

PI-ANN 1063  
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A.I.D. EVALUATION SUMMARY: PART I

A. REPORTING A.I.D. UNIT: USAID/EGYPT  
B. WAS EVALUATION SCHEDULED IN CURRENT FY EVALUATION PLAN? yes X slipped \_\_\_ ad hoc \_\_\_  
C. EVALUATION TIMING interim \_\_\_ final \_\_\_ ex post \_\_\_ other X  
ES#: 87-2

D. ACTIVITY EVALUATED:

<u>Project #</u>	<u>Project Title</u>	<u>First PROAG (FY)</u>	<u>PAC (mo/yr)</u>	<u>Planned LOP Cost</u>	<u>Amount Obligated</u>
263-0139	Basic Education	81	6/91	\$190 M	\$105 M

<u>E. ACTION DECISIONS APPROVED BY THE MISSION DIRECTOR</u>	<u>OFFICER RESPONSIBLE</u>	<u>COMPLETION DATE</u>
1. USAID should urge the MOE to reassess its objectives for practical subjects, based on evaluation findings and taking resource constraints into consideration.	S. Grant and M. Gamal El Din, USAID/HRDC/ET	6/87
2. USAID and the MOE should reformulate equipment lists, once the CP to improve equipment use has been met, and objectives for practical courses have been clarified.	S. Grant and M. Gamal El Din, USAID, Hamed Soliman, First Undersecretary, MOE	12/87
3. USAID is exploring the feasibility of new teacher training and textbook production projects as a means to improving educational quality. HRDC/ET is currently preparing Concept Papers for new activities in these areas.	S. Grant & W. Charleson, USAID/HRDC/ET	NA

F. DATE OF MISSION REVIEW OF EVALUATION: September 1987

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

<u>TECHNICAL OFFICE</u>	<u>PROGRAM/EVALUATION OFFICE</u>
M. Gamal El Din, HRDC/ET	S. Conly, PPP/PL
S. Grant, HRDC/ET	V. Mouldren, PPP/PL
W. Charleson, HRDC/ET	S. Anderson, PPP/P
B. Wilder, AD/HRDC	G. Laudato, AD/PPP

APPROVED BY: Arthur M. Handly, DIR (A)

DATE: 5/1/87

## H. EVALUATION ABSTRACT

The Basic Education Project aims to expand access and to improve the quality of education in Egypt by financing school construction, equipment and advisory services. This is the third report in a life-of-project study of project impact, based on statistical data from a sample of new and control schools, and qualitative information from household interviews. Major findings and conclusions follow:

- Newly constructed schools have drawn new children into the education system. Enrollment increases in new school areas greatly exceeded those in control areas. Grade 1 enrollments increased 29% and 15% for girls and boys in the first year of new school operation, compared with 8% and 3% at control sites. Second year impacts were smaller but still significant. Enrollment impacts were greatest for disadvantaged groups, including girls. Factors affecting initial enrollment include distance from school, overcrowding and economic status.
- The new schools have reduced dropout. Dropout decreased faster at new schools than at control sites, and decreases were greater for girls than for boys. Academic failure, gender-related factors, grade repetition, distance from school and economic status all appear to influence dropout.
- Current dropout and repetition rates are relatively low. About 30% of all children repeat a grade, and 10% drop out before reaching Grade 6.
- Academic achievement was not affected by moving to the new schools; Grade 6 examination results did not differ significantly for new and control schools. The calibre of principals has a major effect on school achievement. Size, location and age of school, and single or double shifts were not related to school achievement levels.
- USAID-financed equipment for practical subjects is not well utilized. Students performed poorly on practical course tests, since inadequate funds for materials limit opportunities for classroom practice, and teachers are poorly trained.
- Technical assistance (TA) financed by USAID has had no discernible impact on the MOE or on schools. Only one of four completed TA studies is being implemented; six studies are still incomplete.

Recommendations to USAID and the MOE include the following:

- Continue school construction in underserved areas; since overcrowding constrains enrollments, build larger schools in high density areas.
- Mount a major program to improve instruction, emphasizing learning objectives, and diagnostic and remedial programs. Focus resources on early primary grades for maximum impact.
- Clarify the desired outcomes for practical courses. USAID should not provide more equipment until current problems related to equipment use are resolved.
- Resolve the status of ongoing TA work orders and follow-up on completed reports. Narrow the focus of future TA efforts, and build in follow-up mechanisms.

