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PD-MA6-00

PROJECT EVALUATION SUMMARY

1. Mission or AID/W Office Name USAID/Jordan			2. Project Number -278-0190		
3. Project Title School Construction (AID Loan 278-K-016)					
4. Key project dates: (Fiscal Years)			5. Total U.S. Funding (Life of Project):		
a. Project Agreement Signed: TQ 76 (7/22/76)	b. Final Obliga tion: TQ-76	c. Final Input Delivered: FY 80	\$ 7,000,000		
6. Evaluation Number as Listed in Evaluation Schedule: 80-1 (Interim)		7. Period covered by this Evaluation: From 3/78 to 9/79		8. Date of this Evaluation Review: October 1979	
9. Action Decisions Reached at Evaluation Review Including Items Needing Change:		10. Officer or Unit Responsible for Follow-up		11. Date Action to be Completed	
Correction of minor construction faults		MOE and USAID		6/80	
12.. Signatures:					
Project Officer			Mission Director		
Signature: <i>Joseph S. Chimento</i>			Signature: <i>Edgar C. Harrell</i>		
Typed Name: Joseph S. Chimento			Typed Name: Edgar C. Harrell		
Date: 20 FEBRUARY 1980			Date: 23 Feb. 1980		

13. SUMMARY

Project outputs are the construction, equipping and staffing of 18 school buildings in 11 cities and villages of Jordan. Total inputs are about \$13.2 million equivalent, comprised of a \$7 million loan from AID and about \$6.2 million equivalent provided by the Government of Jordan (GOJ) through the Ministry of Education (MOE). All of the schools were or are being built by private contractors with construction supervision provided by a private engineering firm engaged by the MOE. The evaluation revealed that completion of schools was behind the schedule established by the earlier evaluation (April 1978), which foresaw completion of all schools by June 30, 1979. At the time of this evaluation (October 1979), of the 18 project schools, nine were completed and in operation, seven were to be completed and occupied by May 1980 and the remaining two by the end of August 1980. Thus, all Project schools are expected to be fully operational by the 1980/81 school year. *

The evaluation concluded that the Project goal and purpose are being achieved. The goal is to "directly contribute to the provision of adequate school buildings." The purpose is "more effective and economic education conditions in the 18 schools constructed under the Project." The Project schools permit more economic education by allowing the MOE to reduce the number of buildings it must rent to use as schools and, in certain cases, to increase the student/teacher ratios. The Project fosters more effective education by replacing overcrowded, poorly lighted and inappropriate classrooms -- often in crowded areas -- with buildings and classrooms designed specifically for teaching and usually sited in relatively spacious surroundings. Based on discussions with headmasters, teachers and students during site visits to the nine operating schools, the Evaluation Committee has concluded that there is a definite correlation between the improved environment provided by the Project schools and more effective education as reflected in better morale, greater interest in learning and greater dedication to teaching. It was established that the new schools have caused desired improvements in the two most important purpose indicators: the space/student and student/teacher ratios. In addition, it is the opinion of the staff operating Project schools that more children are attending school in the areas with Project constructed facilities than otherwise would have without the project. The Project schools have fostered improved community spirit and cooperation as indicated by the fact that more than half of the operating schools are being utilized by various community groups after school hours, largely for adult education.

*As of February 15, 1980 the situation is as follows: 14 of the schools are completed and in operation; 2 more are being furnished and will be in operation by March 1; 1 of the remaining two will be in operation by the end of May and the other by the end of August, 1980.

Evaluation visits revealed that Project schools are sited in virtually every case to serve poorer, more congested areas. The schools are overwhelmingly in urban or semi-urban areas, but this is to be expected because of the fact that, in Jordan, such areas are growing much faster -- and have proportionally younger populations -- than rural areas. Girls are sharing fully in Project benefits through the allotment of exactly half of the new schools to them.

When the Project began, it was anticipated that all of the schools to be constructed were to be used for teaching elementary and preparatory students only, i.e., those in the first nine years of formal education ("the compulsory cycle"). The evaluation established, however, that fully 60% of the students in the nine operating schools are secondary (high school) students. This has resulted from the faster growth of the secondary school population and the fact that most of the new schools have had to be sited relatively far outside of built-up areas, making it more difficult for younger children to reach them. The use of the schools for secondary students has released other schools for elementary and preparatory students, however.

Finally, the evaluation established that most of the schools have been well built -- only two minor instances of construction deficiencies were discovered. The schools could have been better designed -- they are oversized with regard to structural strength, but lack easily incorporated features which would have made them even more effective at very little additional cost. (see Section 21 below).

14. EVALUATION METHODOLOGY

This is an interim evaluation because at the time it was conducted not all of the Project's school buildings were completed and some of those which were completed were not yet occupied. This evaluation follows a previous regular evaluation completed in April 1978 for the period August 1976 to March 1978; the resulting evaluation report was forwarded via Airgram AIDTO A-23, dated May 8, 1978.

