A.I.D. EVALUATION SUMMARY PART I

PD-AAS-759 435 70

(BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS)

A. REPORTING A.I.D. UNIT (Mission or AID/W Office)
USAID/EGYPT
(ES # 86-2)

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN?
yes [X] slipped [ ] ad hoc [ ]

C. EVALUATION TIMING
interim [X] final [ ] ex post [ ] other [ ]

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program (s) evaluated; if not applicable, list title and date of the evaluation report)

Project #	Project/Program Title (or title & date of evaluation report)	First PROG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Obligated to Date ('000)
263-0139	Basic Education: Study of USAID Contributions to the Egyptian Basic Education Program, Second Annual Report, September 1985	FY 81	6/88	$85 M	$85 M

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

Action(s) Required	Name of officer responsible for Action	Date Action to be Completed
1. In the planned FY 86 project amendment: (a) continue emphasis on school construction in under-served rural areas (b) continue the two kilometer distance guideline between schools with provision to waive this where appropriate (c) consider incorporation of workshop space into new school designs (d) continue provision of instructional equipment and consider requiring MOE to provide maintenance/repair budget for equipment (e) consider expansion of equipment program to additional subject areas, e.g., physical education.	MGElDin & SGrant, HRDC/ET; Hamed Soliman, Under-Secretary, Educational Services, MOE	3/86
2. Resolve the following problems with the technical assistance (TA) component: (a) delays in approval of counterpart support and work schedules for remaining TA work orders (b) development of appropriate systems for follow-up and implementation	MGElDin & SGrant, HRDC/ET; Kamal Mansour, First Under-Secretary, of State, MOE	3/86

Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
(c) the appropriate mode for continued technical assistance under the planned project amendment.		
3. Revise the agriculture equipment list.	Bosayna El Kafrawy, Consultant, Basic Education, MOE	3/86
4. Continue in-service training efforts and explore complementary, innovative approaches to strengthening instructional techniques.	Thoraya Abdullah, Under-Secretary, Training, MOE	6/86
5. Review the need to establish improved, standardized systems for distribution, management and maintenance of educational equipment in Basic Education schools.	Bosayna El Kafrawy, Consultant Basic Education, MOE	3/86

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION mo 10 day 26 year 85

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Signature				
Typed Name				
Date				
	MGElDin, HRDC/ET		SConly, DPPE/PE	BWilder, AD/HRDC
	SGrant, HRDC/ET		VMolldrem, DPPE/PE	GLaudato, AD/DPPE
	WCharleson, HRDC/ET			AHandly, DD
	DCarr, DPPE/PAAD			FKimball, DIR

H. EVALUATION ABSTRACT (do not exceed the space provided.

The project aims to assist the Ministry of Education (MOE) in expanding enrollment and increasing the efficacy of basic education (grades 1-9) in Egypt. The project components are a school construction program, provision of instructional materials and equipment, and technical assistance. This evaluation report is the second in an anticipated life-of-project evaluation; over four years, the same evaluation team will collect annual data on the impact of the project. The major findings and conclusions are:

* The project is having an important impact on enrollments, particularly on female enrollment. The net impact of new schools has increased Grade 1 enrollments by 12.9% over a two year period, exceeding the project target of a 9% increase. The new schools have also increased enrollment in grades 2-6 by 6.4%.

* Household surveys confirm the dramatic impact of the new schools on local communities. Six-year old enrollments reportedly increased from 89% to 100% for boys and from 49% to 95% for girls in the household sample, after the new schools opened.

* The project strategy of targeting under-served, rural areas is more likely to result in major net increases in enrollment than construction of schools in urban areas.

* Priority should be given to increasing initial (Grade 1) enrollment, particularly for girls, since once children are enrolled, relatively high percentages complete both grades 3 and 6, presumed levels of functional literacy.

* The project "distance" threshhold of two kilometers between schools is generally sound but should be flexibly applied where benefits to waiving it appear significant.

* Instructional equipment provided under the project appears to have contributed to making learning more practically oriented. With the exception of agricultural equipment, it is generally appropriate in type and quality, but insufficient in quantity. There is an urgent need for continued teacher training and for other approaches to improve instructional techniques.

* Technical assistance has suffered a series of delays and is seriously behind schedule. More importantly, the MOE has made no attempt to implement the recommendations of completed technical assistance reports. Given these problems, it is premature to assess the impact, if any, of this project component.

I. EVALUATION COSTS

1. Evaluation Team

Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US$)	Source of Funds
Wells Hively Nadia Makary Wade Robinson Andrea Rugh	Creative Associates Inc.	263-0139-C-00-3009-00	$1,182,613 (3 years)	Project

3. Borrower/Grantee Professional 1 day/year

ATTACHMENTS (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier)

Study of USAID contributions to the Egyptian Basic Education Program: Second Annual Report and Summary, September 1985

COMMENTS BY MISSION, AID/W OFFICE AND BUREAU/GRANTEE

This is the second annual report of a unique life-of-project evaluation effort at USAID/Cairo to measure project impact through field research and primary data collection. The evaluation has been invaluable in documenting the impact of project-constructed schools on enrollment within a very short time. A shortcoming in annual reporting, however, has been a tendency for the methodology to obscure the overall conclusions and implications of the evaluation. The evaluation also has not contributed in any significant way to building local institutional capability to conduct similar research. There was virtually no substantive involvement of the MOE or other local institutions in the research design and data analysis, although the team did include a senior Egyptian consultant and MOE staff assisted in data collection. The evaluation has also been very costly, with a price tag of $1.2 million for the first three years. USAID may consider a more modest evaluation design for the planned FY 86 project amendment, since the marginal returns to extending the current study in its entirety beyond the anticipated four year period are likely to be limited.

Implications for Project Amendment: On the basis of evaluation findings to-date, the project can be considered a success, and as such the evaluation provides support for USAID's planned FY 86 Project Amendment. It also provides important guidance for the project design. First, it reinforces USAID's preferred strategy of supporting school construction in under-served rural areas, despite the MOE's interest in extending the project to urban areas. The evaluation considers a rural strategy as more likely to maximize enrollment and achieve universal education goals. Secondly, the current project "distance" criterion of two kilometers between schools appears justified by the findings regarding the impact of distance on enrollment. However, the evaluation suggests there may be instances when this guideline should not be strictly enforced.

Educational Wastage: USAID does not fully agree with the evaluation's conclusion that once enrolled, children generally persist in school to levels that should ensure them a level of functional literacy. The report implicitly suggests that educational wastage is not a problem.

We accept the team's findings that relatively high percentages of enrolled children (87% of boys and 79% of girls) complete Grade 3, but we question whether this really represents attainment of functional literacy. While completion of Grade 6 is a better indicator of literacy attainment, our own interpretation of the evaluation data on persistence through this level (68% for boys and 59% for girls) as well as through Grade 9, is that there continues to be significant wastage in the educational system. We do not

dispute the need to emphasize initial enrollment, especially for girls. However, we believe the MOE should follow a balanced strategy of both increasing initial enrollment and improving the internal efficiency of the system to the extent this is influenced by school-related factors.

Commodities Program: The evaluation also provides support for continued provision of instructional equipment. This is necessary to provide sufficient equipment both for practical teaching purposes and to complete school inventories. Among the constraints to effective utilization of this equipment identified, however, are the lack of adequate workshop space and funds for equipment maintenance and repair. The recommendation that the new school design incorporate workshop space appears a valid one and merits further consideration. USAID should also consider "conditioning" equipment provision to the allocation by the MOE of funds for repair and maintenance, necessary to ensure its optimal utilization.

Furthermore, the recommendation to consider local production of some commodities makes sense. The MOE should not rely indefinitely on U.S. suppliers for its instructional materials. The appropriate USAID role, however, should probably be to encourage the MOE to look to the private sector to meet these needs, and to facilitate the role of the private sector through USAID's Industry and Support project portfolio. Finally, the evaluation recommendation to expand equipment procurement to new subject areas is still under consideration by USAID. Given limited resources and AID regulations, it appears likely that the FY 86 Project Amendment may provide support for physical education equipment, but not for musical instruments.

Technical Assistance Program: The major disappointment has been the technical assistance effort (TA). The MOE has not utilized the TA contract effectively, despite the apparent need for policy-oriented and technical studies. (For example, the recommendation in the evaluation to explore innovative approaches to strengthening instructional techniques would appear to be an appropriate task for the TA contractor.) But the delays in approving TA activities and the lack of follow-up on completed reports indicate that the studies have not been perceived as being directly relevant and/or sufficiently implementation-oriented. The evaluation report identifies these problems with the TA component, but it does not make specific, useful recommendations for resolving them. Moreover, it emphasizes improved implementation of the recommendations of the TA studies, while the problem seems to stem from the design of the TA component, particularly the inadequacy of linkages to other project components and to the MOE's organizational structure. USAID needs to work closely with the MOE, not merely to resolve the bureaucratic delays, but also to identify a more useful paradigm for future provision of technical expertise to the MOE.

Long-Term Implications: The evaluation raises the issue of the increased demand for secondary school places likely to result in the next decade from the current expansion of basic education schools. In this context, the project focus on constructing grade 1-9 schools (as opposed to grades 1-6 schools) appears very valid. While USAID may not have an interest in assisting secondary-level education, we should ensure that the long-term implications of the current expansion for increasing demand for facilities at the secondary level are clearly understood at the highest levels within the MOE.

Evaluation Follow-up: The major findings and recommendations of the second annual evaluation report were presented by the evaluation team to the Minister of Education and key MOE officials at a meeting held on December 11, 1985. The Minister communicated his general agreement with the evaluation recommendations, and expressed the need to translate them into actions.

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (try not to exceed the 3 pages provided)
Address the following items:

- o Name of mission or office
- o Purpose of activity (ies) evaluated
- o Purpose of the Evaluation and Methodology Used
- o Findings and Conclusions
- o Recommendations
- o Lessons learned

USAID/EGYPT: BASIC EDUCATION PROJECT (263-0139)
SECOND ANNUAL EVALUATION REPORT, SEPTEMBER 1985

Background: The Basic Education Project aims to assist the GOE in expanding enrollments of rural Egyptian children, particularly girls, and to increase the efficacy of basic education in Egypt. The $85 million project was initiated in 1981 and comprises three major components:

(i) construction of basic education schools (grades 1-9) in ten governorates selected for their low educational enrollments, targeting under-served areas. The project is expected to increase enrollments of six-year olds in target areas by 9%.

(ii) provision of educational equipment to basic education schools to strengthen the teaching of practical and science subjects.

(iii) provision of technical assistance to the Ministry of Education (MOE) to conduct a series of studies to improve the relevance, efficiency and effectiveness of basic education.

Evaluation Purpose and Methodology: A life-of-project evaluation contract was awarded to Creative Associates Inc. in 1982 in order to assess the impact of USAID contributions to the Egyptian Basic Education program. The current evaluation report is the second annual report of a planned four year study. The evaluation utilizes data collected from school enrollment records and from sample surveys of households in the new school communities. School observation visits and interviews with headmasters, teachers and MOE officials provided complementary information. The evaluation is essentially a longitudinal effort and seeks to build on data in the first annual report. It comprises four separate but related studies:

(i) analysis of enrollment data to assess the net impact of the new schools on enrollment -- the "extensive" study;

(ii) a survey of households in the new-school communities to determine factors affecting school participation and persistence -- the "intensive" study;

(iii) an assessment of the adequacy and utilization of new educational equipment provided under the project;

(iv) an assessment of the implementation and impact of the technical assistance contract in support of the basic education program.

Findings and Conclusions:

(i) School construction component: The second-year evaluation report confirms the first-year finding that the project schools are having an important impact on enrollment, particularly on female enrollment. The new schools are drawing new children into the school system and increasing Grade 1 enrollments. The new schools are also "holding" children who may otherwise have dropped out owing to the distance to neighbouring schools, thereby increasing enrollments in Grades 2 to 6.

Date this summary prepared: 12/10/85

SUMMARY

The "extensive" study projects total enrollments in neighbouring schools in the absence of the new schools. It then compares these with actual enrollments for all schools in the area after the new schools opened. The difference is the net impact of the new schools. The average 12.9% net increase in Grade 1 enrollment, estimated for the two-year period since the opening of the new schools in the sample, substantially exceeds the project target of 9%. A detailed breakdown of percentage enrollment increases by grade and sex follows:

	Grade 1	Grade 2-6
Boys	11%	5.5%
Girls	16%	8.1%
Overall	12.9%	6.4%

The study estimates that 64 new students (34 boys and 30 girls) were added to each new school site over the two-year period, as a result of increased Grade 1 enrollments. Moreover, 90 students were added to Grades 2-6 as a result of decreased dropout in these grades during this two year period.

There is also some evidence that the more rural and isolated the site, the greater the impact of the new school, since the potential pool for first-grade enrollment is larger. The evaluation points out that new schools in isolated rural villages may be underutilized in the upper grades for a time. However, they may themselves act to stimulate chronic low enrollment rates, and are more likely to result in major net increases in enrollments (particularly in female enrollments) than new schools located in more modernized villages and towns. This conclusion supports the current project strategy of targeting under served rural areas, as more likely to meet MOE goals of universal education than building in areas of immediate need alone.

The findings of the "intensive" study confirm at the community level the project's impact on enrollment. Following the opening of new primary schools in the four sample villages, all six-year old boys in the household sample were found to be enrolled in school, and only 5% of six-year old girls remained unenrolled. This contrasts dramatically with 89% of six-year old boys and 49% of six-year old girls enrolled in Grade 1 three years prior to the opening of the new schools. Girls rates of age group enrollment in particular have shown phenomenal increases following the opening of the new schools. This is impressive statistical evidence of the rapid impact of the new schools on enrollment.

The study also concludes that the MOE focus should be on increasing Grade 1 enrollments, since once children have enrolled, relatively high percentages complete both Grades 3 and 6, presumed levels of functional literacy. Girls constitute the largest unenrolled group, and their initial enrollment should be given the highest priority. However, the report advocates caution in considering single-sex schools as a long-term solution to increasing female enrollments.

The intensive study also points out the significant impact of distance from school facilities on the initial enrollment of children in schools. At one kilometer, five times as many children enroll as stay home; at two kilometers and further, equal numbers go to school and stay home. These tendencies are exaggerated for girls. The report's findings indicate that the project criterion of a two kilometer minimum distance between schools is generally sound. However, in certain instances the "distance threshhold" may be significantly lower, and the two kilometer project guideline should not be strictly adhered to where benefits in terms of increased enrollment and/or persistence appear significant.

A final important issue raised by the evaluation regarding enrollment is that the current expansion of primary/basic education facilities will lead to tremendous pressure on preparatory level facilities in the next decade. The MOE needs to plan now for expansion of these facilities.

(ii) Commodities Program: This project component provides teaching aids and educational equipment to Basic Education schools. The equipment is intended to support Basic Education goals by facilitating practical learning, particularly in the three practical subjects and science.

Overall, the MOE equipment distribution system has worked relatively well, despite some minor problems. Approximately 93% of schools surveyed in 1984 had received some USAID-funded equipment. However, fewer than 10% had received their full allocation, underlining the need for continued assistance in order to provide sufficient equipment to all schools.

With the exception of agriculture teachers, the majority of teachers viewed the type and quality of equipment as appropriate, but felt that the supply of equipment was inadequate for their teaching needs. The evaluation team supported this view, stating that more equipment was necessary to permit students to use the equipment themselves. The majority of the agriculture teachers were dissatisfied with the equipment, which did not include items relevant to their curriculum or sufficient hand tools.

In the evaluation team's opinion, the equipment provided is for priority subject areas and is having an impact in changing the instructional emphasis in schools. More than half the teachers interviewed had recently received training in practical course instruction. However, the team felt that there is a need not only for further in-service training for teachers and headmasters, but also for other innovative mechanisms to improve instructional techniques. Finally, the evaluation identified the lack of workshop facilities in many schools and the lack of a budget for the repair and replacement of educational equipment as important constraints to optimal utilization of equipment. USAID and MOE should take steps to address these problems.

(iii) Technical Assistance (TA): The project provides for a host-country time-and-effort contract for provision of technical expertise to conduct studies of high priority to the MOE. These were anticipated to include studies in curriculum design, teacher training, and educational planning and economics. The Academy for Educational Development Inc. was awarded the contract.

From the very beginning, the technical assistance component suffered from a series of bureaucratic delays that caused work under the contract to slip increasingly behind schedule. The TA activity is now seriously behind schedule and may not be completed as planned within the contract period. Moreover, virtually no effort has been made to implement the recommendations of those TA reports that have been completed and accepted. Two completed reports have been shelved, and even a third, which was enthusiatically received, has not seen any follow-up action.