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## I. EVALUATION COSTS

<u>Evaluation Team</u>	<u>Contract or Person Days</u>	<u>Contract Cost</u>	<u>Source of Funds</u>
Wade Robinson	Creative Associates	\$1,182,613	Project
Nadia Makary	263-0139-C-00-3009-00	(life-of project)	
Wells Hively			
Andrea Rugh			

Mission Staff time: 18 person days

Grantee staff time: 22 person days

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A.I.D. EVALUATION SUMMARY, PART II  
J. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

USAID/EGYPT: BASIC EDUCATION PROJECT (263-0139)  
THIRD ANNUAL EVALUATION REPORT: EXECUTIVE SUMMARY

PROJECT PURPOSE: The Basic Education Project aims to expand enrollments of rural Egyptian children in Grades 1-9, and to improve the quality of their education. The \$190 million project finances school construction, and provides educational equipment and advisory services to the Ministry of Education (MOE).

EVALUATION PURPOSE: This report presents the third year results of a life-of-project research effort to examine project impact in the following areas:

- increasing enrollment and continuation;
- increasing student achievement and skills;
- improving the relevance, effectiveness and efficiency of education.

The study also attempts to identify other school and environmental factors influencing educational participation, that may amplify or constrain project impacts. Major data sources include (i) enrollment, dropout and achievement statistics gathered for a statistically representative sample of new and control schools (the "extensive" study) and (ii) interviews with a small sample of households to obtain qualitative information (the "intensive" study).

MAJOR FINDINGS AND CONCLUSIONS:

I. IMPACT ON ENROLLMENT: Construction of new schools has significantly increased Grade 1 enrollment. Grade 1 enrollment for the new school sample increased an average of 15% for boys and 29% for girls in the first year of new school operation, considerably higher than the anticipated 9% increase for the entire project period. Second year impact - a 10% increase for boys and 17% for girls - was smaller but still significant. Increases at new school sites greatly exceeded increases at control sites, where Grade 1 enrollments increased 3% for boys and 8% for girls in the first year, and 1 and 3% in the second year of the project.

The new project schools have therefore drawn children into the education system over and above the independent trend of increasing enrollments. The dramatic initial increase in Grade 1 enrollment, after the opening of the schools, reflects their tendency to enroll the backlog of eligible children in the area in their first year of operation. The smaller second year increase in Grade 1 enrollments reflects the reduced "pool" of eligible children.

Impact of new school construction on enrollment has been greatest for target disadvantaged groups. Prior to the project, girls, children from poor families, and children in remote, rural villages constituted the major group of unenrolled children. After the new schools opened, the greatest increases in initial enrollment occurred in the most remote villages in the intensive study, and girls' enrollments increased faster than boys' enrollments.

Other factors that influence Grade 1 enrollment include:

- Distance: The highest age group enrollment rates in the intensive study were observed for children living within one kilometer of a school;
- Overcrowding may constrain initial enrollment in Grade 1;
- Household Economic Status: There is a strong relationship between initial enrollment and economic status, particularly for girls.

II. IMPACT ON DROPOUT: The new schools have significantly reduced dropout in Grades 2-6. The average decrease in dropout in the first year of new school operation was 6% for boys and 12% for girls; in the second year, the decrease was 6% for boys and 17% for girls. These decreases compare favorably with control sites, where retention increased by 14% for boys and 45% for girls over a five year period.

The new schools have therefore had a statistically significant impact on dropout. Decreases in dropout have been proportionately greater for girls than for boys. Moreover, the intensive study indicates modest increases in persistence, after the opening of new schools, for disadvantaged target groups.

However, overall levels of continuation to higher primary grades are relatively high. Virtually all "ever-enrolled" 13 year olds in the intensive study had completed Grade 5, the presumed level of functional literacy. Data from the extensive study also suggest children are staying in school longer. Enrollment in Grade 1 should therefore be given the highest priority.

Other factors influencing dropout appear to include the following:

- Academic failure is the primary reason for boys' dropout.
- Gender-related factors are the primary reason for girls' dropout.
- Children who repeat a grade drop out more often than other students.
- Distance: Dropout increases with distance between school and home.
- Economic Status: Household economic status is inversely related to boys' dropout, but appears to be positively related to girls' dropout rates.