The current evaluation was undertaken jointly by the Ministry of Education's (MOE) Planning Division and USAID/Jordan's Project Committee, who formed a seven-person Evaluation Committee with members from both organizations (see Attachment 1). Prior to conducting the evaluation, the Evaluation Committee prepared questionnaires for use in interviewing headmasters of project schools (see Attachment 2). The questionnaires were designed to supplement visual observation and conversations with other

administrators, teachers and students in those schools (nine) which were actually in operation at the time of the evaluation. These were reviewed and then prepared in both English and Arabic. The Evaluation Committee split up into two teams and visited all project sites (including those where schools were still under construction) during the period October 24 to 29, 1979 (Attachment 1 has schedule). Following completion of all of the visits, the Evaluation Committee met to compare notes on the information obtained and to come to agreement on the main results of the evaluation. The evaluation was then drafted and reviewed by all members of the Evaluation Committee.

15. PROPOSED DOCUMENT REVISIONS

None.

16. EXTERNAL FACTORS

The only observed impact on this project from external factors during the time period under evaluation was a somewhat slower-than-anticipated rate of building completions primarily caused by the recent "boom" in the construction industry in Jordan which has led to over-extension by many contractors and consequent inability to meet contract schedules.

17. PROJECT BACKGROUND AND DESCRIPTION

a. Project Background:

A relatively highly educated populace is one of the major reasons for Jordan's recent economic success. Many Jordanians have the skills and knowledge required to start and manage successful enterprises and development programs. Large numbers of skilled Jordanians have migrated to the high salaries available in the oil states and their repatriated earnings constitute Jordan's single largest source of foreign exchange apart from official transfers. Those who have remained have formed the basis for the success of the domestic development programs. Thus, a well-educated and trained labor force can be considered Jordan's most important asset, particularly considering the relative dearth of other resources in the country. As a result, improvement in both the quantity and quality of educational opportunities continues to be a fundamental goal of Jordan's development strategy. Jordan needs to expand and improve its educational system not only to be able to continue taking advantage of external employment opportunities for its citizens, but also to provide sufficient educated and trained manpower for its own rapidly developing economy.

On the whole, the Jordanian educational system is a good one, particularly as measured by results. Enrollments at the various educational levels are high-in 1979, 97% of the age cohorts for elementary level (grades 1-6); 76% of preparatory (grades 7-9) and 44%, secondary (grades 10-12). (Grades 1-9 are compulsory by law.) Approximately 11%, or 20,000 out of 182,000, of the university-aged population are enrolled in higher educational institutions (universities, teacher training institutes and technical institutes) while another 45,000 or so are enrolled in universities abroad. Overall, about one out of every four Jordanians is a student. The literacy rate, 62%, is correspondingly high. Educational opportunities in general and opportunities for education for women in particular are the best in the Middle East; for example, enrollments of girls in primary schools nearly equal those of boys in number and as a percentage of the age group.

Despite the relatively good record to date, however, improvements in both quality and quantity must be achieved if the educational system, broadly defined, is to meet the country's need for trained manpower in the future and the populace's expectations for future economic well-being. Major quality improvements required are courses better designed to meet the actual needs of the Jordanian economy, particularly for more skilled workers (vocational education); more and increasingly better qualified teachers to upgrade the effectiveness of the course material offered and better planning and administration to ensure that increasingly pressed resources are utilized as effectively as possible. Quantitative increase - the need for more places for students - is dictated by the high rate of population growth (over half of Jordan's population is under age 15) and rising expectations, with concomitant increases in demand for education, particularly at the secondary and university levels, which until recently have only been attended by relatively small proportions of the relevant age cohorts.

The MOE has been making concerted efforts to improve the quality of the education it offers. Efforts at quality improvement have largely revolved around upgrading teacher training, improving administrative skills and providing more relevant instruction, particularly in vocational training and allied areas requiring high skill levels. The MOE has devoted large amounts of funds to these areas from its own and donor-provided resources, particularly two IDA credits granted in 1972 (\$5.4 million) and 1974 (\$6.0 million) and AID participant training funds (over 100 participants funded in the field of education since 1970) and multi-donor (including AID) efforts in vocational education.

The MOE plans to continue this effort with the recently signed (January 1980) IBRD third education loan of about \$19 million and is currently working with Bank staff to plan a fourth Bank-funded project in the future.

Providing for an increasing number of students primarily requires increases in the number of teachers and classrooms. Because the MOE is attempting to improve the quality of the education it offers while simultaneously increasing the number of students undergoing education, it is faced with a large "across-the-board" effort. The MOE's efforts to increase the number of teachers available can be considered successful on the whole. By 1979 the MOE had been able to bring supply and demand for teachers into rough balance (although some deficiencies in quality remain). The MOE has had less success in increasing the number of available classrooms to meet demand. Because of the enormous financial costs involved, providing an adequate number of classrooms is the most difficult problem currently facing the MOE and the biggest potential stumbling block to success of its overall program.