The evaluation concludes that under these circumstances it is premature to assess the likely impact, if any, of TA. It recommends that current priority be given to implementation, and that the Technical Secretariat be made responsible for developing a system to utilize recommendations in completed reports. The evaluation also recommends translation of all reports into Arabic. Finally, it suggests USAID and the MOE hold discussions to resolve the problems surrounding the technical assistance program, and to determine the need for continued support in this area.

XD-AAS-759-A 43571

creative associates

STUDY OF USAID CONTRIBUTIONS TO THE EGYPTIAN BASIC EDUCATION PROGRAM

SUMMARY OF THE SECOND ANNUAL REPORT

SEPTEMBER 1985

3201 NEW MEXICO AVENUE, N.W. • SUITE 270 WASHINGTON, D.C. 20016 • (202) 966-5804 • TELEX: 440523 CREA
1901 N. MOORE ST. • SUITE 920 • ARLINGTON, VA 22209 • (703) 528-8626

a

STUDY OF USAID CONTRIBUTIONS TO THE EGYPTIAN BASIC EDUCATION PROGRAM

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

SUMMARY OF THE SECOND ANNUAL REPORT

Submitted to: USAID/Cairo

September, 1985

Wells Hively, Ph.D., Team Leader
Nadia Makary, Ph.D., Project Coordinator
Wade M. Robinson, Ed.D., Senior Project Associate
Andrea Rugh, Ph.D., Anthropologist
Patricia E. Scully, Editor

CREATIVE ASSOCIATES, INC.
WASHINGTON, D.C.

10

ACKNOWLEDGEMENTS

We wish to express our gratitude to His Excellency, Abdel Salam Abdel-Ghaffar, Minister of Education; to His Excellency, Mohamed Kamal Monsour, First Undersecretary of Education; to His Excellency, Hamid Suliman, Undersecretary of Education; to Mr. Hassan Harass, Consultant to the Ministry of Education; to Mr. el Sawi Abdel Sami Ahmed and Mr. Azem el Saidi of the General Administration of Planning and Follow-up, Ministry of Education; and to the education officials of the governorates of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena, whose devotion to the quality of Egyptian education made this study possible. We also gratefully acknowledge the help of our hard working research assistant, Said Ali il Deeb, and the other field researchers who accompanied us in the data collection.

TABLE OF CONTENTS

	Page
Preface	v
Background	v
Chapter I: Intensive Study of New-School Communities	1
Chapter II: Extensive Study of the Impact of New Schools	23
Chapter III: Study of New Equipment	32
Chapter IV: Study of Technical Assistance	40

PREFACE

This is the Summary of the Second Annual Report of a four-year study of USAID contributions to the Egyptian Basic Education Program. The purpose of the study has been to collect information and develop theory that will help USAID and Ministry of Education (MOE) officials assess the impact of USAID contributions to the Egyptian Basic Education Program and plan future contributions to it, specifically in the areas of construction of new schools, provision of equipment for use in Basic Education classes, and provision of technical assistance to the Ministry of Education.

The USAID assistance is part of an unusually comprehensive, cooperative project designed to facilitate the development of the Basic Education Program and the extension of schooling to underserved populations. This study consists of four independent, but closely related, sub-studies: (1) the Intensive Study of New-School Communities, (2) the Extensive Study of the Impact of New Schools, (3) the Study of New Equipment, and (4) the Study of Technical Assistance. The Second Annual Report is designed so that the reader can fully understand the study and its progress to date without having to refer back to the First Annual Report.

The study officially began in January 1983. Preliminary site visits were made in February 1983, and major data collection efforts, involving site visits to villages where new schools were located and to schools where equipment was being utilized, took place in the fall of 1983 and the fall of 1984, with a follow-up visit to equipment schools in the spring of 1984. Data were also collected from Ministry of Education officials and records throughout the two years. This report updates the findings presented in the First Annual Report, dated October 1984, and presents new findings from the second year's work.

BACKGROUND

Compulsory free elementary education was proclaimed in the Egyptian constitution, Article 19, in 1923. However, lack of facilities and financial support prevented the early provision of broad educational opportunities for the population in general. It was not until the Revolution of 1952 under Gamal Abdul Nasser that a serious attempt to provide a broad-based education system began. The five-year plan for 1955-60 included within its provisions the goal of promoting universal primary education within a ten-year period. And indeed, in the period between 1956 and 1966, a number of impressive advances in education took place.

In Law #213 of 1956, education from grades one through six was declared compulsory and subsequently a number of measures were taken to encourage voluntary compliance with the provision; in 1962, the system was declared tuition free; and between 1956 and 1966 school facilities were built across Egypt to provide for the rapidly expanding enrollments. However, in the 1970s the system struggled to keep up with the popular demand for education.

Between 1967 and 1977, a decade of military spending and economic depression halted the construction of school facilities, resulting in severe overcrowding and general decline in the quality of Egyptian education. By the end of the 1970s, 60 percent of elementary schools and 30 percent of preparatory schools had a two-shift school day.

Despite adverse conditions in the decade of the 1970s, enrollments in primary and preparatory levels increased overall, 13 and 69 percent, respectively. In 1976, 43.5 percent of all Egyptians had experienced some schooling (including 29 percent of women). By the school year 1978-79, 68.2 percent of relevant age primary school and 59 percent of preparatory school children were enrolled. Of these enrolled children, females comprised 40 percent.

Despite general important advances in the educational system, access to education is still not equally available to all Egyptian children. Major disparities are still found between males and females, urban and rural, and Upper and Lower Egyptians. In 1977-78, from among six- to twelve-year-olds, 90 percent were enrolled in urban areas and 62 percent in rural. Of these, 94 percent of males enrolled in urban areas and only 75 percent in rural areas; girls enrolled 86 percent of the time in urban and 46 percent in rural areas. Girls' ratios of total enrollments have remained a fairly static 35 to 40 percent between 1965 and 1979. However, the absolute numbers of females out of schools has been increasing as a result of an ever-expanding population base.

Education plays a significant role in Egyptian life. If affects social mobility, the level and distribution of income, and the quality and quantity of the work force. Education contributes to a well-informed citizenry and to the realization of the full potential and self-esteem of individuals. Because of the important consequences to the nation and to its citizens, the MOE laid plans in the early 1980s to overcome the deficiencies hindering the expansion of school enrollment and attainment, especially among less-advantaged populations of the country.

In 1981, compulsory education was extended from six to nine years, under a Basic Education curriculum that was to increase the efficiency and skill level of students in both academic and practical course areas. With the cooperation of USAID, the MOE also embarked on an ambitious program to increase the number of institutional facilities available to school children, under the assumption that lack of facilities was a main hinderance to educational participation.

NEW SCHOOL CONSTRUCTION

The 1950s and early 1960s saw an extraordinary volume of school construction as Egypt set about accomplishing the goal of universal free education. This activity was interrupted by the large share of the Egyptian budget allocated to national defense in the late 1960s and early 1970s. In

the late 1970s, attention returned to school building, which by that time had fallen seriously behind population growth. On September 20, 1982, Minister Helmy announced that the five-year plan to meet the new needs of an expanded student body envisioned the construction of almost 2,000 primary and preparatory schools with annual allocations increased for education to LE 102 million from a then-current rate of 71 million. Although it was an unusual step for USAID, which ordinarily does not provide funding for "bricks and mortar," an agreement was reached between USAID and MOE for an extensive new school-building program aimed specifically at reaching educationally disadvantaged rural populations.

To make most effective use of limited resources, MOE chose to begin building schools in governorates where rural enrollments and enrollments of girls were particularly low, identifying in the first phase of the project the governorates of Kafr il Sheikh, Beneira, Assiut, Sohag, and Qena. Specific sites within the governorates were chosen after the MOE prepared up-to-date school maps that identified the areas most lacking in facilities. A basic criterion set a two-kilometer minimal distance between location of a new school and already existing facilities.

MOE officials worked with local citizens to obtain donations of land for the schools, and construction was financed by USAID in such a way as to ensure rapid completion of the buildings. A standard school building design was used, the basic module being classrooms for grades one through six, expandable to grades one through nine, electricity, water facilities, and indoor toilets. This initial design resulted in an easily constructed, inexpensive, and utilitarian school. (New designs are the subject of one of the technical assistance studies.) School construction in the first five governorates has now been followed by construction in five additional governorates where work already had previously been completed on up-to-date school maps.

In discussions surrounding the choice of new school locations for this ambitious project, many questions arose about the factors that facilitate or stand in the way of children's attendance in school--social factors, distance, economics, and so forth. These concerns, along with a need to assess the direct impact of the new schools on enrollment and literacy, form the background for the Intensive Study of New-School Communities and the Extensive Study of the Impact of New Schools.

NEW EQUIPMENT SUPPLY

By the late 1970s, the primary and preparatory schools in Egypt lacked not only appropriate facilities, but also instructional equipment in the classrooms. With the advent of the Basic Education program, it became imperative to provide equipment for teaching the practical courses in the primary and preparatory schools. Also, it was necessary to upgrade equipment in the science classrooms, because much of the equipment was worn-out or obsolete and many schools had none.

As part of the general agreement between USAID and the Government of Egypt to support the Basic Education program, the commodities import program was used to supply the requisite equipment. The Ministry assembled meetings of supervisors in the pratical courses, science, and social studies, and charged them with drawing up lists of equipment needs. After the lists were determined, a system was devised for tendering, purchasing, receiving, storing, and distributing the equipment to the schools.

New equipment may require new school practices/procedures for storage, maintenance, and replacement; procedures for acquiring raw materials; training of teachers and administrators; and new kinds of classroom organization. These considerations form the background for the Study of New Equipment.

TECHNICAL ASSISTANCE STUDY

Once the school construction and commodities programs were established and operating well, USAID and Ministry officials turned their attention to the matter of how to provide the Ministry with appropriate expertise in technical areas such as curriculum development or teacher education, on an on-call basis over a period of time long enough to ensure adequacy of input.

Consequently, a decision was made to set up a three-year, host-country, time-and-effort contract through the Ministry of Education for the provision of technical assistance in support of the Basic Education Program. It was felt that such a contract would provide the Ministry of Education with the flexibility to call on expertise as needed and to adjust work efforts easily to fit new needs that might arise. This is the background for the Study of Technical Assistance.

CHAPTER I: THE INTENSIVE STUDY OF NEW-SCHOOL COMMUNITIES

This Second Annual Report of the Intensive Study of New-School Communities continues the evaluation of the impact of USAID-funded school construction. As with the First Annual Report, the study seeks to assess whether provison of school facilities meets the goals USAID and the MOE intended for them. These goals are:

- that the new schools increase enrollment rates and hold children in school longer;
- that the new schools reach the intended target groups of disadvantaged children--rural, poor, and underenrolled female populations.

These goals continue to be assessed in the context of the variables that independently affect the rates of educational participation. The study also seeks to provide basic data upon which planners can make rational decisions about how to accomplish universal levels of educational participation as quickly and efficiently as possible.

The Second Annual Report contains sections that extend the work of the 1983 field study. Our goals for the 1984 data collection were:

- continuation of the study of relevant variables affecting educational participation as identified in the 1983 field trip;
- assessing the relevance of as yet unidentified family characteristics that may have a bearing on educational participation;
- exploring school-related factors that may affect parental decisions about school sending (study of these issues is preliminary to an intensive study of school characteristics affecting educational participation that will be carried out in 1985 and 1986);
- providing preliminary evidence on the impact of single-sex schools on girls' ehrollments;
- completing the basic information file on six villages;
- developing the measures against which final impact can be assessed; and
- collecting enrollment information on comparison schools and "ideal" schools in markaz capitals to assess the preliminary impact of USAID schools already in place.

The Intensive Study is, as its name suggests, an in-depth study of the factors affecting educational participation in new-school sites in order to inform and assess the effects of USAID contributions.

DATA COLLECTION

The 1984 data collection returned to four sites surveyed in 1983: Monshat il Awkaf (Beheira), Ghaneyem (Assiut), Nag il Khutaba (Qena), and Nag Dahi (Qena). In addition, two new sites, Roda (Kafr il Sheikh) and Nag il Harif (Sohag), completed the sample from the last two of the five governorates that were included in the first-phase building program.

Data collection was carried out in November and December of 1984 in basically the same manner as the 1983 data collection with community leader initial or follow-up interviews as appropriate and a sample of approximately 40 household interviews in each village. In the old sites we returned, where possible, to the original households. Our goal this year was to complete the data collection in the last two intensive sites where USAID-funded schools were newly opened, to finalize the baseline data on four sites surveyed the previous year, to explore questions raised by the 1983 results, and to check on the reliability of 1983 data by re-asking some of the questions again.

Two schools, in Beni Rafa and Nag il Taref, that were near completion at the time of the 1983 baseline collection did not open as planned in 1984 and thus necessitated revision of the data collection schedule. In their place visits were made to Ghaneyem and Khutaba. The revised schedule of data collection appears in Table I-1.

Table I-1: Data Collection Schedule

Site and Year School Opened	Fall Collection 1983	Fall Collection 1984	Fall Collection 1985	Fall Collection 1986
Manshiya 1983	x		x	x
Kafr Nekla 1983	x		x	x
Monshat il Awkaf 1984	x	x		x
Khutaba 1983	x	x		x
Nag Dahi 1983	x	x		x
Nag il Taref 1985	x		x	x
Ghaneyem 1983	x	x		x
Beni Rafa 1985	x		x	x
Roda 1984		x	x	x
Nag il Harif 1984		x	x	x

This Second Annual Report will provide a summary of the statistics collected in the six villages in the 1984 field study. Next year's report will add the last four villages, and the final report will return to a discussion of the educational environments as represented in urban, rural, and mixed villages to show how these environments may have contributed to a differential rate of impact on enrollment and persistence in the new USAID schools. All the conclusions rely heavily on behavioral evidence for historical changes and trends and attitudinal data only for current opinions about present and future possibilities. Attitudes, however, are not here taken as necessarily predictive of behavior without further supporting evidence that there is a connection.

SUMMARY OF THE 1984 FINDINGS

This Report summarizes the completed data file on six of the ten villages of the Community Intensive Study. The major findings are as follows.

Educational Participation

Educational Attainment (see Figures I-2 and I-3). In the older generation (parents and grandparents of current school-age children), 52 percent of the males and 19 percent of the females were once enrolled in school for some period of time. In the younger generation, 90 percent of the males and 56 percent of the females over the age of six have now enrolled. From these data it is apparent that educational participation was well established before the advent of the new schools.

Enrollment in Grade One by Age Group. In the older generation the younger the male the more likely he was to have enrolled in school. A fairly consistent ratio of about 20 percent of older generation females of each age group enrolled throughout the 40-year period when it was appropriate for them to enter school. In the younger generation, since the early 1960s about 80 percent of the boys in each age group enrolled until recently when virtually all boys have enrolled. Girls' rates of age group enrollment have shown phenomenal increases. In the last two years, since new schools have opened in the villages, more than 90 percent of girls in the sample group have enrolled, an increase of 30 percent overall in two years in these six villages.