The household sample indicates that about 70% of enrolled children currently complete Grade 6 within the "normal" six year period, and 10% drop out prior to completing Grade 6. These dropout and repetition rates are relatively low compared to other developing countries, but still have significant opportunity costs. If these rates are nationally representative, and if they were reduced by half, the annual savings would be equivalent to adding 242 grade 1-6 schools.

III. IMPACT ON ACHIEVEMENT: There is no significant difference in achievement of literacy and numeracy in new and comparison schools, based on Grade 6 examination results. This is a positive indication that organization of new schools did not disrupt children's learning.

Factors associated with high academic achievement at schools include:

- The amount of homework assigned in science, Arabic and mathematics;
- Whether teachers and principals are from the local area;
- The principals' past teaching experience.

School visits and interviews pointed to the principal as an important influence on academic achievement.

Factors that do not appear to influence school achievement include:

- Size of the school;
- Urban or rural location of the school;
- the length of time the school has been operating;
- whether the school has single or double shifts;
- Gender of the principal.

The failure rate for practical carpentry and electricity tests administered by the evaluation team was relatively high for students at both new and comparison schools. Poor performance on practical tests reflects the following factors that serve to limit the impact of equipment financed by the project:

- inadequate funds for materials for classroom practice;
- the very theoretical orientation of teachers;
- inequitable distribution of equipment;
- inadequate equipment storage and work areas;
- lack of equipment maintenance and repair funds;
- practical course performance is not considered in student rankings.

Despite these problems, some schools made excellent use of the equipment, indicating that equipment use can be improved within existing constraints.

IV. IMPACT OF TECHNICAL ASSISTANCE ACTIVITIES: Technical assistance (TA) has had no noticeable effect on the policies, programs or operations of the MOE, its governorate offices or schools. Four work orders have been completed, and six others are still incomplete. Only one completed work order, on school design, is being implemented. A second is providing the basis for further research.

#### RECOMMENDATIONS:

1. The MOE and USAID should continue to improve access by building new schools in underserved areas; since overcrowding limits new enrollments, the MOE and USAID should consider building larger schools in high density areas.
2. The MOE, with technical assistance from USAID, should mount a major effort to improve instruction, emphasizing specific learning objectives and diagnostic and remedial programs. School principals and staff should be trained in the new approach, and where possible, recruited from local areas.
3. The MOE can further reduce unit costs of education by focusing resources on the early primary grades, and ensuring that children, once enrolled, achieve functional literacy and numeracy.
4. The MOE needs to reexamine practical courses to assess whether they are achieving the desired outcomes. Prior to provision of further equipment, the MOE and USAID should agree on specific actions to improve their current use.
5. USAID and the MOE need to identify appropriate areas and procedures for future TA and evaluation activities. Future TA should focus on a few, priority areas and incorporate a system for follow-up of TA recommendations. There should be formal mechanisms for USAID and MOE review of and feedback to TA and evaluation activities. Finally, the MOE and USAID still need to resolve the status and appropriate follow-up of completed and ongoing TA work orders.

## K. ATTACHMENTS:

### THIRD ANNUAL REPORT OF THE STUDY OF USAID CONTRIBUTIONS TO THE EGYPTIAN BASIC EDUCATION PROGRAM: VOLUME I, VOLUME II & SUMMARY OF SIGNIFICANT FINDINGS

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## L. COMMENTS BY MISSION

### 1. Life-of-Project Evaluations: Lessons Learned

This evaluation is one of two USAID "life-of-project" evaluation efforts in a portfolio of about eighty projects. The Basic Education study was originally conceived as a four-year empirical investigation of certain hypotheses by a single research team. The major benefit of the study has been its provision of empirical evidence of project impact at the village level; USAID all too frequently lacks hard data on the effects and impacts of its projects. The study has also provided valuable insights into social factors influencing enrollment and dropout.

The Mission has, however, learnt a number of lessons related to the design of life-of-project data collection efforts.

First, annual data collection efforts have been relatively costly (\$400,000 per year), but by the third year of the study yielded relatively little new information. The Ministry of Education and USAID considered the evaluation too expensive relative to the results; USAID has therefore reduced the scope and level of effort for the fourth and final year of the study.

Moreover, the study was overly "micro" oriented. The team gathered a wealth of data for a small sample of sites, but the data base lacks the capability to support analysis of the project's national and regional impacts on enrollments and variations in these impacts. It provides only limited guidance to the MOE for macro-level educational planning.