Increasing the number of classrooms is necessary both to provide space for a rapidly increasing student population and to improve the quality of education by reducing the proportion of students who must study in overcrowded and poorly-lighted space or under unattractive double-shift conditions. It is widely recognized by educators that both of these conditions, i.e., overcrowded and inappropriate instruction areas and double-shift teaching, cause marked decreases in the quality of education provided.* Thus, the MOE estimates that it will require a total of 10,648 new classrooms over the period 1980-85, of which 6,668 will be required for increases in the student population, 2,540 for replacing inadequate (and expensive) rented classrooms and 1,440 to eliminate double-shift instruction.

The situation facing the MOE in 1980/81 gives an idea of the magnitude of the task involved in increasing the number of classrooms in Jordan. The MOE estimates it will need 2,055 new classrooms built during that year. To construct and equip only one classroom in today's construction market in Jordan costs about JD 6,700 (\$22,000 at 1 JD = \$3.33; note that this figure does not include land costs). Taking into account inflation, the required 2,055 classrooms will cost about JD 16 million in 1980/81. The MOE's estimated 1980 budget is about JD 39.7 million; thus, the cost of the classrooms required in 1980/81 is over 40% of the 1980 MOE budget. (In past years, the MOE has expended on the average less than 20% of its budgets for capital improvements.)

* Students in double-shift schools attend classes for only four hours per day, i.e. from 7:30-11:30 or from 11:30-3:30, while those in single-shift schools have six hours of classes daily from 7:30-1:30.

b. Project Description

The Project was designed to help the MOE meet the critical need to increase the number of classrooms in Jordan by constructing and equipping 18 school buildings in 11 cities and villages of the country. These school buildings will provide about 370 classrooms plus associated libraries, workshops, laboratories, arts and crafts rooms, administrative rooms, etc. Ten of the schools are three-story buildings with about 24 classrooms each; the remaining eight are two-story buildings with about 16 classrooms each (see Attachment 3). All the buildings to be provided with detached lavatory facilities for students and with both running water and electricity.

Funding for the project is about \$13,200,000, about \$6.2 million equivalent provided by the GOJ through the MOE and \$7 million provided by AID Loan No. 278-K-016, signed on July 22, 1976. AID Loan funds are disbursed by the Fixed Amount Reimbursement (FAR) method, in three approximately equal payments. The final payment for any school is not made until construction is entirely and satisfactorily completed and the school has been fully furnished, equipped and supplied with utilities. In addition, final payment is dependent upon receipt of an "implementation plan" from the MOE under which it details plans for use of the school and provides assurances on the number of teachers and other staff to be provided (see Attachment 5).

18. EVALUATION RESULTS INCLUDING GOAL AND PURPOSE ACHIEVEMENT

As revised after the previous evaluation, the Project has the two following goals:

-- Country Goal (GOJ): Upgrade the quality of education by remedying all situations which adversely affect the efficiency of the educational process with regard to students, teachers, headmasters, school buildings, curricula, furniture and equipment.

-- Sector Goal (MOE): Directly contribute to the provision of adequate school buildings.

The Project purpose is as follows:

-- More effective and economic education conditions in the 18 schools constructed under the Project.

The school buildings being constructed under the Project are meant to replace or supplement overcrowded, rented classroom space which is often utilized on a double-shift basis. The rented buildings being used as schools have been in every case built for another purpose -- usually as residences. Because they were mostly built

as houses, the MOE rented facilities are totally inadequate for use as schools because their rooms do not have sufficient space or light to serve as classrooms. They are also extremely expensive, the cost per given amount of space ranging up to five or six times that for MOE-owned buildings (on an annualized basis). While the rental arrangements are intended to be temporary only, their high cost reduces significantly the amount of the MOE's budget which can be utilized for new building to replace them and, thus, eliminate the need to rent. Therefore, if the Project's buildings are completed and put into operation as planned the Project purpose will be achieved by providing classrooms specifically designed for teaching (more effective conditions) and by reducing the need to rent space for schooling (more economic conditions).

i. Sector Goal Achievement: The evaluation established that the sector goal of providing additional classrooms has been met. There are three measures of goal achievement in the logical framework: (i) increased classroom construction by the GOJ and (ii and iii) increases in both student and teacher populations. MOE statistics confirm that since project preparation all three indicators have increased at least as fast as projected. It was the opinion of headmasters and teaching staff interviewed during the evaluation that in each case the number of students attending school in the areas with Project schools is higher now than it would have been without the new schools. The primary reasons given for the increased numbers were (i) some students who normally would not attend school do so now because they find the new facilities attractive and (ii) some parents allow their children to attend school now because of the new facilities (the latter is particularly applicable to females in the upper grade levels). These observations jibe in general with MOE research showing that new schools experience 50% to 75% fewer dropouts and have higher elementary and preparatory enrollment rates.

