- For most of this period, Jordan had little large-scale industry and most agriculture was in relatively small holdings. Thus, there was not a strong indigenous economic demand for specialized technical training; Jordanian industrialists and modernizing agriculturalists were generally too small to take a direct role in financing such training; and without an established base of modern production and factoring facilities, there were few opportunities for cooperative education and practical training apprenticeships. Technical training appears to have expanded in tandem with external investment plans and with the interest of external agencies in modernizing key sectors such as agriculture.

-- The industrial trade schools which have been part of the Jordanian system since the 1950s do not appear to have made a significant contribution to the skill base needed for modern sector industry. They have generally been a second or third choice for most students and have

concentrated on basic trade skills such as automobile mechanics, electrical and plumbing trades, metalworking, and fabricating skills. The fields in which there appears to be the most substantial Jordanian business community interest, as well as student interest, are those related to the rapidly expanding service industry sector and commercial skills--for example, medical technicians, pharmacy, accounting, insurance and banking, and business management.

-- Much of the skill formation has occurred outside of Jordan. While precise figures are not available, it is known that many of the 150,000 to 200,000 Jordanians working in other countries of the region are skilled or semi-skilled workers rather than professionally trained personnel and that they return with substantially more skills and work experience (as well as personal capital) than when they left. Though these skills are noncertificated, they undoubtedly give Jordan a better skill base than is suggested by the output of Jordanian training institutions. Additionally, there are a number of Jordanians studying outside of Jordan, many of them in technical fields, and there are also a large number of technicians and professionals among the Palestinian refugees.

-- The technical training institutions are relatively expensive compared to other forms of preparatory and secondary education. From a public policy viewpoint, the imperative of increasing enrollment appears to have taken precedence. The general, academic, secondary schools are simply less expensive in terms of the allocation of scarce math, science, and technical teachers, as well as in financial terms.

-- Two other public policy or social factors are noted. First, the technical institutes, enrolling only a minor fraction of students, cannot be as evenly distributed as the general secondary schools enrolling the majority of students. The trade institutes are located in the large cities (Amman and, until 1967, Nablus; and the agricultural schools which required demonstration farms in areas well away from the population concentrations, for example, Shobuk. Thus, the schools had to be either boarding schools (among other things, making them inaccessible for most girls) or open mainly to students who lived or could arrange to board in the immediate area.

Second, most academic schools are constructed with a substantial amount of community finance, 25 to 50 percent. The financial cost of the technical institutes serving the entire country necessarily fell entirely on the public budget. Thus, considering both the actual differences in

costs of the two types of institutions and the differences in financial implications for the central budget, the MOE could provide between 5 and 10 times as many places in academic schools in the villages as it could in centrally funded technical training institutes.

### III. FEMALE EDUCATION

Jordan has changed over 30 years from providing almost no education opportunities for women to a current situation in which most female children complete at least 9 years of school and at least 60 percent of adult women are literate. In 1979, 85.7 percent of the females 6 to 14 years of age were enrolled in the compulsory cycle (9 years), 51 percent of those 15 to 17 years of age were enrolled in secondary schools, and 10.8 percent of those 18 to 22 years of age were enrolled in some form of higher education (mainly 2-year teacher training and community college programs). In addition, at least 7,000 adult women participate in literacy and adult education programs.

Most of the women who remain illiterate are older than 35 years of age, are in rural areas, are either smallholders themselves or are married to a smallholder farmer, and have large households (commonly 8 to 10 people or more). Conversely, it would be unusual to find a Jordanian woman under 30 and/or a woman who lives in one of the larger villages or towns who was not at least literate and who has not completed at least 3 or 4 years of primary school. Participation rates for girls are slightly lower than for boys (85.7 percent versus 90.5 percent at the compulsory stage, 51 percent versus 64.7 percent at the secondary stage). The gap appears to be closing as education expands; the difference at the higher stages is explained partly by the lag in the flow of girls from the lower stages.