Finally, the evaluation has not contributed significantly to building MOE capacity to conceive and to manage similar field data collection efforts. However, it may be more useful to focus such efforts on improving the collection and analysis of national and regional education statistics, and designing and managing studies using cheaper, less sophisticated approaches. The technical assistance component of the recent Project Amendment is intended to address these issues.

The lesson is that long-term data collection efforts that are overly rigid and lack management input may lose their relevance and cost-effectiveness over time. USAID should build in flexibility and feedback systems to keep future life-of-project evaluations useful and responsive.

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## 2. Utilization of USAID-financed Equipment

The third annual report does make an important contribution, however, in the questions it raises regarding the utilization of \$10 million in USAID-financed equipment. The report suggests that the objectives of practical courses need clarification, since these have a direct bearing on the type and quantity of equipment required. Moreover, both this report and the previous year's report point to the need for substantial remedial action to ensure that equipment is appropriately distributed, stored, utilized and maintained.

In order to improve equipment use, USAID established a Condition Precedent for disbursement of funds for instructional materials and equipment under the Project Amendment. This CP requires the MOE to train teachers in equipment use and to provide adequate funds for expendable materials and maintenance. The MOE has a year to demonstrate that actions have been taken to meet this condition.

However, the MOE has been slow in taking remedial actions to-date, and the CP will require additional funding for expendable materials, maintenance and repair. USAID needs to be realistic regarding the MOE's ability to effect the desired changes. Given existing financial and institutional constraints, it may be more realistic to scale down the objectives and scope of the equipment supply program.

## 3. Improving Educational Quality

The report suggests that the MOE make major changes in the instructional system to emphasize learning objectives and introduce diagnostic testing and remedial programs. This recommendation does not flow logically from the preceding data and analysis. Moreover, it is too global and infeasible to be truly useful.

There are undoubtedly problems with the quality of education in many Egyptian schools. However, trade-offs between access to and quality of education are inevitable, given scarce available resources. Curricular reform is, moreover, always a politically sensitive issue.

Nevertheless, this recommendation has helped to focus the attention of MOE officials on the issue of educational quality. USAID is also exploring new project opportunities in in-service teacher training and textbook production. Project activities in these discrete areas may be a more realistic and politically acceptable approach to improving the quality of education than the comprehensive changes proposed by the team.

#### 4. Follow-Up of TA Studies

Both this and the preceding year's evaluation report highlight the MOE's failure to follow-up on studies conducted by the TA contractor. The evaluation recommends improved follow-up of TA reports, but this recommendation has already been anticipated to some extent by the Conditions Precedent in the Grant Agreement for the Project Amendment. The Agreement includes a number of CPs requiring that, prior to USAID disbursement for activities in certain areas, the MOE demonstrate that it has incorporated recommendations in TA reports into plans for project activities in those areas. The Project Amendment also calls for restructuring the TA component to make it more effective.

#### 5. School Size

The evaluation points out the need to build new schools large enough to meet enrollment needs over the next few years, and recommends "overbuilding" in areas of high population density. However, most USAID-financed Basic Education schools are designed so that they can be expanded. Additions have been built on to a number of schools that have demonstrated the need for additional space. USAID does not perceive this to be an important issue at this time.

XD-AAV-663-A

ISN 50273

THIRD ANNUAL REPORT  
OF THE  
STUDY OF USAID CONTRIBUTIONS TO THE  
EGYPTIAN BASIC EDUCATION PROGRAM

(Contract No. 263-0139-C-00-3009-00)

SUMMARY  
OF  
SIGNIFICANT FINDINGS

Submitted to: USAID/Cairo

January, 1987

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CREATIVE ASSOCIATES, INC.  
WASHINGTON, D.C.

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CREATIVE ASSOCIATES, INC.  
SUMMARY OF SIGNIFICANT FINDINGS

The study of USAID contributions to the Egyptian Basic Education Program evaluates the impact of project-financed construction, commodities, and technical assistance on the access to and efficiency of primary education in Egypt. Specifically, the study assesses whether project-financed contributions:

- increased the enrollment and persistence of children in Basic Education, particularly the targeted group of educationally disadvantaged rural and female children;
- increased student achievement and the acquisition of skills; and
- established an empirical base for decision making or help develop programs that increased the relevance, efficiency, and effectiveness of education.