Figure I-2:
Ratio of Age Groups Enrolled--Older Generation

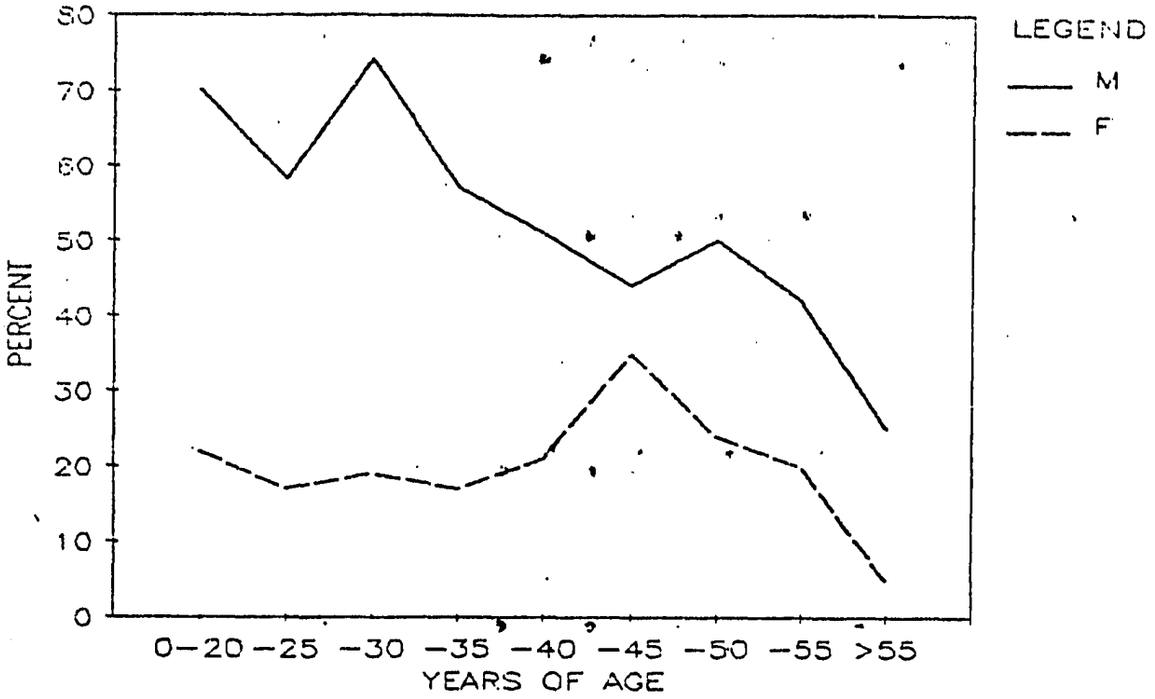


Figure I-3:
Ratio of Age Groups Enrolled--Younger Generation

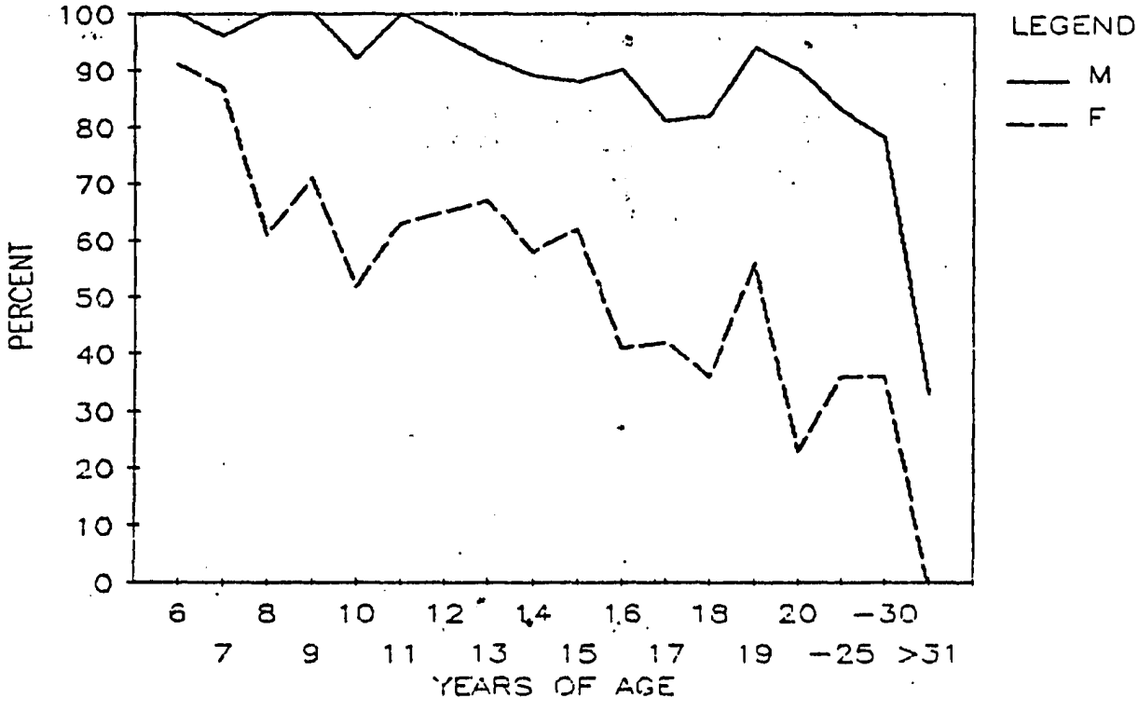


Figure I-4: Ratio of Age Groups Completing Grades Three, Six, and Nine-- Older Generation Males

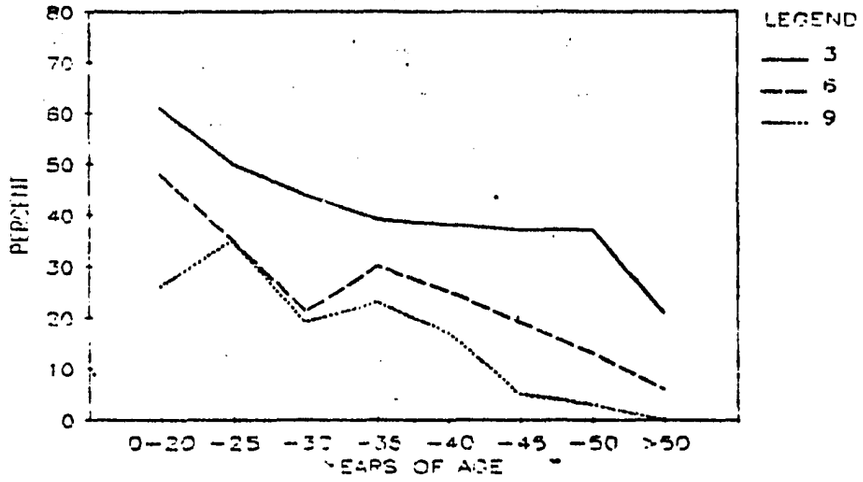


Figure I-5: Ratio of Age Groups Completing Grades Three, Six, and Nine-- Younger Generation Males

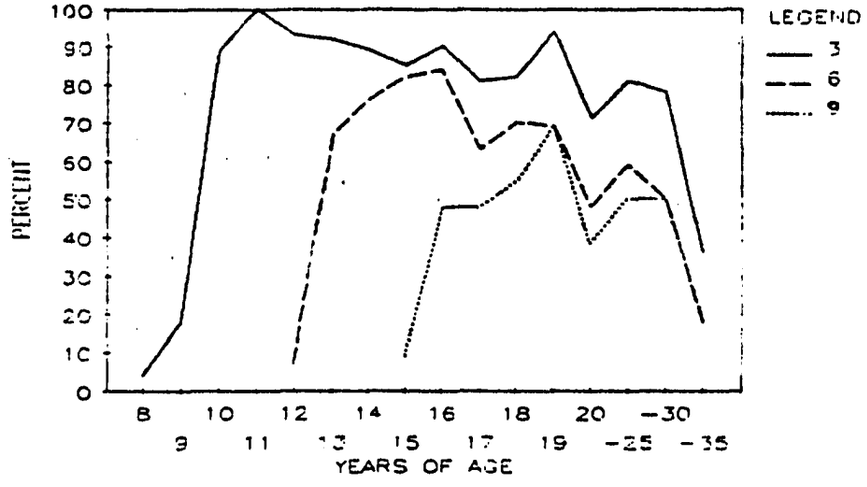
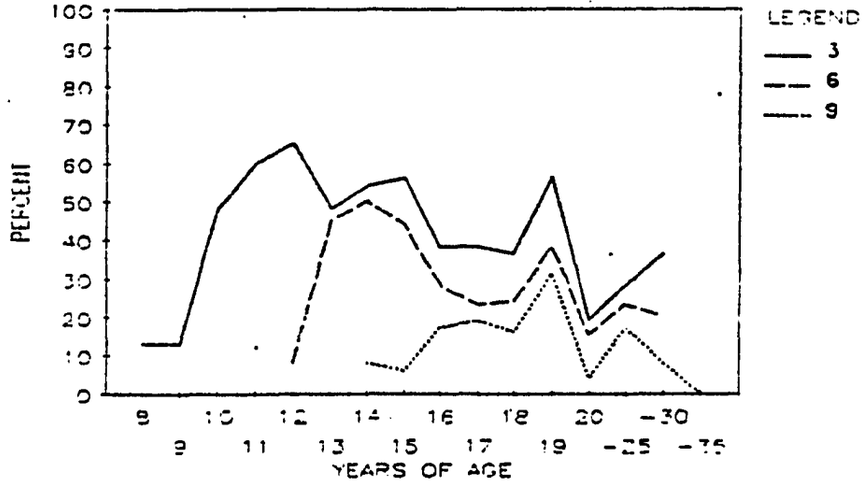


Figure I-6: Ratio of Age Groups Completing Grades Three, Six, and Nine-- Younger Generation Females



Persistence in School by Age Groups (see Figures I-4, I-5, and I-6; I-7, I-8, and I-9). Of older generation males, 38 percent completed grade three, 22 percent grade six, and 14 percent grade nine. Of younger generation men in the appropriate ages, the ratios were 78, 59, and 44, respectively. If we consider only the number of enrolling younger generation males who completed these levels, the ratios jump even higher to 87 percent completing grade three, 68 percent completing grade six, and 53 percent completing grade nine. The ratio of females of the younger generation in the appropriate age groups completing these grade levels were 41, 28, and 13 percent, respectively. Considering enrolled females only, the ratios were 79, 59 and 31, respectively. Once children enroll in school, therefore, high percentages finish grade three, and more than half finish grade six. Overall, as grade level rises enrolled girls are less likely than boys to persist to higher levels.

Dropout Rates. There is little difference between the rates of male (16 percent of enrolled) and female (19 percent of enrolled) dropout in the younger generation. There were no dropouts reported for the six- to eight-year-old age group of children and only three percent for ages nine to eleven. Thereafter, in the higher age groups, the numbers of dropouts increase. Since nine- to eleven-year-olds have usually completed from four to six years of schooling, enrolled children should in most cases have attained a functional level of literacy if the educational program is adequate. Dropout rates tend to be highest in sample villages where the occupational structure does not demand high levels of education. The dropout and persistence data suggest that children remain in school long enough for them to become reasonably literate once the obstacle of initial enrollment is overcome.

Reasons for Dropping Out or Not Enrolling. Older generation members reportedly did not enroll in school mainly because there were no schools available. In the younger generation, more important reasons were the high cost of schooling and the absence of someone to accompany the child to school. In the older generation, males dropped out before grade nine mainly for economic reasons and girls for normative reasons. In the younger generation, males primarily dropped out because they failed exams and girls because the family needed their work in the household. Increasingly, school-related factors appear to have an effect on children's persistence in school. Parents now are reluctant to cite normative reasons for keeping girls at home. They are more likely to recognize the economic benefits that derive from education for boys and see girls' education as an economic drain in lost labor or school costs if they are economically constrained to keep some children home.

Figure I-7: Enrolled Age Groups Completing Grades Three, Six, and Nine--Older Generation Males

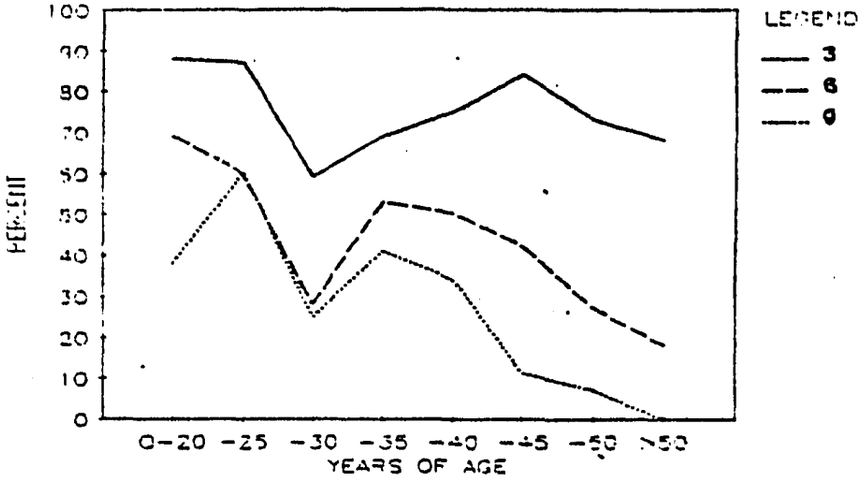


Figure I-8: Enrolled Age Groups Completing Grades Three, Six, and Nine--Younger Generation Males

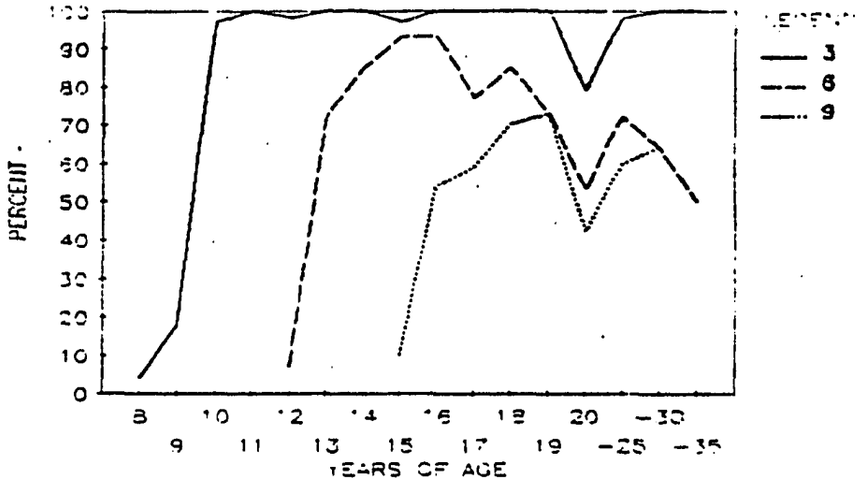
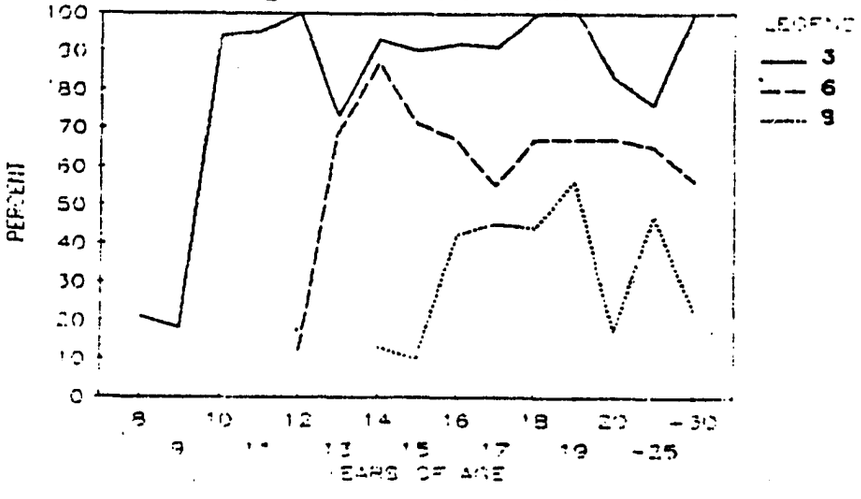


Figure I-9: Enrolled Age Groups Completing Grades Three, Six, and Nine--Younger Generation Females



Parent-Identified Variables and Educational Participation

The major variables identified by parents as affecting educational participation fell into three categories: economic, accessibility, and normative factors. In addition, parents of younger generation children who enrolled reported problems related to the school such as failed exams and children refusing to continue in school. Below, economic and accessibility (distance) impacts are summarized. Normative factors appear in all sections in sex-disaggregated data.

Economic Effects on Educational Participation (see Figures I-10, I-11, and I-12). Enrollment increases sharply and consistently with rises in household economic level for all children in both generations but especially for girls of the younger generation. Boys' rates of dropout decrease and girls' rates of dropout increase as household economic level rises. Overall there is an increase in those completing grade nine as income level rises, but the trend is not consistent. School costs are a significant factor in school-sending decisions for some families. Few families spend less than 40 LE per child per annum for primary-school children and the majority reported spending 100 LE or more for preparatory-level children.

Distance Effects on Educational Participation (see Figures I-13 and I-14). The threshold distance at which impact on enrollment becomes significant is between one and two kilometers. Children who live at one kilometer enroll at three times the rate of children who live two kilometers from school, and about five times as many go to school as stay home. At two kilometers, equal numbers go to school as stay home. Disaggregated, girls' figures show that already at one kilometer, ten percent fewer girls go to school than at one-half kilometer. By two kilometers, the ratio drops again by half. If schools were available within one-half kilometer of the homes of all village children in the sample, and trends persisted, boys' enrollments would increase by 7 percent and girls' enrollments by 26 percent.

As distance of the school from the home increases, boys' rates of dropout increase precipitously up to three kilometers, then decrease slightly. Girls' rates of dropout increase only slightly with distance. In contrast to the strong relationship to enrollment, there is not a strong and consistent relationship between sample members' dropout and the distance to school.

Parental Choices

In the context of family requirements, parents make choices about sending their children to school. Below are summarized data on patterns that emerge from educational profiles of families. Parents are not necessarily aware of these patterns.