The differences in enrollment rates at the compulsory stage appear to be explained more by marginal differences in the repetition and dropout rates after the 4th year, rather than by lack of initial enrollment of girls. While some suggest that this is due to factors such as traditionalist resistance to education for girls or to the opportunity cost to the household of doing without the girl's labor contribution, there is little hard evidence to support this explanation. It appears more likely that dropout can be ascribed to (1) the lack of easily accessible schools at the upper grades (many rural schools have only the first three or four grades, with students often traveling on foot or by bus several kilometers to a nearby village for grades five through nine; (2) parental judgments (often well-founded) that the existing school is unsafe or unsanitary; and (3) conservative reactions to some of

the content in the curricula for the upper grades, such as material on reproductive biology or athletics for girls.

What is striking for this observer is not that some parents withdraw their girls early but that more do not for one of several reasons. First, there clearly is a strong traditionalist sentiment regarding what education is "proper" for girls and about the secularization of Jordanian society in general. Second, many of the schools are objectively in poor condition and minimally adequate. Third, there clearly are significant numbers of Jordanian families for whom the loss of income or labor (however small) or the incidental costs of transportation or school materials represent a significant sacrifice. Fourth, the generational differences between the education and expectations of parent and child, mother and daughter, undoubtedly place strain on traditional family relationships. However, all signs continue to point to a steady expansion of education for girls, with most continuing to the secondary level or higher. As the physical capacity of the system expands, particularly the expansion of preparatory and secondary schooling capacity in the rural towns and villages, it is probable that most girls will achieve a higher average number of years of schooling and that the differences in male-female participation rates will narrow further. In fact, it is quite possible that female enrollment rates and other participation indices (for example, promotion and pass rates) may be marginally higher at least for some levels.

Finally, there is some evidence that female education may be stimulating the processes of reform and qualitative improvement in Jordan's educational system. While the observations on the situations described below are necessarily rather subjective and based on a possibly unrepresentative sample of observations, they do, however, offer possibilities for further inquiry:

-- The girls' secondary schools are demonstrably better maintained and managed--clean, decorated, landscaped, painted. Innovative use of classroom space (conversion of a classroom to a lab; dual use of a home economics room as a space for independent, small group projects; rearrangement of lab furnishings; conversion of a teacher's lounge into a day-care center for the children of teachers) was evident in several schools observed during the course of this study. Part of the explanation appears to be very strong female principals (explained by some as due to the lack of other professional opportunities for these women). However, these changes were also evident in individual classrooms, where teachers had taken initiative. Generally, there simply seemed to be more enthusiasm and willingness on the part of the teachers and students in the

girls' schools to take steps on their own than was noted in the boys' schools.

-- The pass rates in the girls' schools seem to be marginally higher than in the boys' schools, even though the facilities are no better. Math and science teachers appeared to be in short supply (many of these teachers in the girls' school are male). On the other hand, the average class size was slightly smaller and fewer of the schools are on double shifts.

-- The principals in the girls' schools were very concerned about the interaction with the parents and several made special efforts to arrange parent-teacher interactions. This appears to have a lot to do with an awareness of the concerns of some parents about undesirable curriculum influences, the distance some girls have to travel on public conveyances, and the fact that the mothers of most of the girls themselves have had little education.

-- The girls' secondary schools, somewhat more than the boys' schools, draw from a large geographic area. The girls' schools appear to be somewhat larger and to be uneven in certain desired subjects, such as math and science. Thus, in an urban area such as Amman the girls' schools have some special problems of integrating students across class lines.

-- There is some suggestion that parents in the villages are more motivated to raise funds to establish a girls' school in the village than a boys' school--apparently due to the greater concern about girls living away from home or traveling great distances to school.