The goals of the study are threefold:

- to evaluate impact;
- to determine what factors affect the desired outcomes of increased enrollment, persistence, and achievement, thereby accelerating or lessening the impact of project interventions; and
- to provide basic information about education in Egypt that is useful in policy decisions and future project design.

The four-part study compared quantitative data from the new schools and existing, control schools ("extensive study"); gathered and analyzed qualitative information on educational participation from a sample of households and new schools ("intensive study"); assessed the impact of equipment provided by the project; and considered the results of technical assistance provided.

The Third Annual Report expands on the two previous annual reports by reporting new findings and increasing the evidence for earlier findings. This section summarizes the significant findings. The section following presents recommendations.

## I. IMPACTS ON ENROLLMENT

### A. Project construction has had a significant impact on increasing enrollment.

- In the first year after new schools opened, grade one enrollments increased an average of 15 percent for boys and 29 percent for girls in the areas where the new

schools are located. Project impact on enrollments was considerably higher, therefore, in the first year alone than the 9 percent increase projected as a result of project construction.

- In the second year after school opening, the impact was less than in the first year, but still significant: 10 percent increase for boys and 17 percent for girls in the catchment area.
- The corresponding figures for grade one enrollment increases at the control sites are 3 percent for boys and 8 percent for girls in the first year; 1 percent and 3 percent, respectively, in the second year.
- Overall, for the two years period, total enrollment, grades one through six, increased 25 percent for boys and 46 percent for girls.

Comment. Recent increases in enrollment rates in the catchment areas of new schools and in the control sites, independent of the project, attest to the general eagerness of parents to educate their children. Enrollment remained low, however, in the new school villages until the new schools opened. The new schools permitted more children to join the rush for education. The impacts on enrollment represent children who would not have gone to school without the new facilities. Some are from the new school village itself; some are children newly enrolled in related schools because places were left vacant there by children going to the new schools.

Grade one enrollments in schools of the catchment area rose dramatically in the first year of new school opening, but rose less dramatically in the second year. In the first year, new schools often accepted backlogs of 7-year-olds, all 6-year-olds, and sometimes 5-year-olds. By the second year, therefore, the pool of eligible children was considerably reduced. Since most of the eligible-age cohort were enrolling in grade one from the first year of opening, a similar increase in the rates the following year could not occur.

B. Impact on enrollment of project construction was greatest for the target disadvantaged groups.

- Impacts on initial enrollment were greater in rural than urban villages.
- Girls' rates of increase were greater than boys'.
- Since the opening of new schools in the remote rural villages of the intensive sample, 74 percent of girls and 78 percent of economically disadvantaged children have enrolled, an increase from 69 percent and 60 percent, respectively, from two years preceding the construction of new schools.
- The remaining unenrolled girls in the intensive sample come from families with a history of resistance to educating girls.

C. A number of factors affect enrollment of children in grade one and therefore affect the extent of project impact.

- Distance. Historically, schools located close to children's homes have resulted in high ratios of grade one enrollment. In the younger generation of the intensive sample, when a school was located within one kilometer of the children's homes, 94 percent of males and 72 percent of females enrolled.
- Crowding. The new schools that showed crowding in the first year showed less impact on enrollment the second year than schools without crowding in the first year. In the new schools of the extensive sample, in urban and rural areas, half of the grade one classes evidenced crowding (45 or more pupils per class) in the first year and two-thirds were crowded after the second year.
- Economic level of household. The economic level of the household bears a strong relationship to rates of children's enrollments, with the strongest impact on girls' enrollments. Rates of enrollment increase dramatically as economic levels of households rise and rates of completing grade 9 increase modestly.

II. IMPACTS ON PERSISTENCE IN GRADES TWO THROUGH SIX

A. Project construction has significantly increased the persistence of children in grades two through six (using dropout as a proxy measure).

- A reduction in dropout rates attributable to project construction occurred over and above the decline in dropout rates that has been occurring independent of project interventions (an increase in persistence in the control sites over the six-year period between 1980/81 and 1985/86 was 14 percent for boys and 45 percent for girls).
- In the first year alone after new schools' opening, a decline in the dropout rate of 6 percent for boys and 12 percent for girls can be attributed to the construction. In the second year, the decline in rate of dropping out attributable to new school construction was an additional 6 percent for boys and 17 percent for girls.
- Thus, for the first two years after new schools' opening, the increase in persistence was 12 percent for boys and 29 percent for girls.