Figure I-10: Economic Level and Enrollment--
Older and Younger Generations

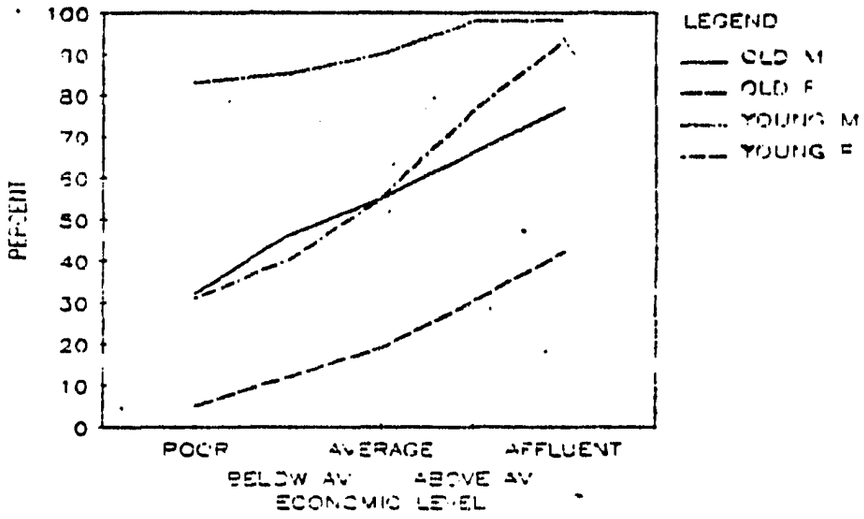


Figure I-11: Economic Level and Dropout--
Older and Younger Generations

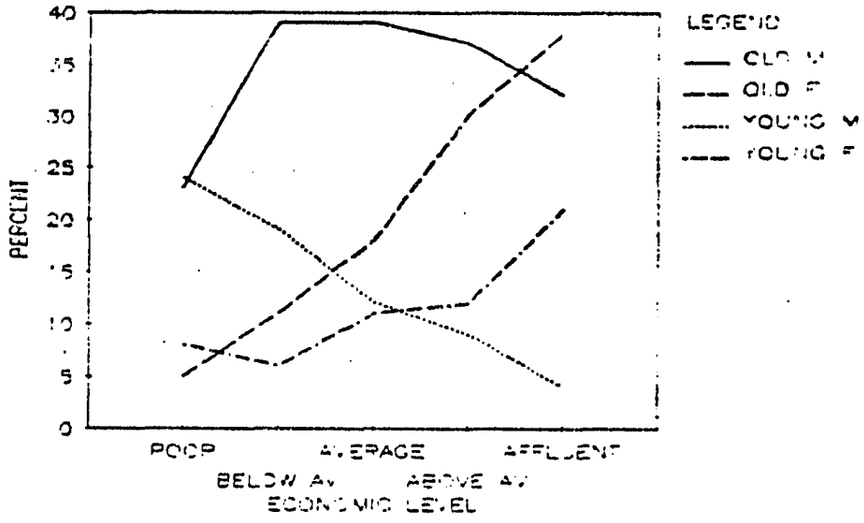


Figure I-12: Economic Level and
Completion of Grade Nine--
Older and Younger Generations

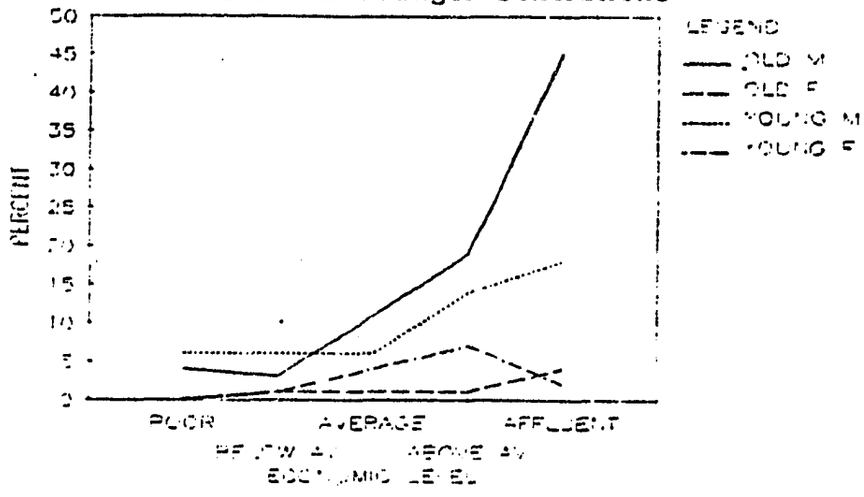


Figure I-13: Distance and Enrollment--
Younger Generation

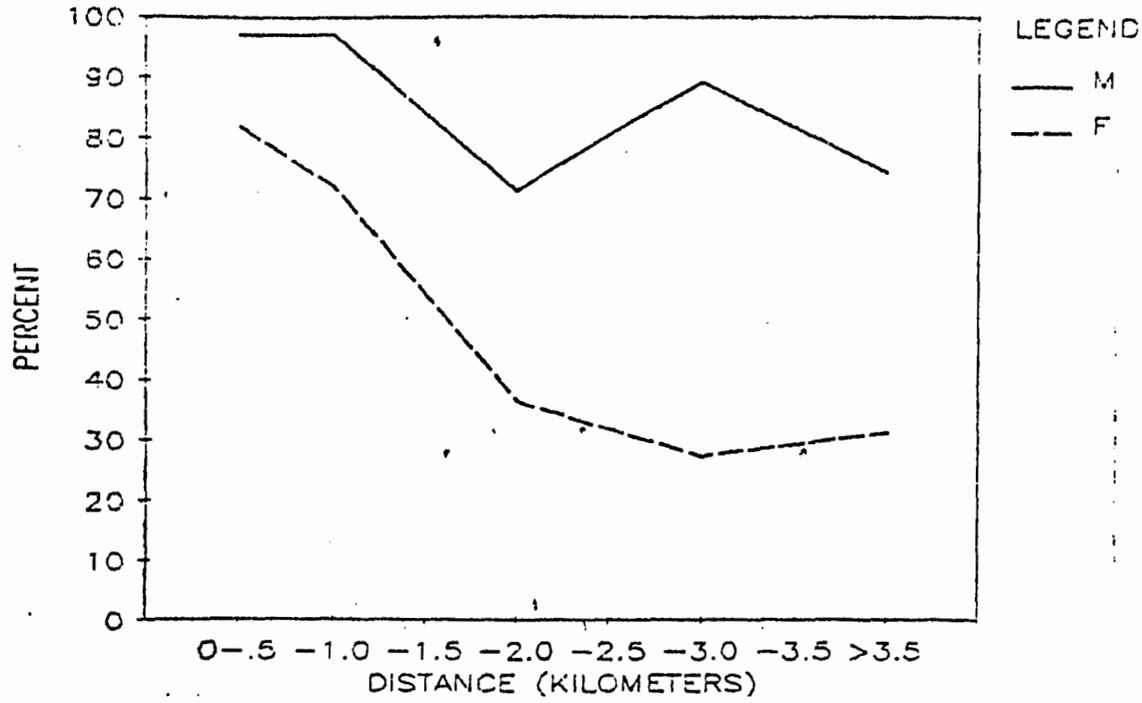
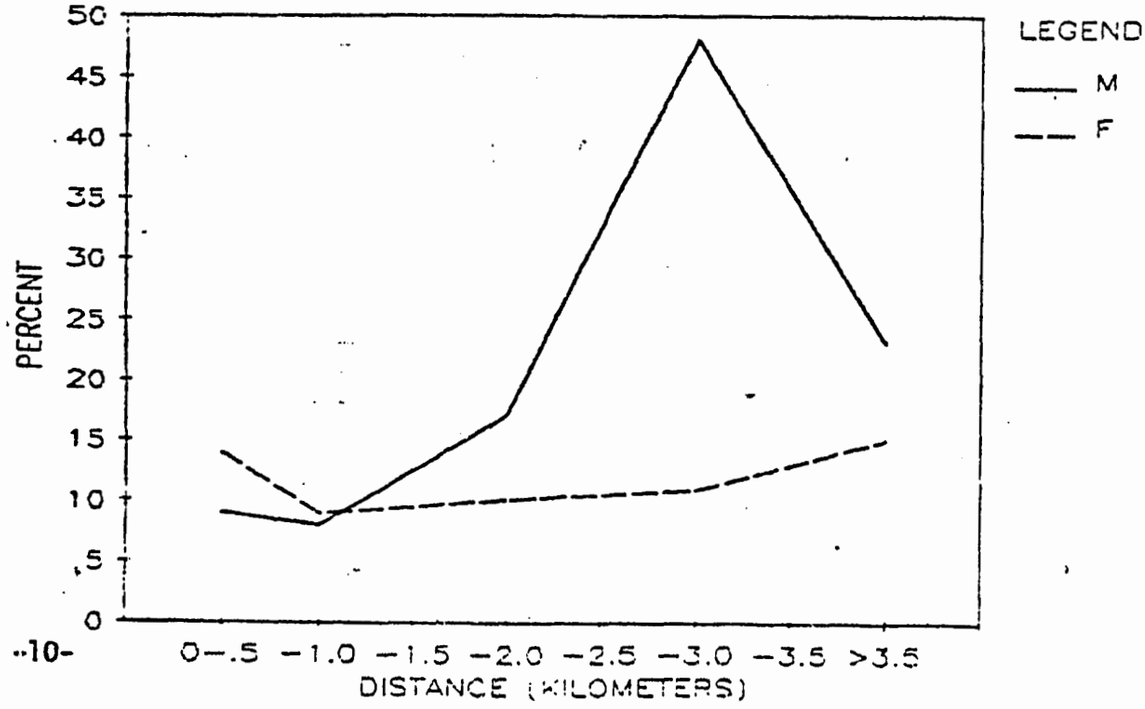


Figure I-14: Distance and Dropout--
Younger Generation



Age and Birth Order Effects. Parents most often make firm decisions to enroll or not enroll all their children, or to enroll all of one sex and not the other, and they remain consistent to that decision. When they suddenly change their previous pattern it is to enroll much younger children in the last decade, to enroll older children of a household and not younger children, to enroll younger boys or girls when older children of the same or opposite sex are not enrolled. These changes, in some cases seemingly contradictory, may be responses to different priorities: the decision to support one or two promising students in an economically constrained household, a feeling that community norms are changing, to assure that one child stay home and be available to help parents in their old age, or because of a feeling that education has a different relevance for boys and girls.

Parental Choices (by Sex and Economic Level). Most families (95 percent) enroll all their boys and a majority (60 percent) enroll all their girls. Only a few (6 percent) send no eligible-age boys while quite a few (27 percent) still send no eligible-age girls. The economic level of the household affects the educational participation by family in the same way that it affects family members as individuals: by increasing the chance that all boys and all girls will be enrolled as the economic level rises, and conversely by decreasing the chance that no child of either sex will enroll.

School Related Impacts

Age of School Entry. Approximately 90 percent of sample children enter grade one at six years of age. Even in crowded systems, therefore, it appears that most children are accommodated at the appropriate age.

Type of School. Most children enroll in government schools even when other private or religious system schools are available. Those who never enrolled in school reported that government schools had been available when it was time for them to enroll. Whether a child enrolls or does not enroll therefore appears to be unrelated to the type of school available.

Absences. Approximately 90 percent of all children are reported as never being absent from school. Though these reports are undoubtedly underestimated, the reasons for absences suggest why children do not attend regularly. The major reason was illness and a minor reason distance from school. After the opening of the new schools weather was no longer cited as an important reason and absent rates were lower than before the opening.

Retention Rates. Girls and boys both were retained at a parent-reported rate of six percent of enrolled children. Boys are most likely to repeat grades seven and eight and girls four and six (see Figure I-15).

Dropout. Girls' dropout rates are slightly higher than those of boys. The largest group of each sex drops out after completing grade five and before completing grade six (see Figure I-16).

Figure I-15: Student Retention by Grade--
Younger Generation

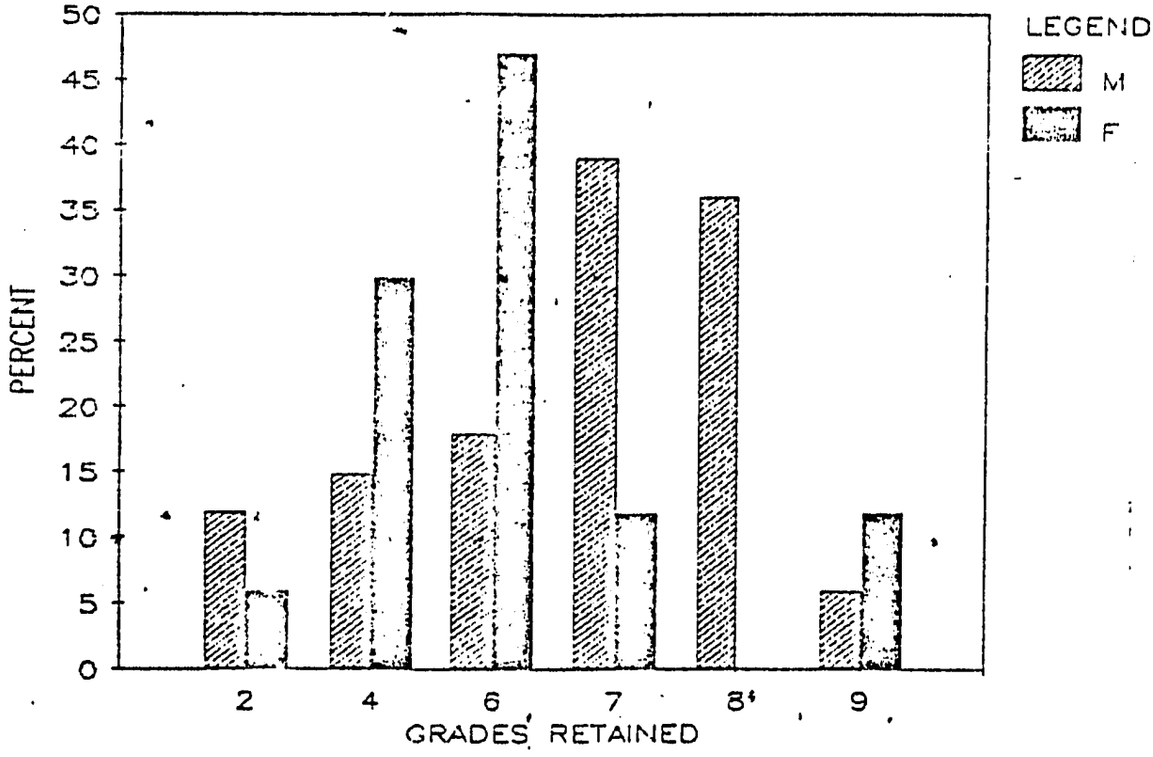


Figure I-16: Dropout by Last Completed Grade--
Younger Generation

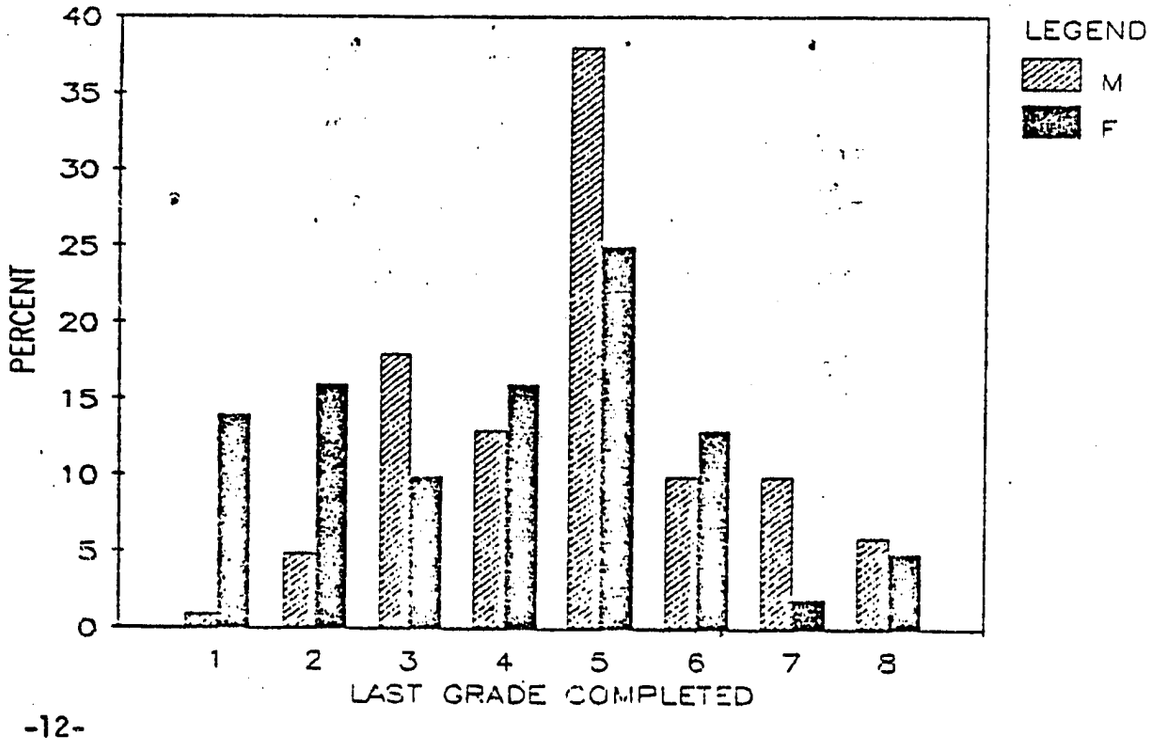


Figure I-17: Occupational Structure by Educational Status--Younger Generation Males