-- There are now substantial numbers of young women seeking postsecondary training and employment. Though the female labor force participation rate is low, it is increasing for women under 30. There is some resistance to these young women going outside of Jordan for training or for employment. Thus, there appears to be interest in expanding the fields of training for women in Jordan and it appears likely that much of the increase in postsecondary training in Jordan and the additions to the workforce in new technical fields (such as medical technicians, nursing, electronics, instrumentation) will be female. At the secondary level, it appears that part of the reason for favoring the comprehensive secondary school model is that it is acceptable to the parents for the girls to have exposure to vocational subjects within an academic school, whereas there would be resistance to enrollment in a vocational secondary school.

Without pushing the point further, it is suggested that for a country such as Jordan which has substantially accomplished its goal of quantitative expansion and which is now beginning to focus more on the problems of quality, maintenance, and relevance, it may be that a closer study is needed of the instructional practices, staffing and administrative practices, staff-student interactions, and school-community relations in the girls' schools. These are the schools in which policy change is most needed, most probable, and in some respects may already be happening in a pragmatic, unmonitored fashion.

#### IV. SCHOOL BUILDINGS: CONSTRUCTION AND USE

Expanded physical capacity has led to the reallocation of classroom use and to reductions in dropouts, especially in the rural areas and in the older parts of the major cities. In situations with high enrollment ratios such as Jordan has achieved, the expansion of physical capacity at any level has had qualitative and distributional impacts on all levels.

Many, if not most, of the schools built under AID's School Construction (SC) I and II Programs, and under the Jordan Valley Authority (JVA) programs, though intended as elementary schools, are in fact being used as preparatory and secondary schools. In part, this reflects the great need for expansion at the secondary level. It is also a consequence of the much greater difficulty and expense of obtaining land for new buildings in the built-up urban areas. Since most of the new schools are sited either on the fringes of the urban areas or as centers serving a cluster of villages (in a few cases drawing commuting students from as far away as 45 kilometers), the preference has been to use these for the older students and to convert (or reduce) the schools in the central urban areas and in the larger villages to elementary schools. This appears to have made it possible to take some of the worst of the rented schools out of service and to meet the preferences of parents for elementary schools, particularly for girls, closer to home. Most elementary students are reported to attend schools within 400 meters of their home, except in the smaller villages. Some evidence on the distribution effect is the higher incidence of dropouts for most rural girls in grades 8 and 10, due to the lack of easily accessible secondary schools.

While attention has been focused on increasing the availability of schooling opportunities in the rural areas, the most difficult qualitative problems appear to be in the older urban areas where schools are very congested, commonly in rented residential buildings, and where land prices make the building of new schools almost prohibitively expensive. While new

schools in rural areas may be needed to resolve problems of access, new schools in urban areas may be necessary to resolve problems of instructional quality. Further, in Jordan it appears that some of the worst concentrations of poverty are in the center of Amman, suggesting that a solution to the urban schooling problem is also an equity concern.

External assistance for school construction (though mainly a capital input) has had impacts on the design of schools, on the capacities to assess building needs and plans for physical expansion, and on the Ministry of Education (MOE) procedures for contracting and managing/supervising school building programs. Several of the key individuals now responsible for school building received participant training. Technical assistance was provided in 1967-1968 for the development of building needs assessment and long-range planning methodologies for school building. Though the projections of needs were made invalid by the refugee absorption problems after 1967, the methodology and a sound planning basis for the MOE School Building Department were established.

With little additional technical assistance since 1968 (and with little capital assistance from 1968 to 1974) the MOE School Building Department has continued to plan and supervise both the ongoing building programs of the MOE and the externally assisted programs such as those by the World Bank and by USAID since 1974/1975. All impressions of members of this impact evaluation team who held meetings with the Director and other officials, reviewed building plans, and discussed the issues with USAID and other people knowledgeable about the building programs suggest that the MOE, in combination with the Ministry of Public Works, is very capable and conscientious in all aspects of the building program, including contracting and construction supervision.