Over 90 percent of present 13-years-olds in the intensive sample who enrolled at one time have achieved the grade five level assumed to be the functional level of literacy.

Comment. Though project construction has had statistically significant effect on the dropout rate, the fact of already high levels of persistence to the higher grades of the primary level suggests that greater emphasis be placed on recruitment to grade one rather than on programs to reduce dropout. Both community and school intensive studies showed lower dropout rates than World Bank studies conducted in the late 1970s. Trends in the extensive study also suggest that children are staying in school longer.

B. Project construction has had an impact on the persistence of target disadvantaged groups.

- Impact on persistence ratios was higher for girls than for boys, in the extensive sample.
- Since the opening of new schools, of once-enrolled 9- to 12-year-olds in the intensive sample, 98 percent of boys, 90 percent of girls, 94 percent of children in remote rural villages, and 86 percent of economically disadvantaged children persisted to higher grades. These compare to persistence rates, in the two years preceding construction of new schools, of 91 percent of boys, 82 percent of girls, 91 percent of children in remote rural villages, and 82 percent of economically disadvantaged children.

C. A number of factors affect the dropout rate of children, not addressed by project interventions.

- Academic failure. Males dropout primarily because of academic failure.
- Sex-role related factors. Females dropout primarily as a result of sex-role related factors. However, once-enrolled girls dropout at roughly the same rates as boys although they tend to dropout at an earlier age.
- Grade repetition. Dropouts repeat grades more often than other students. Over one-half the dropouts of the intensive sample repeated at least one year before dropping out; only a third of those who completed grade nine repeated a grade.
- Distance. Dropout increases with the distance between school and home.
- Economic level of the household. Dropout decreases for boys and increases for girls with increases in the economic level of the household.

### III. IMPACTS ON EFFICIENCY

#### A. Project construction has had a significant impact on decreasing the wastage caused by dropout, particularly for the target disadvantaged groups.

- See the figures cited in IIA and IIB, above.

#### B. Current state.

- Of the 15- to 25-year-olds in the intensive sample (the cohort that was most recently of Basic Education age), 38 percent never enrolled and are illiterate (323); 14 percent are preliterate, having dropped out of school before grade five (116); and 49 percent are functionally literate, having completed grade five (or higher) (420).
- Out of 4,291 years of schooling purchased for this group, 6 percent (244 years) were wasted by repetition; eleven percent (478) were wasted by children dropping out before achieving functional literacy.
- Males in this group wasted higher than their share of educational resources. Although they only completed 17 percent of the successful school years (leading to functional literacy), they used 31 percent of years wasted by repetition.

Comment. Half of the 15- to 25-year-olds in the intensive sample are not functionally literate. With schools now available, most of their younger siblings enroll. Of those who enroll, however, a proportion will still dropout before achieving functional literacy. This proportion could be helped by enriching the first four years of schooling, thereby reducing dropout and repetition rates.

- Of the cohort entering grade one in 1985/86 (in the intensive sample), 75.4 percent will complete grade six in six years, assuming the current dropout and repetition rates remain constant.
- The cumulative dropout rate for the six grades of the primary level of the school sample was 10.1 percent.
- In school year 1985/86, of the 42,037 school years purchased for the intensive school sample, 1.3 percent were wasted by students dropping out before completing the functional literacy level of grade five (538) and 1 percent from grade repetition (321).

Comment. Although this wastage rate is low, it nevertheless represents a loss of resources for the GOE. If our figures reflect the situation in all Egypt and if remedial programs could reduce the inefficiencies by 50 percent, the savings would be the equivalent of adding 242 six-classroom schools operating at current efficiency levels.

#### IV. IMPACT ON EFFECTIVENESS

##### A. There is no significant difference between the achievement of literacy and numeracy in the new and comparison schools.

- In the first year after opening, sixth grade exam results did not differ significantly from matched comparison schools in either the extensive sample or the intensive school sample.

Comment. This is a positive finding, showing that the problems associated with organizing and operating a new school with new staff were not disruptive of children's learning. Since no changes in academic program were introduced in the new schools, one could not expect exam results to be higher in new schools compared with old, nor could one expect that one year in a new school would offset the effects of five years in the old schools, even if the program were better.