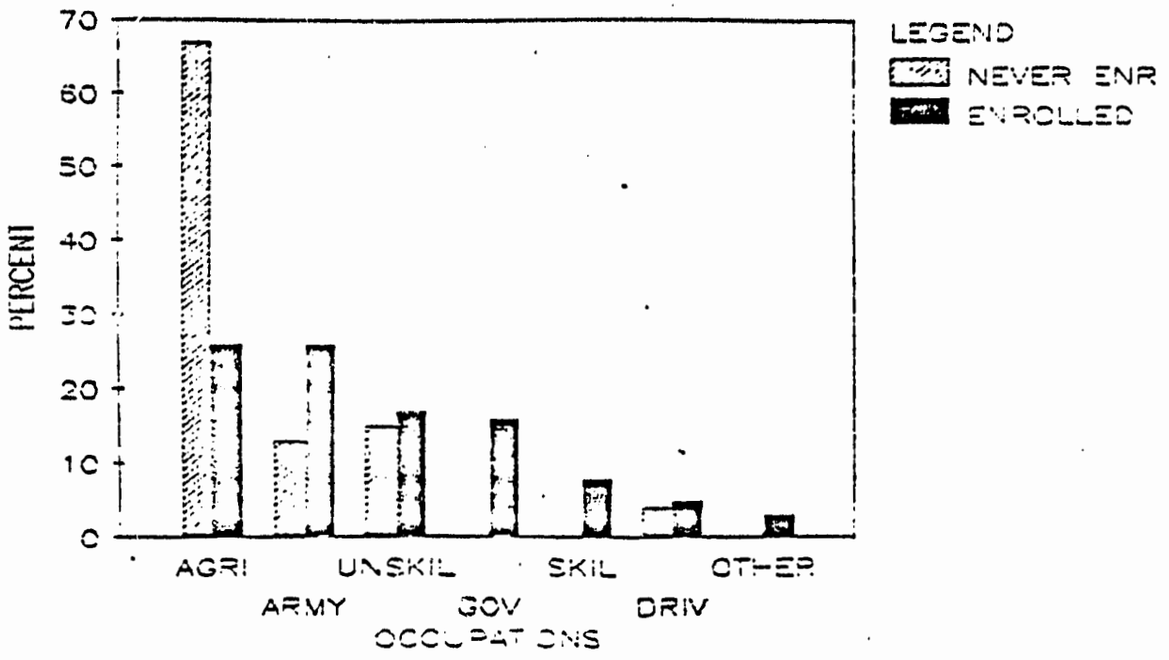
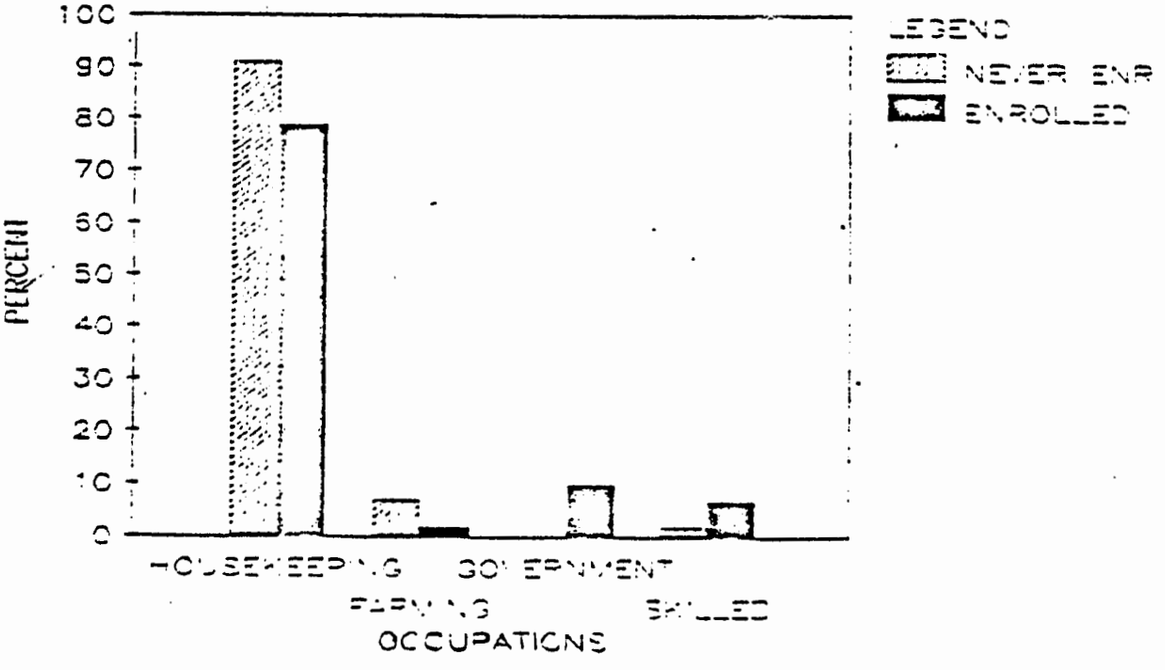


Figure I-18: Occupational Structure by Educational Status--Younger Generation Females



Parents' Attitudes and Motivations

Parents' Attitudes. Parents' expressed attitudes in many respects differed greatly from their actual behavior. Over 95 percent said they expected both their sons and daughters to complete grade nine. Close to 90 percent said they felt the rest of their community members would educate boys and girls to grade nine. Almost all said more girls would go to school if there were single-sex primary schools but most were already sending their girls to mixed schools. Most parents also said that they would prefer all-girls preparatory schools but would send their daughters to a mixed school nearby. Most said they would have educated their never enrolled children of both sexes if "circumstances" had been different. The majority feel that food programs do not affect whether children go to school or not.

Villager Models. Most villagers (85 percent) personally do not know a woman with a high degree, but do know a man with such a degree (65 percent). Almost 50 percent claimed they wanted their daughters to follow professional careers in medicine or engineering and 70 percent wanted their sons to follow these careers, even though realistically few would ever be able to attain such goals. Parents believe education is beneficial to both boys and girls "to secure their futures," for boys mainly in preparing them for occupations and for girls in preparing them for marriage (see Figures I-17 and I-18).

Occupational Context of School-Sending Decisions. Educated males of the younger generation engage in a broader range of work type than uneducated males. Educated males are also less involved in farming and exclusively engaged in government and skilled work in comparison to their uneducated contemporaries. Uneducated and educated females both are mainly involved in housekeeping, with a small percent of educated females (10 percent) now employed in teaching or clerical work with the government. While educated males increasingly seek work outside the home village (40 percent compared to 20 percent in the older generation), the vast majority of women (96 percent) who work do so in the home village while the remainder commute to nearby towns. One-third of the families reported male members who had migrated within or outside of Egypt to work. Lack of educated models working in fields requiring educational skills, in addition to the norm that keeps women close to home, serve as disincentives to village women to spend extended time in educational programs when the chance to use their skills in later life is limited.

Girls' Educational Participation

Data from the community study show that a good proportion of girls in the younger generation have not enrolled, but that once enrolled a high percentage completes grade three, more than half grade six, and only a third grade nine. Girls' dropout rates are similar to males' overall but tend to increase more rapidly with age. Grade five is a particularly vulnerable point. These figures suggest a programmatic emphasis on initial enrollment campaigns and encouraging girls to persist at least through grade six. Solutions that have been generally proposed to encourage greater girls' participation are, first,

girls-only schools to solve normative problems and, second, expansion of primary schools to include the three grades of the preparatory level to reduce distance constraints. Case histories reported in the text provide preliminary evidence that all-girls schools may not have a significant effect on increasing initial enrollments at primary or (given the present limited pool of qualified applicants) preparatory-level schools but may have impact on persistence at the higher grades of both these levels. The process of extending schools to nine graces is yet incomplete in the new schools and therefore it is too early to estimate an impact.

The Context of Impact

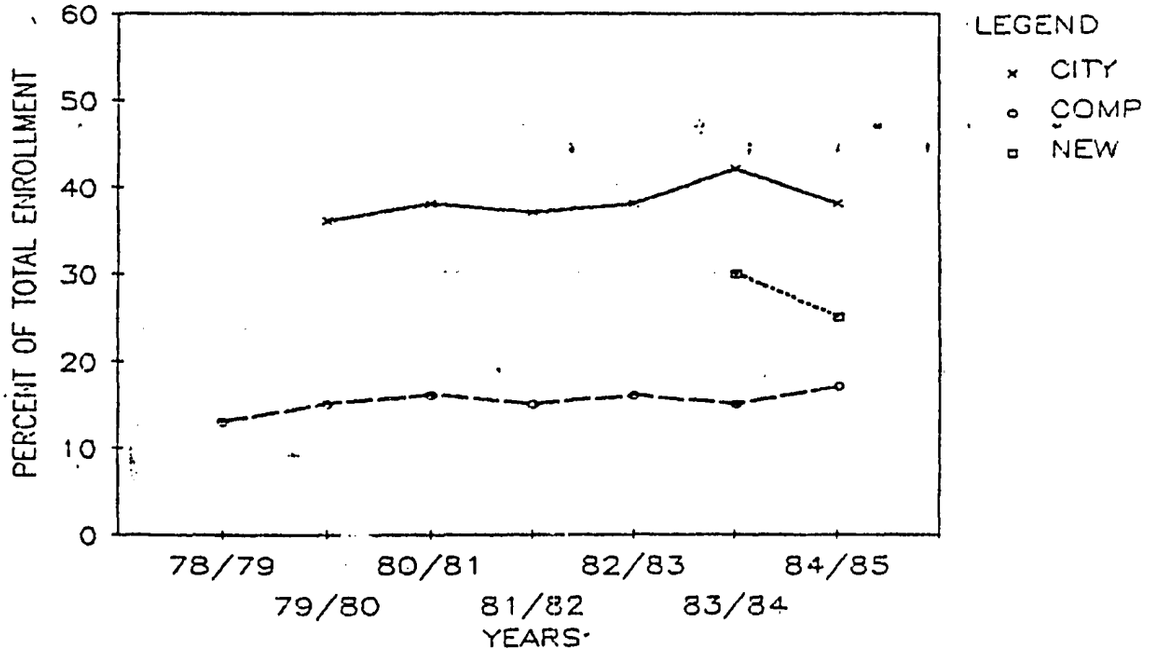
Data from new schools in their first years of opening were compared with data from markaz city schools and nearby schools operating within a similar socioeconomic environment as the new school. The first serve as indicators of the optimum existing enrollment level for the region as a whole and the second as a baseline for impact in the local area. Girls' ratios of total enrollments were taken as the measures of change since boys in the sample were almost all enrolling in the early years of school. Table I-24 shows how the villages rated by these indicators.

Table I-24: Summary Table for Girls' Ratios of Enrollments in Ten New-School Sites

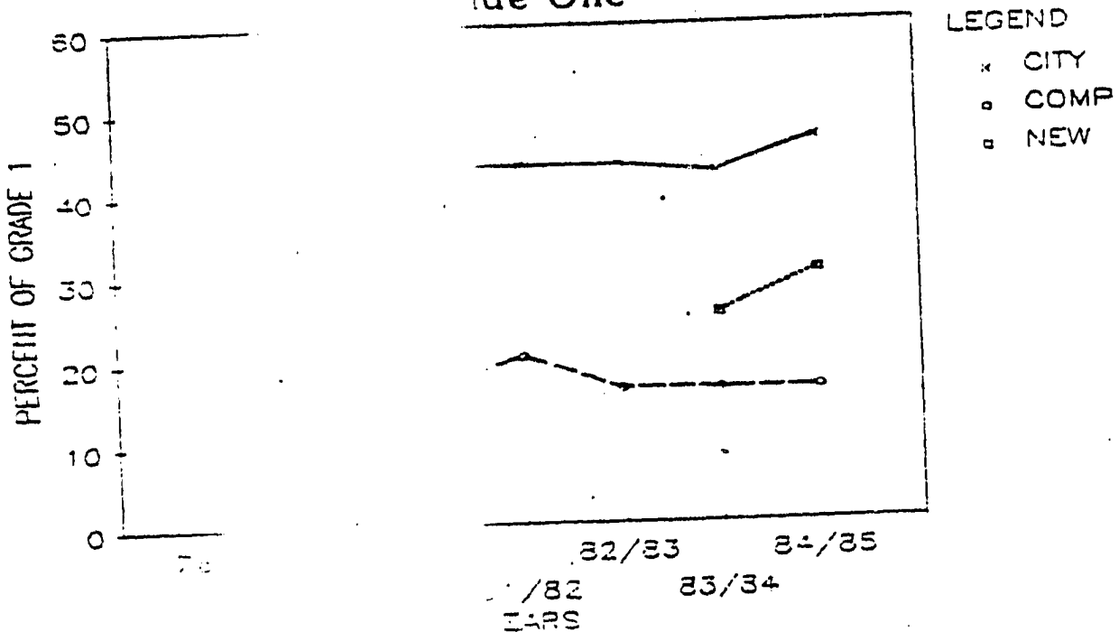
SITE	NEW SCHOOLS' RATIOS IN RELATION TO COMPARISON SCHOOLS		
	Grade One or Seven	Grade Six or Nine	Total Enrollment
Manshiya	higher	lower	higher
Kafr Nekla	lower	lower	lower
Monshat il Awkaf	same	higher	higher
Roda (Prep.)	higher	lower	lower
Nag il Khutaba	higher	lower	higher
Nag il Harif	higher	lower	lower
Nag il Taref	school not opened		
Nag Dahi	lower	higher	lower
Ghaneyem*			
new girls' prep	slightly lower	higher	same
new mixed prep	same	higher	slightly higher
Beni Rafa	school not opened		

Figures I-19, I-19a and I-19b show a typical "rural" village pattern in Manshiya, and Figures I-20, I-20a and I-20b an "urban" village pattern. Note that in the rural pattern girls' ratios of totals are much lower than the city school ratios while in the urban pattern they are very similar, signifying that in the latter groups girls' ratios has almost reached boys' ratios. Sites which have had few accessible educational opportunities will tend to have low levels of grade six enrollments for girls for some time until new enrollments bring higher grades up to normal levels.