Goal achievement has been slower than anticipated. At the time of this evaluation (October 1979), only nine out of a total of 18 project schools were in operation. As noted in the previous evaluation, delay up to that time (March 1978) had been due largely to inadequate construction supervision by the Ministry of Public Works which had led to construction of sub-standard buildings. As a result of this finding, AID insisted that the MOE hire outside consultants to supervise construction and a new group of schools was selected to be financed from the Project in lieu of the group found to be substandard. Delay in the rate of completion of schools

since the last evaluation has been due largely to the fact that many -- if not most -- contractors in Jordan have become over-extended as a result of the current construction boom. Under these conditions, virtually all projects undertaken by Jordanian contractors are completed behind schedule. Under present schedules, of the nine schools not occupied at the time of this evaluation, seven are expected to be occupied between January and May 1980 and the remaining two by the end of August 1980. Thus, all of the Project schools are expected to be fully operational by the 1980/81 school year.

ii. Project Purpose Achievement: The Project purpose is to achieve "more effective and economic education conditions in the 18 schools constructed under the Project". From its visits to the nine operating Project schools, the Evaluation Committee is convinced that this purpose has been achieved, even though its determination is based to a large degree on subjective judgments of administrators, teachers and students and could not be rigorously proved, at least with regard to more "effective" education conditions.

With regard to achieving "more economic education conditions" the evidence is clear. Because of the high cost of renting teaching space, the primary measure is how many rented buildings could be eliminated as a result of project construction. Students in the nine operating schools came from 11 rented buildings. The MOE has been able to quit renting only four of these 11 buildings because the continuing rapid increases in students has required continued occupation of the other seven rentals despite the use of the nine new schools. But it can safely be said that use of the new schools has eliminated the need for renting at least as many other buildings. The cost of renting school space is much more expensive than the cost of using MOE-owned schools, so the savings in operating costs provided by the new schools are significant.

With regard to "more effective education conditions," the Evaluation Committee found a significant correlation between improved facilities provided in the project schools and improved quality of instruction as reflected by comments from direct Project beneficiaries, i.e., the staff and students actually utilizing the new schools. In other words, the Project Committee is convinced that the provision of well designed and constructed schools under this Project has led to actual, if not discretely measurable, increases in the quality of education in Jordan. Discussions with headmasters, teachers and students during the evaluation visits

revealed that all are extremely happy with the facilities and general layout of the new schools -- the consensus was that the new classrooms promoted better morale, greater interest in learning and greater dedication to teaching. Virtually every teacher and student interviewed had an immediate illustration of how the new schools had improved the learning environment, usually involving more space, better light or lack of distractions from neighbors.

The logical framework indicators of project purpose achievement are four: (i) improved space/student ratios, (ii) improved student/teacher ratios, (iii) decreased repeater students and dropouts and (iv) increased vocational students. Given the time and data constraints involved, it was not possible for the Evaluation Committee to make any assessment of the last two indicators vis-a-vis the nine project schools now in operation, but the situation with regard to the space/student and student/teacher ratios was analyzed and the results are positive. At the time of the previous evaluation, the overall national space/student ratio was estimated at less than one metre per student. One of the conditions expected at project completion was an improvement in the space/student ratio approaching the international standard of 1.2 square metres of classroom space per student. The nine operating Project schools have a space/student ratio which averages more than 1.1 square metres per student. This is higher than the national average, but not yet as high as the international standard. That the latter has not yet been achieved in Project schools is a measure of how rapidly the school age population and the demand for education are growing and a vivid illustration of how badly new classrooms are needed (another result of the on-going pressure of high demand on the school system is the continued practice of double-shift instruction in Project schools -- see below).

The national goals for student/teacher ratios are as follows: elementary level, 30:1; preparatory level, 25:1 and secondary level, 20:1. Despite the establishment of these national goals, and the fact that the ratios now exceed the national goals in virtually all preparatory and secondary schools, the MOE has recognized the need to maintain the flexibility necessary to obtain optimum use of available resources after all factors are considered. Thus, the MOE strategy in areas served by Project schools is to increase the student/teacher ratio at the preparatory and secondary levels. The Ministry is convinced that this can be done safely without significant sacrifices of quality because of the better facilities provided by the new Project schools. An

increase in the student/teacher ratios at these levels will permit, of course, the use of fewer teachers, thus easing the overall teacher shortage.