##### B. There is no significant difference between practical skills achievement in the new and comparison schools.

- Carpentry. Students in the new schools performed as well as did those in the comparison schools. Students scored on the average approximately 65 percent on the practical test.

Comment. The team believes the relatively low scores can be attributed to the scarcity of materials and the lack of teacher training.

- Electricity. So few new schools include electricity courses in their program that conclusive comparisons could not be made between new and comparison or urban schools. Students in schools where electricity courses existed, however, averaged 60 percent on the practical tests.

Comment. The team believes scores are low in electricity courses because teachers emphasize theoretical aspects of the subjects and give students little opportunity for practical experience. In any case, the provision of new buildings is unlikely to measurably impact on the learning of practical skills.

##### C. Three factors in the school environment are related positively to academic achievement.

- The amount of homework given in science, Arabic, and mathematics.
- Teachers and headmasters come from the local area.
- The number of years of teaching experience the headmaster has.

Comment. Based on school visits and interviews, the team concluded that the headmaster is an important influence on academic achievement. Those headmasters from the local community who exert strong leadership, run a well-organized school, and have a program to improve learning appear to have a positive effect on student achievement.

D. Several factors in the school environment do not appear to be related to students' academic achievement.

- School size
- Whether the school is in an urban or rural location
- New or older established school
- Single or double shifts
- Male or female school headmasters

E. USAID-funded equipment has shown no measurable impact on student literacy and numeracy achievement.

Comment. Sixth-grade examination results are not sensitive to equipment use. USAID equipment was furnished only in two academic subjects, science and social studies. The presence or absence of equipment has little effect on the teaching and memorization of theory, upon which the examination results depend.

F. USAID-funded equipment has shown a measurable impact on student practical skill achievement if it is assumed that a base zero existed before the provision of equipment.

- In the majority of schools where practical skills tests were administered, 50 percent or more of the students passed the tests.

G. The impact of equipment on student learning of practical skills was limited by the following factors.

- Inadequate material budgets
- Lack of teacher training
- Tendency to teach theory rather than practice
- Equipment distribution problems
- Inadequate work and equipment storage areas
- Lack of equipment maintenance and repair funds

Comment. The fact that some schools made excellent use of the equipment and demonstrated high student achievement in practical skills shows that the potential exists for better results from the provision of equipment. Because the scores of practical courses are not included in student rankings, their significance is reduced for students, teachers, and parents.

#### V. IMPACT OF TECHNICAL ASSISTANCE

A. There has been no noticeable effect of Technical Assistance as yet on procedures, policies, programs, or operations of the MOE or its governorate offices or in the schools.

- Of the four completed work efforts, only one, School Designs for Basic Education, is in the first stages of implementation. Another is serving as a source of recommendations for future work.
- The remaining six work orders are not yet complete and their effects, while potentially high, are not yet measurable.

## RECOMMENDATIONS

This section synthesizes and summarizes the most important recommendations of the Third Annual Report.

Recommendations are organized around the outcomes the project was intended to achieve: increased initial enrollment and persistence and an increase in the effectiveness of educational programs. In addition, sections suggest how to use resources more effectively, how to increase the impact of equipment use on practical-skills learning, and how to organize and improve the design for future technical assistance efforts. The recommendations specify the parties who would be responsible for implementing actions.

The recommendations are stated in order of the importance of the issue they address. The team feels the first concern of USAID and the MOE should be the question of access, i.e., to ensure that children who lack educational opportunities are provided with easily accessible facilities in which to learn. Once educational opportunities are available, the second concern of the MOE and USAID should be to effectively provide a quality education that permits children to achieve mastery over the basic skills required to function in the adult world.

Finally, comes the question of how to utilize current resources more efficiently through reductions in dropout and grade repetition. This is third not because efficiency lacks importance, but because programs to improve the quality and effectiveness of schooling, emphasizing student attainment of basic skills, would not only increase effectiveness but also contribute to efficiency. Half the dropouts, for example, do so for school-related reasons--most because of exam and learning failure.

### 1. To increase initial enrollments and persistence.

General Recommendation. To increase the access of Egyptian children to educational opportunities and make it possible for them to continue in school longer, USAID and the MOE should continue to construct schools in areas where facilities are inaccessible or more than 1.5 kilometers from population concentrations. This will ensure high initial enrollments and high persistence rates in the area.