Figure I-19: Comparison Schools: Girls' Rates of Participation--Manshiya



re I-19a
de One



re I-19b
de Six

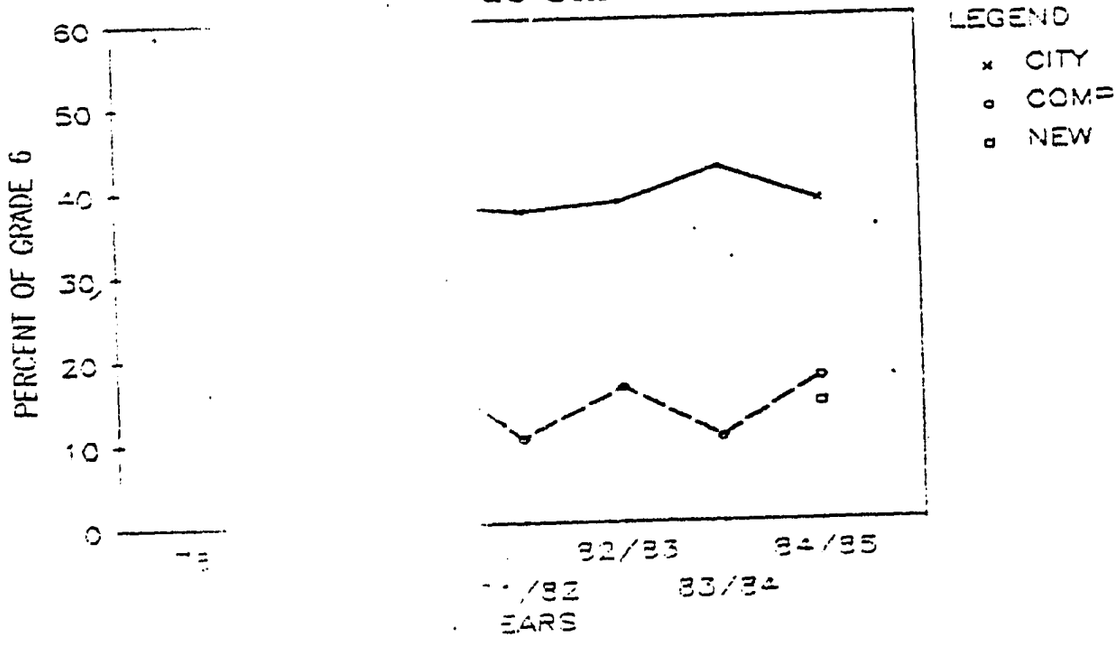


Figure I-20: Comparison Schools:
Girls' Rates of Participation--Kafr Nekla

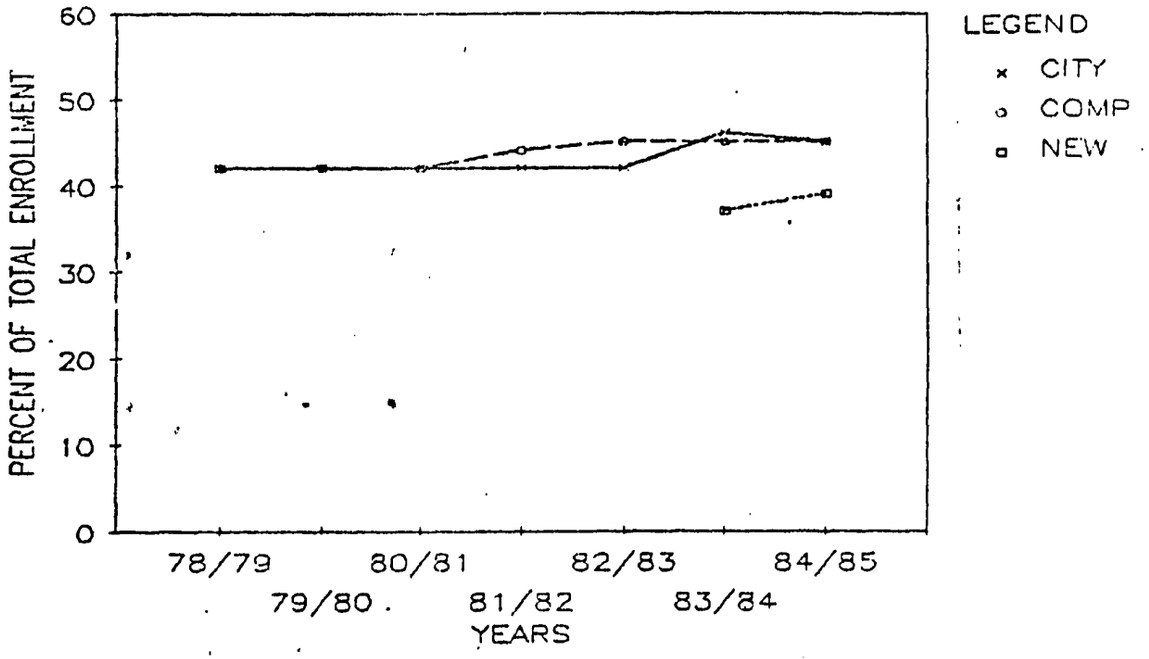


Figure I-20a
Grade One

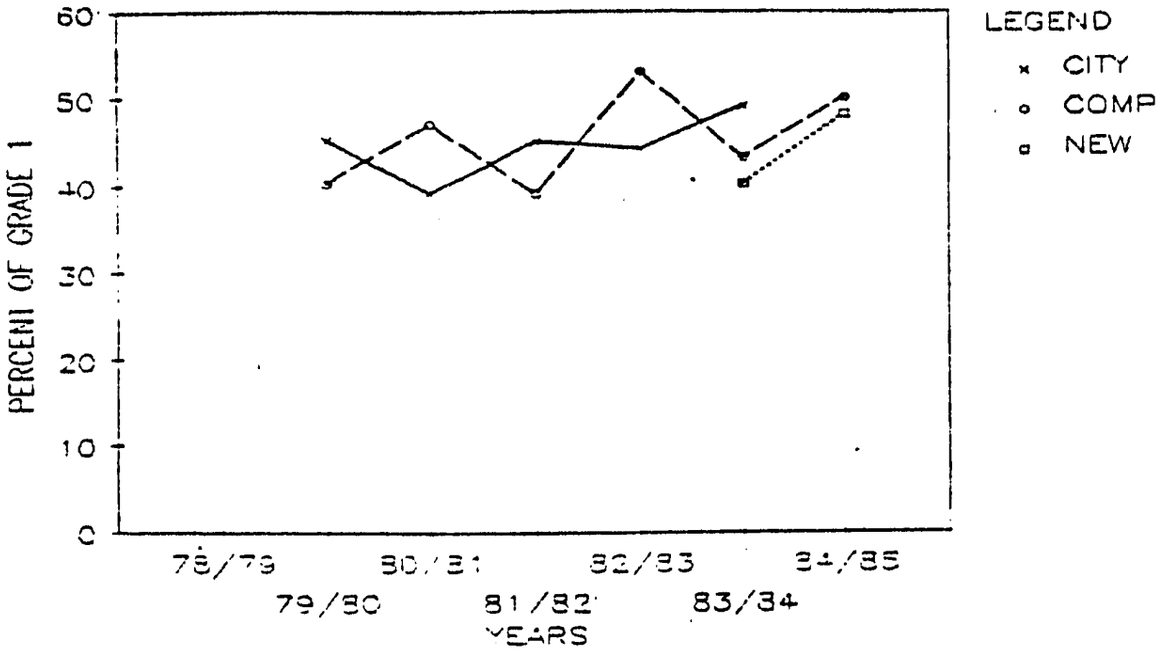
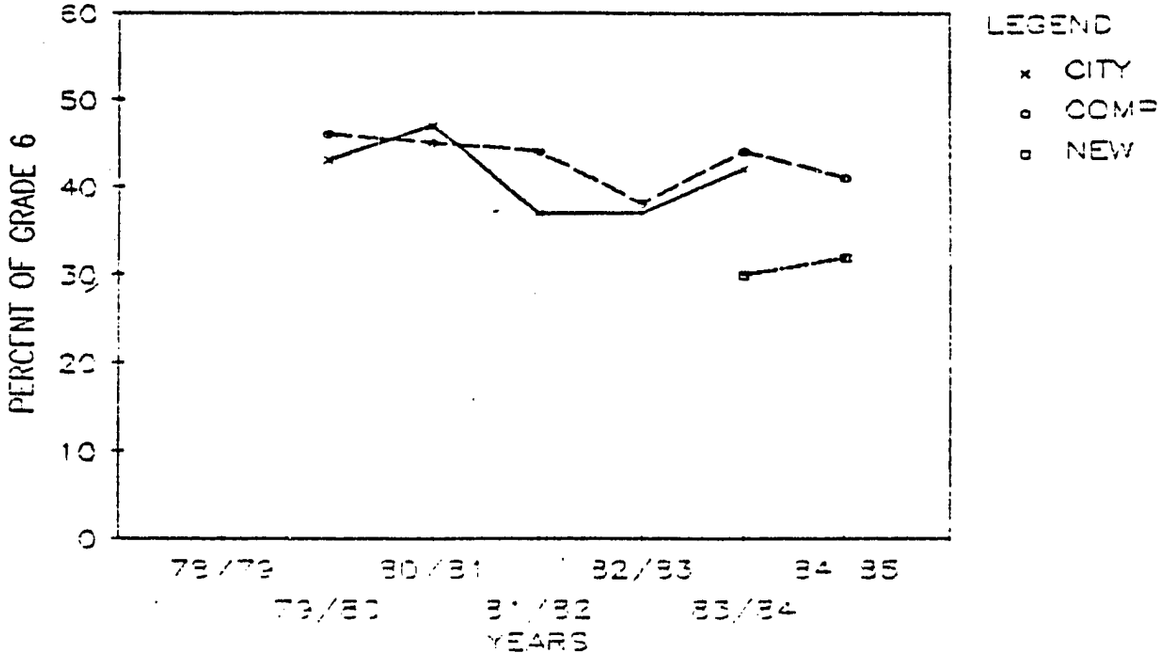


Figure I-20b
Grade Six



Absolute Impact. Three years previous to the new school openings in the four villages where primary schools were located, 89 percent of six-year-old boys and 49 percent of six-year-old girls enrolled in grade one. Since the new schools have been opened, 100 percent of the boys and 95 percent of the girls in the appropriate six-year-old age group have enrolled. In addition, 6 boys and 6 girls in older age groups enrolled. Overall the new schools added 21 out of 73 children (six years old) of which 17 were girls and 4 were boys, and possibly 12 additional older children who might not otherwise have gone to school.

RECOMMENDATIONS

1. Girls' Enrollments. Girls' initial enrollments in first grade should be considered the major priority of the education authorities since girls constitute the largest group of unenrolled children. Creating the conditions favorable to their enrollments--closer schools, less crowded classrooms, and official cajoling of parents to enter their children in school--are all measures that would encourage the participation of the remaining unenrolled children of both sexes.

2. Distance. Evidence suggests that the distance threshold before girls' enrollments start to drop may be as low as one-half kilometer. After one kilometer both boys' and girls' enrollments drop precipitously. In special cases where the size of the school population and the insufficiency of classroom space warrants school construction at closer intervals, such construction should be considered without adhering strictly to a two kilometer guideline since the benefits in terms of increased enrollment and persistence may be significant.

3. Single-Sex Schools. Limited evidence from this year's field trip leads us to suggest that authorities look carefully at instances where single-sex primary schools are requested as a way of increasing girls' enrollments. It is far easier to change to a segregated system than back to a mixed system. One result of single-sex systems is that boys' enrollments may increase as a result of the large number of places that open up when girls move out of a mixed school. At the same time, a new school that opens for girls only and is planned for specified numbers of girls may make difficult the expansion of places for girls in subsequent years. The authorities' willingness to expand girls' facilities in the future needs to be considered when schools are segregated. Also important is the question of whether the educational program provided girls in a segregated system is equivalent to that provided boys.

4. Preparatory Level. It seems apparent that in the next decade there will be enormous pressure on preparatory-level facilities. We recommend that concentrated effort be exerted toward expanding facilities at this level. We are encouraged by the flexibility with which this problem is being addressed at present by the MOE through construction programs to provide more seven-to-nine schools and through the expansion of one-to-six schools to provide all nine grades. However, we suggest that some study be made of the educational programs in seven-to-nine and one-to-nine schools to ensure that they are not significantly different. Care should be taken that children in

one-to-nine schools do not receive an inferior education because of lack of appropriate facilities or trained staff. In the last resort, however, if distance becomes an essential factor, it is better for a child to attend an inferior program than no program at all. At the preparatory level, there is some evidence that segregated schools are more attractive to girls than mixed schools. Where the single-sex school is much farther away from the girls' homes, however, a mixed school may be considered a more satisfactory substitute. In both cases of single-sex primary and preparatory school there seems, in our limited examples, to be modestly greater persistence of girls to the higher grades of these levels than there may be in mixed schools. Thus the issue of single-sex schools is a complicated one that does not provide an automatic solution to the question of how to increase girls' enrollments and persistence. There is enough negative evidence to suggest that where resources are limited, mixed schools are a satisfactory alternative.

5. Models and Administrators. Parents' responses and our observations of school activities lead us to believe that, in general, local teachers and administrators drawn from the community are more conscientious and responsive to the needs of local communities. Female teachers from the community provide an incomparable model and encouragement to local girls to enroll and continue at length in the system. Boarding facilities at urban teacher training facilities are having an impressive impact on the numbers of local teachers that we find in rural communities. This effort should be applauded and continued, even expanded if possible. Study should also be considered of ways to use paraprofessional teacher-aides in communities where local students are not fully qualified to enter teacher training institutes. This might help to resolve the problems of teacher absences and administrators' lack of accountability in areas where these issues are significant.

6. School-Sending Readiness. It appears feasible to develop convenient and inexpensive indices of the school-sending readiness of rural communities--indices that could be used for planning future facilities for grades one through nine. These indices, our preliminary findings show, relate to such factors as crowding of existing schools, enrollment trends of boys and girls, indicators of village economic levels, pre-existing formal and informal facilities, and attitudes of community leaders.

7. Policy-Related Issues and Recommendations. A number of minor policy changes appear to be warranted. We feel they would contribute significantly toward accomplishing the goals of USAID and the MOE for the school construction and equipment funding programs.

- In some school districts, children experience difficulty in transferring easily to new USAID-funded schools because of arbitrarily determined district boundaries. This obviates the advantages of constructing a school closer to the children's homes. We recommend that regulations related to enrollment in all new schools be reviewed prior to opening to avoid underutilization of the new facilities.

- Guidelines should be developed requiring schools, especially those in rural areas, to actively seek out parents who do not enroll their children in first grade. Schooling has become so critical to a child's welfare that this opportunity, open only for two years between the ages of six and eight, should not be thrown away on the whim of a parent. In small communities teachers could canvas neighborhoods or work from lists provided by the Department of Health.

- Consideration should be given to the question of what practical courses are most appropriate for children of a given rural area. Agriculture should not be the automatic choice since in some areas, where land fragmentation is requiring the younger generation to seek other occupational opportunities, beginning industrial and commercial skills may be more useful.

- In siting schools, follow a mixed strategy of placing some schools in communities that are "ripe" for enrollment increases and others in communities where a new school might not immediately fill, but where it might itself stimulate change in chronic low levels of enrollment. This way the effect of new school facilities can be both immediate and long-term. In the long run, a mixed strategy might meet MOE goals of universal education more rapidly than a policy of building schools only where there is immediate need.

CHAPTER II. EXTENSIVE STUDY OF THE IMPACT OF NEW SCHOOLS

The objective of the Extensive Study of the Impact of New Schools is to assess the overall impact of the new schools on enrollment, literacy, and numeracy. In the first year of the study sites were selected, data collection procedures and methods of analysis were perfected, and a preliminary report was submitted on the impact of new schools constructed in 1983 on enrollment. The Second Annual Report continues to concentrate on the impact of the 1983 new-school sites.

The following activities have been carried out during the second year:

- a re-analysis of the first-year impact of the 1983 new schools, utilizing more complete data and supplementing the previous graphical analysis with a standard mathematical method of curve fitting;
- an analysis of the second year impact of the 1983 new schools;
- an analysis of the effects of the 1983 new schools on proportions of girls' enrollment;
- an analysis of variables that might be used to predict the size of the impact of a new school on enrollments for boys and girls in grade one, based on variability in the impacts observed at the 1983 new-school sites;
- a preliminary analysis of the impact of the 1983 new schools on "literacy and numeracy" as indexed by the proportions of youngsters passing examinations.

Data from the new schools that opened in 1984-85 were not collected in time to be included in this report. The impact of the 1984 new-school sites will be analyzed in the Third Annual Report.