Since the previous evaluation in early 1978, at the national level the elementary student population has increased by 7%, while the elementary teacher population has increased by 15%. This has resulted in a decrease in the national elementary student/teacher ratio from 32.5:1 to 32.3:1. The ratio in the Project's four operating elementary schools is 29.3 to 1, below the national goal. The Project also is contributing to the success of the MOE strategy for student/teacher ratios at the preparatory and secondary levels in areas served by Project schools, as discussed above. Since the previous evaluation, the number of students at the preparatory level increased by 18.6% nationally while the number of preparatory level teachers increased by 20.6% for a national student/teacher ratio of 20.4:1. Project schools are significantly higher with a ratio of 29.1:1, well on the way to the overall goal for the Project of 35:1. At the secondary level in Project schools, the student/teacher ratio is 27.9:1 (again, the goal is 35:1). To illustrate how the MOE strategy is working, the eight Project schools offering secondary education represent only 2.5% of the operating secondary schools in Jordan yet they provide instruction to 5.6% of the secondary school population with only 4.5% of the secondary school teachers.

iii. Other Evaluation Findings: Although one of the specific objectives of the Project is to foster more effective education by eliminating double shifting, overcrowding has forced double shifting in three of the nine operating Project schools. The MOE has instituted double shifting in the new schools most reluctantly and only when it was apparent that there was no alternative. They are planning to eliminate double shifting in all Project schools within the next two school years, mostly through further construction. Although not desirable, continued double-shifting is further evidence of the great need for more classroom space in Jordan, evidence which is additional to the failure of not achieving the international space/student ratio (see above).

Jordanian national policy calls for separate education for boys and girls. Thus, when completed the Project's 18 schools will be evenly divided, nine for girls and nine for boys. Again due to overcrowding at the present one of the nine operating schools currently has coeducational classes in elementary grades 1 through 3. The MOE plans to make arrangements for separate education for these students by the 1980/81 school year.

A significant change from original project plans is the large proportion of secondary (Grades 10-12) students in the nine

operating schools. As planned, the project would provide classrooms for elementary and preparatory levels only. The evaluation revealed that in the nine operating project schools, the overall secondary school population is 60% (5,154 students - see Attachment 4). Secondary education is offered in eight of the nine schools -- exclusively in two, with preparatory classes in three and with both preparatory and elementary levels in the remaining three. This phenomenon has three main causes. The first is simply that the student population has been growing fastest at the secondary level -- growth rates for the past two years having been 7.1%, elementary; 10.0%, preparatory, and 38.2%, secondary. The second is that the previously low enrollment rate at the secondary level has been increasing rapidly in step with escalating demand for education. The third is that the costs of land have escalated quickly and the MOE has great difficulty finding sites easily accessible to school-age children in built-up areas. As a result, new schools have had to be built farther out, often at the edge of developed areas. The MOE has adopted a general policy of having older, instead of younger, children attend schools which are sited relatively far from residential areas because older children are better able to cope with problems of longer travel. After the evaluation, discussions with the MOE staff revealed that although project school buildings were being used for secondary level students, most of the vacated facilities had been retained. These facilities were all located in heavily populated areas often in the middle of cities and towns, and they had been converted to house elementary and preparatory level students. This continued utilization of facilities provides additional - albeit substandard - educational opportunities to all age levels of students. The MOE is obviously not particularly happy with the current grade patterns in the new schools and will undoubtedly work to change it in the future. They are particularly unhappy with having all three levels of instruction in any one school and have stressed that when this occurs, it is strictly the result of the need to use all available space to meet urgent demands.

The Evaluation Committee was pleased to note the degree to which the new schools are providing enhanced pride and a spirit of cooperation and involvement in the communities they serve. This factor was brought up voluntarily at every site visited. In addition, questioning revealed that the buildings are being used after hours at five of the nine sites - largely for adult education. Thus increased adult literacy and training and enhanced community fellowship are important side benefits of the project.

The Evaluation Committee found that the sites selected for school construction under the project by the MOE (and approved by AID) would fit very closely a possible set of "ideal" criteria with regard to ensuring that the benefits are aimed at the "poor majority," areas of greatest educational need and other special target groups (i.e., women) to the maximum extent possible, even though such criteria were not formally incorporated into the project.

As the result of such a hypothetical process, disparities in the relative availability of high quality classroom space would be reduced and, ultimately, eliminated (taking into account for all areas such factors as current student population and age structure, the percentage of school attendance, expected increase of school-age children and incidence of double-shift instruction). In other words, at the end of such a process, students ideally would have equal access to high quality classroom space (and instruction) regardless of family income level, sex or whether they live in urban or rural areas. At the same time, to the maximum extent possible, the proportion of rented (as opposed to MOE-owned) schools would decline.