It appears that the availability of external assistance on a project basis has had other, largely unforeseen impacts on building designs and contracting procedures. First, the need to develop specific plans and justifications of need for presentation to USAID and other assistance agencies has provided a useful impetus for the MOE to review its own plans and building designs. While USAID had earlier provided important indirect support for school buildings and equipment, these were either for additions of workshops and dormitories, such as those in the early 1960s for prevocational activities in preparatory schools, or were financial supports such as PL 480 funds made available to the Municipal and Village Loan Program for lending to communities wanting to build schools. Most of these schools were additions to or replications of existing school models. Thus, while such assistance contributed importantly to expansion, it did not have significant impact on the

school design or on the MOE design process at the preparatory and secondary level.

As the MOE itself has become more directly involved in initiating the school building projects, there have been both preconstruction and postconstruction assessments and refinements of the building designs. The design favored today is better in engineering quality and in educational characteristics than those in use before 1974. The changes between SC I and SC II suggest a possible lesson for assistance agencies that large-scale school building programs may facilitate the refinement of the design over time by phasing the commitments with a redesign step at each phase rather than a large initial commitment with a long implementation. For example, in the JVA schools, the contracting was in two large stages with little redesign except for some engineering changes.

A second important and unanticipated impact of USAID assistance was to give the MOE the clout it needed to enforce its standards and obtain contractor compliance. This resulted from the USAID policies of establishing a fixed price for the USAID contribution and of providing payment only upon completion and acceptance by the MOE and USAID. In SC I, 13 of the first 18 schools had unacceptable construction and USAID (with MOE concurrence) refused to provide payment. The contractors were then required to demolish the uncompleted buildings and rebuild them before being paid. This "shock therapy" was arguably one of the most powerful forms of technical assistance which USAID has been able to provide the MOE. The MOE now reports much less difficulty with contractors, and it is probable that the MOE is now getting better construction value for its school building investment.

In a different example, the first two bidding cycles for the JVA I schools were over two times the levels projected as appropriate by USAID and MOE. On the third bidding round, USAID encouraged bidding the 18 schools as one large contract, hoping to draw in larger contractors and obtain a better price. Though several contractors participated in the prebid conferences, including U.S. firms, only one bid was received and the schools were built by a Korean contractor at near the estimated price. The team visited the schools and heard no critical comments about construction quality.

APPENDIX C

PROJECT DATA SHEET

1. Country: Jordan
2. List of AID-Supported Education Projects in Jordan:  
1952-1982

<u>Project Title</u>	<u>Project Number</u>
Technical Assistance Supporting Activity	2780000
Agricultural Education	2780001
Field Project Assistance	2780004
Commercial Departments	2780010
Supplemental English Library	2780026
Teacher Education	2780051
Industrial Education	2780057
Khadouri Agricultural School	2780063
Bedouin Education	2780074
Expanded Educational Facilities	2780092
Human Research Development Education	2780111
Bir Zeit College	2780122
Arab Development Society	2780900
Construction and Equipment, Schools	2780905
Construction and Equipment, Teachers Colleges	2780906
Rural Training Centers	2780907
Agricultural Education	2780040
Demonstration Laboratory Facilities	2780041
Agricultural Extension Department	2780042
Agricultural Research and Development	2780081
Agricultural Research Facilities	2780089
Vocational Secondary Schools	2780142
Development Administrative Training	2780146
Faculty of Agriculture (University of Jordan)	2780178
School Construction I	2780190
Development Administration Training II	2780214
School Construction II	2780232
Vocational Training	2780238
Village Development I <sup>a</sup>	2780183
Village Development II <sup>a</sup>	2780205
Village Development III <sup>a</sup>	2780221

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<sup>a</sup>Village Development Projects were not education projects per se but are included here because they contain major school building components which the project evaluations show to be among the critical components of the village development program in the Jordan Valley.

3. Sector Areas of Emphasis: teacher training, agriculture education, vocational training, participant training, school construction
4. Project Funding: (for all above projects) approximately \$25-30 million