METHOD

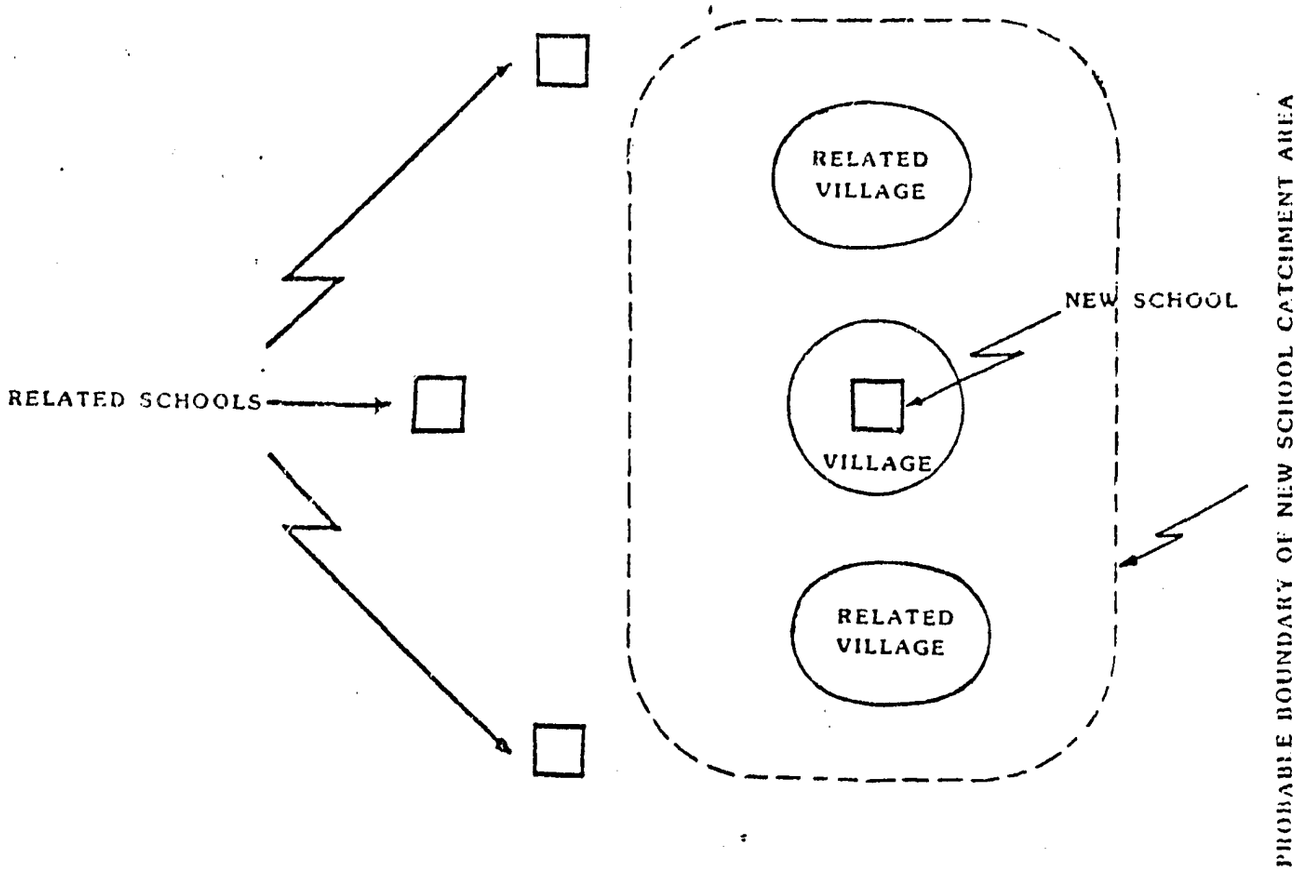
Selection of New-School and Comparison-Control Sites

From the lists of 1983 new-school sites in each governorate (Assiut, Beheira, Kafr il Sheik, Qena, and Sohag), the research team chose four sites at random, a total of twenty sites. With the assistance of Mr. Mahmoud Gamal el Din, the USAID official responsible for approving the sites of new schools, the research team reviewed the site maps for each governorate and identified additional sites that fulfilled MOE and USAID criteria for new schools, but where new schools were not likely to be opened before the fall of 1986. A total of twenty such sites were identified, four in each of the above-listed governorates. These formed a sample against which to compare the impacts of the new schools.

Elements of a New School Site

Figure II-1 shows a schematic diagram of a typical site, consisting of a village where the new school was located, related villages from which other children might come to the new school, and related schools to which children from the new-school site might have gone in the past. To understand the study design, it is essential to keep these elements of a typical site clearly in mind.

Figure II-1:
Diagram of Typical New-School Site



Identification of Related Schools

As shown in Figure II-1, "related schools" were those schools near the new-school site to which some youngsters might already have been going. In order to assess the net impact of a new school, one has to know how the enrollment in its related schools changed when the new school opened. Some children who were expecting to go to first grade in a related school might change their minds and attend the nearby new school. Therefore, their enrollment in the new school would be compensated by a lower-than-anticipated enrollment in the related school. This would be more convenient for the students, but it would not result in a net increase in enrollment at the site. Similarly, students in later grades who would have attended a related school, but who switched to the new school instead, would not contribute to a net increase. However, children who had decided to drop out because of the distance, but who stayed in because the new school was near, would represent a net increase.

The first step in identifying related schools was to determine the location of each selected new school on the map. The second step was to examine the map together with governorate officials and ask the officials to identify all possible schools to which children who might later attend the new school might presently be going. The research team depended on local governorate officials to identify the related schools for each site.

Research Strategy

In order to assess the impact of a new school, one needs to estimate what the total enrollment of the related schools would have been in the absence of the new school. One can then compare expected total enrollment with the observed total enrollment when the new school is included. The difference is the new school's net effect.

To estimate the expected enrollment in the absence of the new school, a time-series analysis was used. Records of enrollment in all the related schools for each site were examined for five years from 1978-79 to 1982-83. From the trends in these records, projections of enrollment for 1983-84 could be made. Then the actual enrollments, including those in the new school, could be compared with the projections.

One might expect the main impact of a new school to be on initial enrollments in grade one. A net increase in grade one enrollment would represent entirely new children coming into the school system. However, a new school might also have an impact on enrollment in grades two through six. A net increase in these grades would represent increased holding power--children who remained in school because the new school was close, rather than dropping out because the related school was far away. These reflect different policy concerns and may be influenced by different factors; consequently, separate analyses were made of:

- boys' enrollment in grade one;
- girls' enrollment in grade one;

- boys' enrollment in grades two through six;
- girls' enrollment in grades two through six.

Table II-1 shows the list of new-school sites included in this report. All five governorates where new schools were constructed in 1983 were represented. The total number of new-school sites was 23. Table II-3 and II-4 list the sites that were used as comparison controls. The control group (Table II-3) comprised sites where new schools were not expected to be constructed for some time. The 1984 new school group (Table II-4) comprised sites where new schools opened in school year 1984-85 but where they do not yet exist in 1983-84.

Table II-1: List of 1983 New-School Sites
N = 23

GOVERNORATE	MARKAZ	SITE	SCHOOL	FILE NAME	NO. OF RELATED SCHOOLS
ASSIUT	Ghaneyem	Ghaneyem*	Talim II Assal	Ganey	2
	Abu Tig	Abu Kao	Nazlet Abu Kao	Abuka	6
	Badary	Surur	Asoet Surur II Gadida	Sarur	3
BEHEIRA	Mahmudiya	Kafr Nekla*	Kafr Nekla II Gadida	Knekl	4
	Hosn Isa	Menshiye*	Menshiye II Gadida	Mensh	5
	Edko	Asoet Sitta	Kariyet Sitta	Esett	1
	Itai II Barud	Ibrahimiye	Ibrahimiye II	Ibrah	1
	Shubra Khelf	Komy	Komy II Gadida	Ilkom	5
	Shubra Khelf	Senadidi	Senadidi II Ibt	Senad	2
KAFR EL SHEIKH	Beiyala	Alsebnaoon	Alsebnaoon II Ibt	Alseo	4
	Hamol	Megaz II Sharki	Megaz II Sharki II Ibt	Ilmag	2
	Kafr II Shekh	Mostafa Kamel	Mostafa Kamel II Ibt	Mosta	4
	Sedi Salem	Abd II Wahed Id	Abd II Wahed Id III Ibt	Alwah	4
QENA	Nag Hamadi	Nag Dahi*	Kehl Abudahi II Ibt	Kdahl	2
	Naqada	Khutsoa*	Nag Id Khutsoa	Nkhut	2
	Abu Tisht	Moalsera	Moalsera II Ibt	Moysa	2
	Armant	Nag II Bakala	Nag II Bakala	Nbaka	4
	Kus	Hamed Ahmed Ramadan	Nag Hamed Ahamed Ramadan	Hamda	4
	Qena	Gabal	Gauel Ibt Mostarsaa	MEBE	2
SOHAG	Akhmim	Nag Ahmed Ismail	Ahmed Ismail Bai Sawama Sharq	NAESM	3
	Sohag	Nag II Araya	Nag II Araya II Moshtaraka	Narey	2
	Sohag	Nag Mahmud	Nag Mahmud II Moshtaraka	Nmahm	4
	Tahta	Nag Shanodi	Nag Shanodi	Nshan	3

*Intensive Study Site

Table II-3: List of Control Sites

N = 17

GOVERNORATE	MARKAZ	SITE	FILE NAME	NUMBER OF RELATED SCHOOLS
ASSIUT	Abu Tig	Nazlet Bakor	Nbako	4
	Bdari	Asbet Amer	Eamer	4
	Manfalut	Hawetka	Ihawe	4
BEHEIRA	Mahmudiya	Asbet il Sheikh Ali	Sisal	2
	Hosn Isa	Asbet Elwani	Eelwa	1
	Itay il Barod	Asbet Abu il Fadl	Eaifa	3
KAFR IL SHEIKH	Beyala	Asbet Ibrahim Mostafa	Eabra	3
	Desok	Asbet Framond	Efram	1
	Hamol	Kamiyet Ashara	Kasha	1
QENA	Kelin	Monshiat Sogra	Qrons	2
	Abu Tisht	Nag il Tod	Nitod	2
	Kus	Nag Abu Homoos	Nabon	2
	Nag Hamady	Zeiten	Zeite	4
	Qena	Nag Abu Zed	Nazed	1
SOHAG	Sohag	Nag Esfa	Nesfa	4
	Sohag	Nag il Arab	Nlara	8
	Akhmim	Nag il Sahel	Nisah	1

Table II-4: List of 1983 New-School Sites

N = 17

GOVERNORATE	MARKAZ	SITE	FILE NAME	NUMBER OF RELATED SCHOOLS
ASSIUT	Manfalut	Bani Rafa*	Banir	3
	Abu Tig	Nager Dekran	Nager	2
	Dayrot	Kodyet Islam	Kodie	8
	Sahel Selim	Il Shawiya	Ishaw	3
	Sahel Selim	Asbet Sabet Basta	Esabe	1
	Koseya	Peskt il Ser	Peskt	3
BEHEIRA	Kafr il Dawar	Monshat il Ankar*	Monsn	5
	Kafr il Dawar	Matok	Matok	2
	Abu Homos	Byrqal	Byrqa	2
	Rahmaniya	Masri	Imasr	3
KAFR IL SHEIKH	Beyala	Naseriya	Inase	4
	Desok	Bayada	Ibaya	1
	Hamol	Zidan	Zidan	3
	Fewa	Salka	Isalk	6
	Kelin	Monshat il Kobra	Imiko	4
QENA	Abu Tisht	Ger il Nawahed	Dinaw	2
	Esna	Dokkera	Idokk	1
	Farshot	Nag Kharka	Nkhar	2
	Kus	Nag il Awari	Niawa	1

*Intensive Study Site

Table II-2 shows typical time-series data from the site of Manshiya, Markaz of Hosh Isa, in the Governorate of Beheira. Year one is the school year 1978-79, year two is the school year 1979-80, and so on. Year six is the school year 1983-84 when the new school opened. Figures in the table show the total enrollment from all five related schools at the site of Manshiya. The figures for year six include the enrollment of the new school as well. Column one shows the enrollments for boys in grade one. Column two shows the enrollment for boys in grades two through six. Column three shows the enrollment for girls in grade one, and column four shows the enrollment for girls in grades two through six.

Table II-2:

Time Series Data from the Site of Manshiya

File name: MANSH

	YEARS	1 BOY	2-6 BOY	1 GIRL	2-6 GIRL
1	1	117	214	37	34
2	2	146	343	74	99
3	3	139	416	63	164
4	4	110	460	60	200
5	5	162	560	99	263
6	6	192	606	120	320

A table like Table II-2 was made for each site. Straight lines were then fitted to the data for every table for years one through five for each of the four groups shown in the table. After these lines were fitted they could be used to project expected enrollments for year six, which could then be compared to the actual enrollments shown in year six of the table. Figures II-2 and II-3 show this comparison of expected and observed enrollments in graphical form. Notice that the observed enrollments for boys and girls in grade one (Figure II-2) both fall substantially above the expected projection. The observed enrollment for boys in grades two through six (Figure II-3) falls slightly below the projection while the observed enrollment for girls in grades two through six falls exactly on the projection.

The foregoing illustrates the general methodology. Impacts of the 1983 new schools (observed minus expected enrollments) were compared to "impacts" of the nonexistent schools in the comparison-control group. In other analyses, proportions of girls enrolled in the new school were compared to proportions of girls enrolled at a comparable school in the same site, and the proportions of youngsters passing end-of-year examinations were also compared with those matched pairs of schools.

Figure II-2: Enrollment Trends in Grade 1, Site of Manshiya, Governorate of Beheira

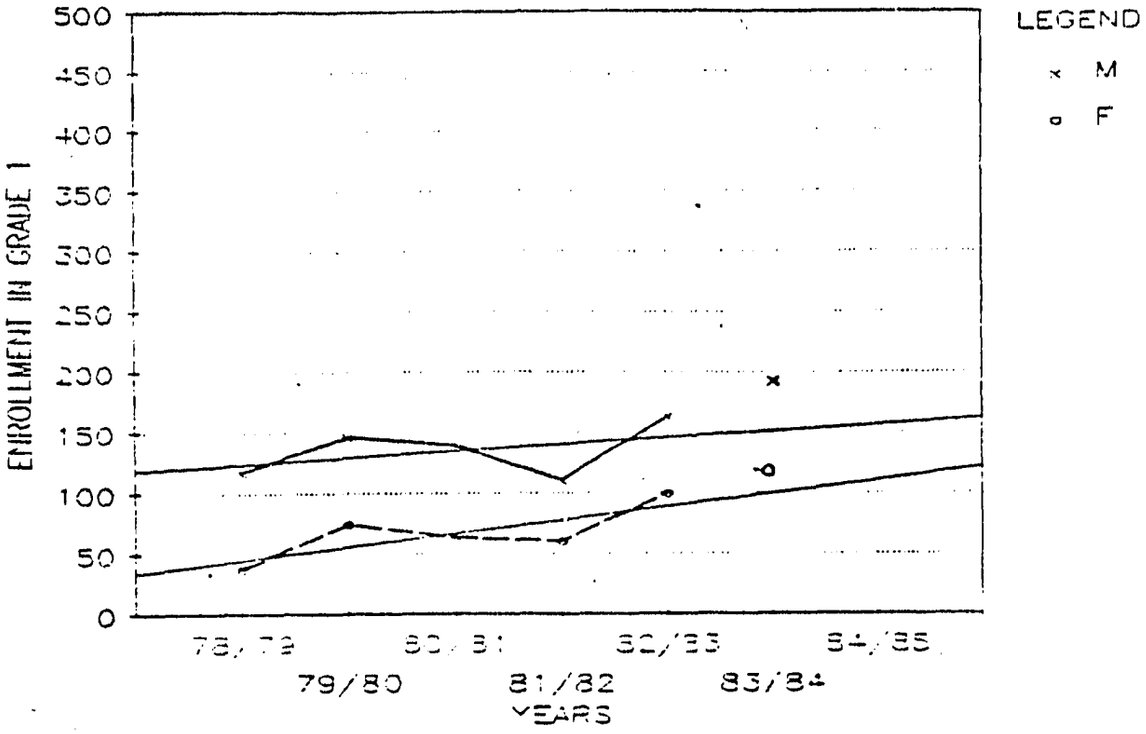
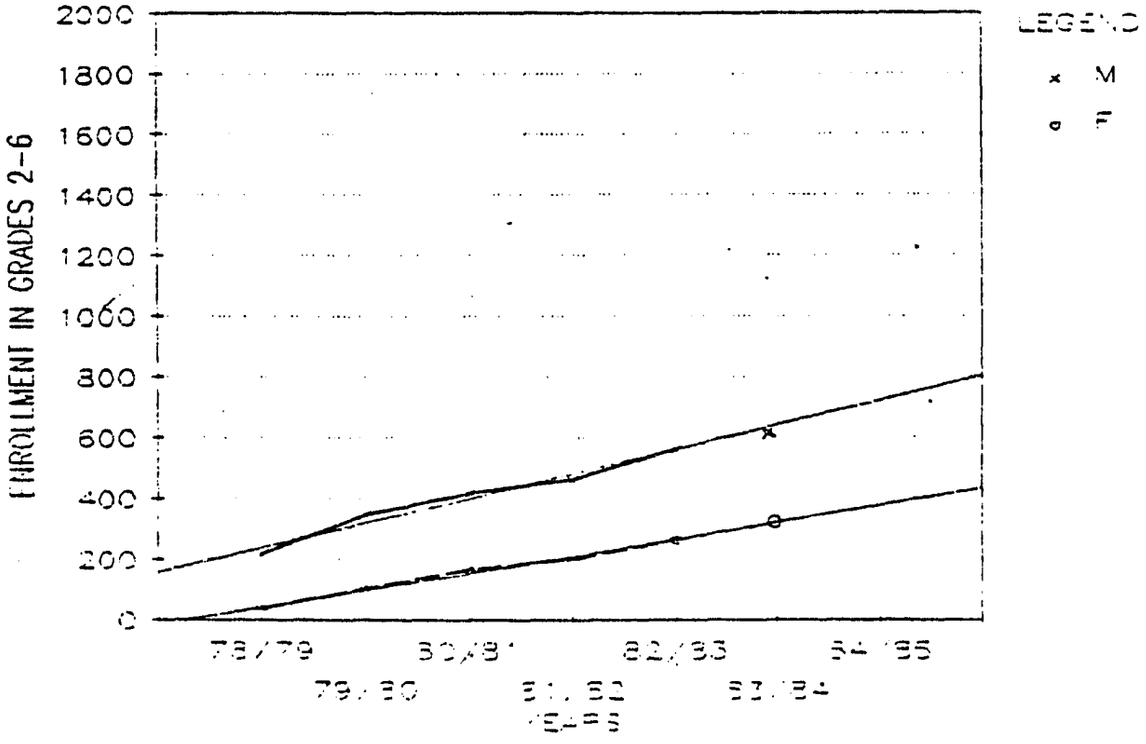


Figure II-3: Enrollment Trends in Grades 2-6, Site of Manshiya, Governorate of Beheira



FINDINGS

Impact on Enrollment

Impact of the 1983 new schools was significant in comparison to the control sites, beyond the .05 level for all groups of students--boys and girls in grade one and boys and girls in grades two through six. The overall impact is now estimated to be to add, in the first year, approximately 18 boys to grade one, 19 girls to grade one, 46 boys to grades two through six and 26 girls to grades two through six. These are very respectable impacts for a new school. The second-year impact of the new schools was of comparable magnitude to that of the first year but statistical significance did not attach to the comparisons. This is an artifact of the statistical procedures used.