The evaluation visits revealed that when selecting school sites, the MOE in practice utilizes criteria very close to those which would be applied in the idealized procedure outlined above. That is, the Evaluation Committee found project schools to be without exception in areas with greatly overcrowded educational facilities and with poor to moderate income earners. (The Committee also found in operation a generally effective system of informal "scholarships" for students from poor families, with provision usually being made by the MOE, the school or the community to waive or offset fees and other costs of education for disadvantaged but deserving students.)

It is true that only two of the 18 school sites are in what can be described as rural -- as opposed to urban or semi-urban -- areas (see Attachment 2), but this accords with the fact revealed by the November 1979 census that the urban areas of Jordan are growing at a markedly faster rate than rural areas. (Over 65% of Jordan's population is urban and the largest concentrations and numbers of poor people are in urban areas - see FY 1982 CDSS.) Four of the nine operating schools have been slated exclusively for female students; the ratio overall of females in the Project schools (42%) is virtually the same as the overall national average at all grade levels (45%), and it is markedly higher than the national average at the secondary level (50% compared to 29% nationally) (see Attachment 4). The above discussion represents only the Evaluation Committee's impressions of how the schools being constructed under the current Project might be seen to fit a set of idealized criteria fairly well. USAID is considering proposing a further project for schools construction; if this is done, the project analysis should include a careful review of how potential schools to be supported by Project funds match with a set of criteria developed by AID specifically to ensure maximum possible achievement of actual AID objectives in Jordan.

Finally the evaluation teams found the operating schools to be in good condition, indicating that adequate maintenance is being performed. Obviously, however, none of the schools has been operating long enough to have encountered major maintenance problems yet.

19. OUTPUTS

As indicated earlier, the pace of completion of Project outputs -- completed, equipped and staffed schools -- has been behind schedule for two successive evaluations. At the time of the first evaluation, the primary problem had been ineffective contractor supervision while for the period of this evaluation the problem has been mostly the result of general overcommitment by local contractors in the current construction boom in Jordan. Neither cause could easily have been foreseen, and very little could have been done about overcommitment by contractors even if it had been foreseen. While undesirable, the resulting delays will, overall, have very little negative impact on the project.

At two of the operating schools, minor construction deficiencies had been noted and reported to the Ministry of Education. Although the construction contracts had specified that the Contractors were to be held responsible for correcting deficiencies for one year following completion, MOE had not taken any corrective action. The members of the Evaluation Committee from the Ministry of Education have reported the noted deficiencies to their headquarters and have assured USAID that they will be corrected. In turn, USAID monitoring personnel will re-inspect all schools to assure that proper corrective action is carried out in accordance with a covenant included in the Loan Agreement.

20. INPUTS

All inputs, both GOJ and AID, have been made in a full and timely manner. Both GOJ and AID financial inputs for school construction have been completed and on time. The MOE has provided the required staff and equipment for each school in a timely manner after completion of construction. Based on past performance, the Evaluation Committee does not anticipate any problems in securing the appropriate staff and equipment for the remaining school buildings.

21. LESSONS LEARNED

The present evaluation revealed two significant "lessons learned" during Project implementation, one concerning the levels of education offered in Project schools and the other the design of Project-financed school buildings. The first lesson is that despite the declared intentions of the MCE, it is very difficult as a practical matter to restrict instruction in Project schools

to just one or two levels (i.e., elementary or elementary and preparatory) given the education environment in Jordan. In particular, administrators are almost forced to offer preparatory and secondary education in Project-financed schools by three major factors: (i) the great demand for education at all levels; (ii) the progressively lower enrollment percentages at the preparatory and secondary levels, which mean that demand is growing fastest and is strongest at these levels; and (iii) the high cost of land in built-up areas causing most new schools, including Project schools, to be built at the fringes of high-density development, generally beyond the desirable travel limits of smaller children. Simply put, the realities dictate that there will be a high proportion of secondary students in new schools sited at the fringes of development, as are most newly constructed schools, including most Project schools. It must be emphasized that school space is "fungible" and that the use of Project schools for secondary level instruction has not meant the loss of equivalent space for lower-level instruction. Instead, it has merely meant the release for lower-level instruction of the space in built-up areas which otherwise would have been used by secondary students. Thus, the chief result of this process has been to allow younger children to go to schools which are closer to their homes than Project-financed schools, even if the facilities of these other schools are not so good as those built under the Project.

The other lesson concerns the design of Project schools. As is usually the case with any sort of construction, as the Project progressed it became clear that the standard design being used for Project schools could be improved somewhat.

On the one hand, it is the general opinion of engineers familiar with the Project buildings that they are somewhat overdesigned structurally and consequently are more complicated and expensive to construct than is necessary. Also, interviews during the site visits with teachers and headmasters produced the following list of relatively minor changes which could be made in the present design - and constructed - for little additional cost and which would make the schools much more responsive to the needs of both teachers and students:

a. Add a covered walkway from the school to the lavatory facilities for students.

b. Provide space for large meetings (perhaps moveable partitions in three or four of the classrooms).