- Because grade one crowding constrains enrollments at that level, the MOE and USAID should give serious consideration to how new school construction and design can anticipate future as well as current needs for space. In high population density areas where crowding in the new schools immediately can be anticipated, MOE planners should see that schools are overbuilt to provide excess capacity. In such cases they should also seriously consider expanding the new school to include grades seven through nine, especially when it is clear that there will be serious pressures on that level from increasing numbers of primary school graduates.

- To achieve universal enrollment in grade one, the MOE will eventually have to resort to special recruitment efforts and/or enforcement of compulsory education laws to bring the last children of resistant families into the system.

2. To increase the effectiveness of educational programs.

General recommendation. To increase the effectiveness of student learning, the MOE with support from USAID should mount a sustained program to improve the schools' instructional system. Such an instructional system should be based on the establishment of specific measurable learning objectives for each subject and grade, the selection of curriculum materials designed to accomplish these objectives, the use of teaching methods that foster mastery of the objectives by the student, and frequent review and diagnostic testing using criterion-referenced tests as a means of assessing students' attainment of the objectives and redirecting instruction appropriately. Such a system would stress the early identification and remediation of learning problems, thereby measurably increasing the schools' effectiveness.

- The MOE should develop diagnostic tests based on measurable instructional objectives and develop remedial programs for children who are diagnosed as not having mastered desired skills in grade one through four in all schools.
- The MOE should develop a program to identify and provide special help for schools where children's academic performance is low.
- The MOE should develop training courses for headmasters in outcome-based instructional systems.
- The MOE should continue present efforts to recruit headmasters and teachers from local areas.
- The MOE should review the outcomes in student learning of practical skills and consider whether Basic Education courses as currently designed and taught meet the goals intended for them. If not, practical skills courses need to be redesigned to produce the desired outcomes.
- USAID should provide technical assistance to support the above.

3. To increase the cost-effectiveness of educational programs.

General recommendation. To reduce the costs of education, the MOE can further decrease the levels of repetition and dropout in the educational system. This could be accomplished by the learning system already described, focused on student learning of specified objectives and providing continuous remediation as problems in mastering skills are diagnosed.

- The MOE should focus its resources on the early grades of the primary system to ensure that children develop functional literacy and numeracy skills.
- For reasons of cost-effectiveness and to provide more resources for improving the program in the primary years, the MOE may want to consider relaxing compulsory attendance rules after the primary level, so that children who are not benefiting from continuing in the regular system can find suitable alternatives.

4. To increase the effectiveness of USAID-funded equipment.

General recommendation. Before any more equipment is provided, the MOE and USAID should agree on plans for improving the support systems that will allow for more effective use of the equipment. These might include:

- in-service training of teachers in the use of equipment in practical courses, emphasizing hands-on use;
- review of lists of equipment and their specifications to ensure that they fit the curriculum;
- consideration of other subject areas where equipment might be useful;
- improvements in the systems of distribution, repair, maintenance, and storage, and budgets to support these changes;
- consideration of how low-cost alternative equipment could be produced in Egypt;
- provision of adequate materials budgets; and
- review of student evaluation procedures and the basic goals of practical learning to ensure that the objectives for which the courses were designed are being met.

5. To improve technical assistance.

General recommendation. USAID should design future technical assistance efforts with the following changes.

- Work efforts should concentrate on fewer areas of higher priority and should contain a system for the institutionalization of agreed-upon changes.

- A channel should be provided for USAID to voice its needs, concerns, and issues as part of the normal operation of the technical assistance effort and a system should be included for regular, formal, internal review and progress checks, with a formative evaluation component designed to provide feedback to all interested parties: the MOE, USAID/Cairo, and the contractor.

A continuing need exists for:

- a unit for formative evaluation to be set up in the MOE under the supervision of the next technical assistance contractor;
- an external evaluation making use of formative evaluation data to monitor the mid-course and evaluate the end-of-contract impacts;
- decisions worked out between the MOE and USAID/Cairo on the work efforts that should be implemented without further support, the work efforts that should be shelved or abandoned, the work efforts that should be provided follow-on technical assistance for development or implementation;
- the identification of new areas for technical assistance; and
- a design for a new technical assistance process with better laid-out decision-making structures, formal reviews, and evaluation procedures. The design should include provision for greater USAID/Cairo involvement.