- c. Provide more storage space for books, materials and recreation equipment.
- d. Provide more space for teacher preparation and relaxation.
- e. Provide potable water for students in the main building as well as the lavatory.

In an effort to ensure that the MOE gets the best possible value for any future construction expenditures, USAID has agreed to finance a review of the standard MOE design used in the Project by a qualified architectural/engineering firm. During its review, the firm will consider these recommendations and produce an overall list of proposed design changes to be made prior to any construction of similar buildings in the future.

SCHOOLS CONSTRUCTION I
INTERIM PROJECT EVALUATION
EVALUATION TEAMS AND SCHEDULES

TEAM NO. 1

Members

MOE: Mohammad Nasser, Planning Officer
USAID: J. Chimento, Loan Officer
Aied Sweis, Engineer

Schedule:

10/24/79 Nazzal, Um Heran, Ashrafiya, Marka and Nuzha
10/28/79 Shamiyeh, Tafileh and Karak
10/29/79 Qusour and Batrawi

TEAM NO. 2

Members:

MOE: Mohammad Fallah, Planning Officer
USAID: J. Turman, Human Resources Officer
A. Ahmad, Engineer
W. Awad, Accountant

Schedule:

10/27/79 Mafrag, Ramtha, Irbid, Kufor Asad and
Dier Abu Sa'eed
10/28/79 Anjara, Buhaira and Azeirieh

SCHOOLS CONSTRUCTION IINTERIM PROJECT EVALUATIONQUESTIONS FOR PRINCIPALS OF AID-FINANCED SCHOOLS

<u>Name and Location of school</u>	<u>Grade Level</u>	<u>Enrollment: (Boys, Girls)</u>	
<u>No. of Classrooms</u>	<u>Area (M²)</u> <u>Old/New</u>	<u>Student/Space Ratio</u> <u>Old/New</u>	<u>Student/Teacher Ratio</u> <u>Old/New</u>

1. Is the school design (Layout) satisfactory?
2. Are the teachers satisfied with the new facilities?
3. Where you able to drop a rented school or second shift?
4. Do you have more or fewer teachers than before?
5. What are the qualifications of your teachers? (TTI/University/etc.)
6. What is the average experience level of your teachers?
7. Is the MOE supporting your school as expected? Maintenance? Books? Equipment? (Old or New?)?
8. What utilities are now available? (Water, Electricity, W.C. Facilities).
9. Is there a recreational area? Recreational program/equipment for students?
10. Is your school used after hours? How?
11. Does the community contribute to or participate in school affairs?
12. Is the No. of periods for each subject sufficient?

ElementaryPreparatorySecondary

13. How are your students doing on national tests?
14. What is the passing level for your students? (percentage)
 Elementary _____ Preparatory _____ Secondary _____
15. Drop-out level? (percentage)
 Elementary _____ Preparatory _____ Secondary _____
16. What are some of the reasons for dropping out?
17. What do the students do after graduation? Higher Education?
 Vocational? Army? Marriage? etc...
18. Is there a student feeding program? How many students are fed daily?
19. Have there been any changes in enrollment figures due to
 construction of this school?
20. What has been the impact of the new school itself to the quality
 of education you and your teachers now provide to your students?
21. Does your school have a student counseling program?
22. Does your school have health services available for students?
23. Where do the teachers live?
 In the community _____ Commute _____ from where _____?
24. Does the school own/provide staff housing?
25. What are the average hours in a school day?
26. How many hours of instruction per student per week?
27. Are teachers assigned extra duties outside of the classroom?
 What kind?
28. Are teachers evaluated as for teaching effectiveness? If so, How?

SCHOOLS CONSTRUCTION I
INTERIM PROJECT EVALUATION
BASIC INFORMATION ON PROJECT SCHOOLS

		<u>Status</u> ^{1/}	<u>Floors</u>	<u>Classrooms</u>	<u>Students</u> ^{2/}	<u>Levels</u> ^{2/}	<u>Rural/ Urban</u>	<u>Double Shift</u>	<u>Building Used aft Hours</u>
1.	Anjara	0	2	17	G	EPS	R		X
2.	Ashrafiya (Amman)	0	3	24	B	-PS	U		X
3.	Nazzal (Amman)	0	3	24	G	-PS	U	X	X
4.	Marka (Amman)	0	3	24	B	-PS	U		
5.	Qusour (Amman)	0	3	25	B	EPS	U	X	
6.	Nuzha (Amman)	0	3	24	B	EPS	U	X	
7.	Um Heran (Amman)	0	2	13	G/B*	EP-	U		X
8.	Mafraq	0	2	18	B	--S	U		
9.	Irbid	0	3	26	G	--S	U		X
10.	Kufur Asad	5/30/80	2	16	B	-PS	R		
11.	Ramtha	9/23/79	2	16	G	E-S	U		
12.	Dier Abu Said	9/23/79	2	16	B	EP-	U		
13.	Buhaira (Salt)	10/01/79	3	24	B	EP-	U		
14.	Azeria (Salt)	10/15/79	3	24	G	EP-	U		
15.	Ma'ayta (Kerak)	6/31/80	3	24	B	EP-	U		
16.	Shameyya (Ma'an)	1/28/80	2	16	G	E--	U		
17.	Tafilah	1/05/80	2	16	G	EP-	U		
18.	Batrawi (Zarqa)	11/10/79	3	<u>24</u>	G	--S	U		

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1/ 0 = Operating, 0=9; otherwise, expected completion date

2/ Actual where operating; other, planned

G=9
B=9

E=11
P=13

S=11

U=16
R=2

N=3

N=5

* Boys temporary

SCHOOLS CONSTRUCTION I
INTERIM PROJECT EVALUATION

STUDENTS
(Operating Schools Only)

	<u>TOTALS</u>		<u>ELEMENTARY</u>			<u>PREPARATORY</u>			<u>SECONDARY</u>		
	<u>Girls</u>	<u>Boys</u>	<u>Grades</u>	<u>Girls</u>	<u>Boys</u>	<u>Grades</u>	<u>Girls</u>	<u>Boys</u>	<u>Grades</u>	<u>Girls</u>	<u>Boys</u>
1. Anjara	647	----	-----6	108	----	123	344	----	123	195	----
2. Ashrafiya (Amman)	---	1325	-----	---	----	--3	---	225	123	---	1100
3. Nazzal (Amman)	1525	----	-----	---	----	--3	325	---	123	1200	----
4. Marka (Amman)	---	1008	-----	---	----	-23	---	525	123	---	480
5. Qusour (Amman)	---	1085	--3456	---	563	123	---	411	12-	---	1100
6. Nuzha (Amman)	---	855	-----6	---	170	123	---	403	1--	---	280
7. Um Heran (Amman)	180	120	123---	120	120	123	60	---	---	---	---
8. Mafrag	---	583	-----	---	---	---	---	---	---	---	---
9. Irbid	1200	----	-----	---	---	---	---	---	123	1200	---
TOTALS	<u>3552</u>	<u>4976</u>		<u>228</u>	<u>853</u>		<u>729</u>	<u>1564</u>		<u>2595</u>	<u>2550</u>
	=====	=====		===	=====		---	=====		=====	---

CAPITULATION

	<u>Girls</u>	<u>Boys</u>	<u>Totals</u>	<u>Percent</u>
Elementary	228	853	1081	12.7%
Preparatory	729	1564	2293	26.9%
Secondary	<u>2595</u>	<u>2559</u>	<u>5154</u>	<u>60.4%</u>
Totals	3552	4976	8528	
Percent	41.7%	58.3%		100.0%

SCHOOLS CONSTRUCTION I
INTERIM PROJECT EVALUATION
FINANCE - FAR PAYMENTS APPROVED

Dollars (\$000)
(1 JD = \$3.33)

Loan Amount: \$7,000,000

December 31, 1979

School Name	Total possible Reimbursement (JD 000)	Initial 30%	Interim 35% (JD 000)	Final 35%	Estimated Completion Date
1. Anjara	100.3	30.1	35.1	35.1	Completed
2. Ashrafiya (Amman)	150.6	45.1	52.8	52.8	Completed
3. Bazzal (Amman)	150.7	45.1	52.8	52.8	Completed
4. Marka (Amman)	150.7	45.1	52.8	52.8	Completed
5. Qusour (Amman)	150.7	45.1	52.8	52.8	Completed
6. Nuzha (Amman)	150.6	45.1	52.8	52.8	Completed
7. Um Heran (Amman)	100.3	30.1	35.1	35.1	Completed
8. Ma'fraq	100.3	30.1	35.1	20.1 ^{1/2}	Completed
9. Irbid	150.7	45.1	52.8	52.8	Completed
10. Kufur Asad	100.3	30.1	35.1	-	5/30/80
11. Ramtha	100.3	30.1	35.1	-	9/23/79
12. Dier Abu Said	100.3	30.1	35.1	20.1 ^{1/2}	9/26/78
13. Buhaira (Salt)	150.7	45.1	52.8	30.2 ^{1/2}	10/1/79
14. Azeria (Salt)	45.1	45.1	-	-	10/15/79
15. Ma'ayta (Kerak)	46.9	45.1	-	-	6/31/80
16. Shameyya (Ma'an)	100.3	30.1	35.1	-	1/28/80
17. Tafilah	150.7	45.1	52.8	30.2 ^{1/2}	11/10/79
TOTAL	2,100.0				
Payments to Date	1,882.6	691.8	703.2	487.6	
1/ First part of final	(89.6%)				