Impact on Proportions of Girls Enrolled in Grade One

A study of the specific impact of the new schools on proportions of girls' enrollment during the first year showed that in the new schools the average ratio of girls to boys in grade one was .856--approximately eight girls for every ten boys. The average proportion in comparison schools at the same sites was .619--approximately six girls for every ten boys. This finding was statistically significant beyond the .05 level. The new schools thus appear to be achieving their specific goal of increasing girls' enrollment.

Prediction of Enrollment Impacts

A study of variables that might be used to predict the impact of new schools, based on variations among the 22 1983 new-school sites, suggests that the smaller the enrollment in the related schools surrounding a site, as indexed by boys' enrollment in grade one, the larger the impact of the new school. A multiple correlation consisting of size of boys' enrollment (negatively related to impact) and rate of change of boys' enrollment over the past six years (positively related) correlated at approximately .4 with new school impact. The same combination of variables predicts the impact of new schools on girls' enrollment at approximately the same level. Thus, in general it appears that within this sort of predominately rural and isolated site, the more rural and isolated the site, the greater the impact of the new school.

Impact on Literacy and Numeracy

No differences were found between percentages of children passing examinations in the new schools and percentages of children passing examinations at comparable grade levels in paired-comparison schools at each site. Further improvements need to be made in the procedure for collecting the examination data. Analysis of the examination data will become more important during the next years of the study.

CONCLUSION

In general, the findings from the second year support and extend those of the first. The results continue to underline the wisdom of locating schools in isolated rural areas as a strategy for increasing both girls' and boys' enrollment with a particular differential effect upon girls. Clearly, there is a trade off. To produce a net increase in enrollment, particularly of girls, new schools should be placed in isolated, rural villages. But for a time these schools will be underutilized in the upper grades. To relieve crowding, new schools should be placed in urban villages, towns, and cities. These schools will be immediately utilized at all grades but probably will not produce net increases in enrollment.

CHAPTER III: STUDY OF NEW EQUIPMENT

BACKGROUND

With the advent of the Basic Education Project, it became necessary to provide teaching equipment for use in agriculture, industry, home economics, science, and social studies. The USAID commodities import program was used for this purpose.

Committees of supervisors and experts in technical education were assembled and charged with compiling lists of needed equipment. In general, the equipment was of two sorts: that needed by teachers as instructional tools--items such as charts, maps, globes, slide projectors and slides, overhead projectors, and demonstration models for use in science; and equipment for student use. The latter ranged from simple hand tools such as saws, hammers, screw drivers, pliers, rakes, steam irons, kitchen utensils, crocheting needles, and other sewing equipment, to rather more complicated items such as electric drills, voltage meters, electric sewing machines, incubators for baby chicks, microscopes, and so forth.

A system was developed for tendering, purchasing, receiving, and verifying order fulfillment, and shipping; for checking for damage caused in shipment or offloading; for actions to correct such errors or problems; and for temporary storage prior to distribution. A parallel system was developed and set into operation for identifying each school's equipment needs so that once shipments were received, verified, inventoried, stored, and made ready for distribution, governorate education officials were notified to come to the appropriate warehouse (in Alexandria or Damenhur) to receive their equipment for distribution to schools.

Interviews were conducted with key officials in the Ministry of Education in Cairo; in the governorate education offices of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena; and in schools. During the team's visits to each governorate, interviews and briefing sessions were held with the Undersecretary and/or Director General, with the Director of Basic Education, the Director of Planning and Follow-up, with educational zone and district officials, and with relevant supervisors. In the schools visited, the team interviewed headmasters, teachers, teaching assistants, and school secretaries; observed classroom instruction; examined equipment in storage and use; and examined school records and administrative and supervisory procedures.

Information was gathered on the selection, acquisition, and distribution of equipment and the efficacy of that process; on its instructional use in schools, in particular with reference to the curriculum; on the amount and nature of teacher and headmaster training; on the suitability of the equipment for its intended uses; on constraints that might inhibit its use; and on administrative or logistical problems with regard to its use, storage, record keeping, replacement, and repair, among other things.

SCHOOLS VISITED

Since the study was designed to be qualitative and descriptive and to tie into the Intensive Study of New-School Communities, our initial set of schools

was those in the new-school communities. This initial set was then augmented by the addition of a set selected from a list of candidate schools in governorate and markaz capital towns and cities provided us by governorate officials at our request. From that longer list, we selected the additional schools we needed to fill out our sample and make it as fully representative as possible of the full range of schools to which equipment had been provided. Table III-3 lists the location and level of the sample selected schools. Of these schools, 63 percent are mixed-sex schools, 19 percent are girls' schools, and 18 percent are boys' schools. Eighty-three percent of the preparatory schools are single-sex schools. There are no single-sex primary schools in the sample.

Table III-3: Schools By Location and Level

1983			1984		
		Beheira			
	prim	prep.		prim	prep
Hosh Isa	-	2	Manshiya	1	-
Mahmouidiya	2	-	Abqain	1	-
Damenhur	1	2	Hosh Isa	1	-
Kafr Duwar	1	1	Manshat il Awkaf	1	-
			King Othman	2	-
			Kafr Duwar	1	-
		Assuit			
Assiut	2	3	Manfalut	-	1
Beni Rafa	1	1	Azaiza	1	1
Ghaneyem	1	1	Ghaneyem	1	1
		Qena			
Qena	2	2	Nag il Dahi	3	-
Luxor	1	1	Khutaba	1	-
Nag Hamadi	1	1	Danfiq	1	-
		Kafr il Sheikh			
			Roda	1	1
			Duwayda	1	-
			Abu Draz	-	1
			Motobus	-	2
			Kafr il Sheikh	2	2
		Sohag			
			Nag il Haref	1	-
			Nida	4	-
			Akhmim	2	-
			Sohag	2	3

FINDINGS

In this section of the report, we will group the summary and recommendations under the headings of equipment, materials, facilities, inservice training, innovative methods, and assessment.

Equipment

It seems clear from our observations in the classroom, from teacher interviews, and from interviews with headmasters, that more equipment would be extremely useful--particularly in agriculture--if instruction is to offer the students adequate opportunity to use the equipment themselves rather than only observe it in use. Some of this problem might be alleviated by more imaginative scheduling and grouping practices within the classes, but there is a limit to how artful one can be in the absence of enough equipment. In school buildings that house two shifts, we clearly see the need for a system to be devised such that one complete set of equipment, perhaps augmented by a few extra pieces if either shift school is quite large, can be shared between the two staffs. In time, of course, when each faculty has its own separate building, there will be a need to add equipment so that each may have its own. But until then a system for sharing is most cost efficient.

It also seems clear from our classroom observations, teacher interviews, and headmaster interviews that there should be a reexamination of the equipment list for teaching agriculture--particularly with regard to equipment for use in gardens and for working with plants.

The central purchasing and distribution system is working very well--thanks to the dedicated Ministry officials who devised the system and oversee its operation. If the commodities program is to continue, it would be more cost efficient to add a warehouse facility in upper Egypt. Assiut might be the most central area, rather than continuing to have the upper Egypt governorates truck all their equipment several hundred kilometers from Alexandria or Damenhur.

The latest equipment distribution of parts of packages should be discouraged except in those instances in which schools only need a few more items to complete their full set. The original procedure of distributing sets of full packages complete with shipping and price lists should be used in all initial distributions to schools.

Officials are keeping accurate inventory records at both the governorate and school levels, for which they are to be commended, but it seems that the redistribution procedure some governorates use, though keyed to governorate and central inventory records, does not provide MOE/Cairo officials with accurate records. A system needs to be developed for the governorates to use that would provide local officials with the logistical flexibility they need to be more fully responsive to the schools' needs and the central MOE with accurate records so that inequities in the distribution can be prevented and progress in equitable distribution monitored.

The lack of budgets in the schools for equipment repair, maintenance, or replacement will prove more inhibitory of equipment use over time. Few schools have personnel trained in equipment maintenance or repair. To take a trivial example, who is going to sharpen all those crosscut saws made dull by students' use in carpentry classes? Surely, a modest investment in equipment maintenance would be wise to safeguard the large investment made to date by USAID in the commodities-equipment supply program.

It is clear that Basic Education in Egyptian schools involves a great deal more than simply the three practical courses, science, and social studies. And equally clear is the severe shortage of equipment in other areas of the curriculum--particularly music and physical education. We urge consideration be given to expanding the commodities program into these other areas and into the area of instructional supplies, such as paper, textbooks, workbooks and lab manuals, art supplies, chalk (especially dustless chalk), sheet music, and films, which are a few of the things schools must have more of if the quality and efficiency of instruction is to be upgraded. However, we would caution that this expansion not be at the expense of completing the equipment supply for the three practical courses, science, and for audiovisual education. Only once those needs have been met, or it is clear that they can and will be met, should the commodities program be expanded to these other areas of needs.

We are also concerned about the future--about the time when funds may not be so readily available from USAID or other external sources for the purchase of equipment abroad. We suggest, therefore, that USAID and the Ministry give serious attention now to developing a project that will study the feasibility of having the needed school equipment and tools manufactured in Egypt through a combination of private enterprise and state participation. This private/state system participation should include the technical schools. These schools now manufacture some school furniture. There may be some equipment or supply items that they could also manufacture and thus provide valuable training experiences to their students as well. It may be that a modest investment now can have long-term beneficial pay-off.

Materials

At least one of the governorates is experimenting with the central purchase and storage of durable material items such as lumber, wire, metal, etc. These materials are then distributed to schools on the basis of need. Governorate officials believe this to be a more efficient, cost-effective way to provide the schools with the materials they need rather than have each teacher or department head in larger schools purchase the items as needed, get receipts and eventual reimbursement for their receipted expenditures. This system probably won't work for the purchase of perishable items used in home economics or agriculture but it is worth watching.

Teacher reaction seemed mixed; some were delighted not to have to put up with the chores of purchasing, getting receipts, etc.; others preferred the older system since it gave them greater flexibility in the choice of materials, the timing of purchases, and so forth. Clearly the experiment should be watched and evaluated.

This should not be an excuse, however, to put off action to make sure that each school receive its full materials budget allocation. That should be done now.

Facilities

There is a clear and present need in the schools for workshops, especially for industry courses, and for more storage space. No schools have enough storage space, and every school could easily use more storage cabinets.

Inservice Training

Inservice training needs are high, both for teachers and for headmasters. Teachers and headmasters responded to questions about improving instruction by saying that more training and longer training is required. Many, many teachers unfamiliar with the equipment they were using could have benefited from instruction in equipment use itself. This is particularly true of industry teachers. Newer teachers could benefit from training in classroom organization and management. It is no easy task to organize and manage a classroom of active young students into small productive work/learning teams, each of which may be working on a different aspect of the week's lessons. This is particularly difficult to do well in multiple- activity courses such as the three practical courses wherein equipment and facilities must be shared. (How many students can make use of the same work bench at the same time without chaos erupting or safety becoming a problem?)

We saw only four teachers who had deliberately tried to integrate mathematics and science learnings into their practical classes. Since this is a Basic Education goal, difficult to achieve at best, some inservice time and attention should be devoted to it, we feel, for we doubt the situation will remedy itself without such explicit attention. This may well fit into an area teachers seem to feel they wanted help with, an area we label "tradecraft." In short, it includes the technical aspects of a teacher's life, the "how to's" that are involved in solving and coping with the many problems with which teachers must contend on a daily basis.

It is for these reasons that we feel not only should teacher and headmaster training programs be redesigned, expanded, and made more practical, but they should be conducted in actual school settings where good models of effective and efficient ways of teaching the practical courses can be observed and learned. Successful teachers and headmasters should be used as trainers and paid extra for their work. In some schools, one can find senior teachers and persons qualified to be headmasters who cannot accept the job for personal reasons and who have time available to provide inservice training in their own schools, train those in other schools, and help as needed. Perhaps the technical assistance work to be conducted through Work Order No. 6 will address these issues at least on a pilot basis. We hope so and that there be wide-scale implementation of the model if it proves to be successful and if it can be readily adaptable to meet teachers' needs as they change over time.

We also feel it is of vital importance that headmasters receive inservice training also, particularly headmasters of the smaller, rural, and remote rural schools. Instructional leadership demands on these officials are much higher than on their colleagues in schools in towns or cities. Training in instructional supervision and leadership is especially important for those in more remote locations where transportation is difficult or even impossible at times for they cannot rely on the instructional leadership of subject supervisors and the schools are usually too small to have highly qualified subject specialists or department heads. Hence, it is the headmaster who bears the major responsibility for technical supervision and instructional leadership.

Innovative Methods

We felt from our observations and interviews that improving instruction was so vital in the Basic Education courses that inservice education, as important as it is, would not suffice. We therefore spoke with officials in the governorates about the importance of establishing a system that promotes the development and use of new methods. To be effective it is essential that the methods be developed, tested, and revised within classes in regular Basic Education schools set, not in expensive or unusual "model" schools. We agree there is a need in Egypt for model schools but feel strongly that using regular, ordinary but good schools in which to develop and teach a sustained program of this type will make Basic Education more effective, consistent, and efficient.

Teachers could test and practice innovative methods; then they could instruct other teachers in the use of techniques they found successful. Over a relatively short time a more effective mix of instructional techniques than one now sees might appear in the classroom and teachers might become more enthusiastic about teaching the practical courses.

Assessment

In the opinion of most, unless students in the practical courses are examined as rigorously as they are in their other courses, and unless their test scores are used in some way that is significant to them, both the students and the teachers will not take these courses as seriously as they do others. Additionally, with the current system it is almost impossible to know with any certainty whether the practical courses are building the attitudes, the knowledge, and the skills that they were designed to produce.

In order to know whether the practical courses are meeting their objectives, students' attainment and growth over the five years in which they are enrolled in the practical courses must be measured in a systematic and valid way. A consistent, objective system of measuring student performance, particularly in the skill areas, needs to be developed and implemented.

SPECIFIC RECOMMENDATIONS

On the basis of our study of new equipment, we would make the following specific recommendations now, listed in the order of their priority.

- The Ministry's current practice of constructing workshops for schools that do not have them should be continued and expanded if at all possible. We also urge the MOE and USAID to consider including workshops and special-purpose rooms in new USAID-funded schools.

- A revised, more effective, and more efficient inservice training system should be devised and implemented nationwide, based on an examination of the current inservice training system for teachers of practical courses and for headmasters. That system should use effective Basic Education schools as training sites and successful teachers and headmasters as trainers.

- Careful attention should be paid to analyzing the equipment needs of agriculture teachers in particular and revising that equipment list.

- Consideration should be given now to expanding the commodities program to include other school subject areas with equipment needs--music and physical education are two that need attention now--and to the area of instructional supplies, provided this expansion is not done at the expense of completing the equipment purchases and distribution for the three practical courses, science, and audiovisual education.

- An explicit examination should be made of the official systems and of popular practices in the governorate offices and in the schools for the distribution, assignment. redistribution, inventory, maintenance, repair, storage, and replacement of equipment and materials. Thus, a more effective and efficient system could be designed, developed, tested, and implemented for and in the governorates.

- In the interests of equity, we strongly recommend that schools have only the amount of equipment they actually need and that excess equipment now in some schools be redistributed to those that are short. Moreover, we recommend that governorate officials set aside and store equipment for the new schools that are being built so that they can be completely equipped with new equipment when they open their doors for students.

- We recommend the development and installation of a set of procedures that will enable multiple-shift school buildings to share equipment while yet having someone accountable for its care.

- We recommend that every effort be made to see that all the schools are allocated their full materials budget. Further, the question of whether those allocations should be higher should again be examined carefully by the MOE.

- We recommend that the MOE and USAID/Cairo study the feasibility of manufacturing in Egypt as many as possible of the supplies, teaching materials, and equipment the schools need. This should be designed as a project using both the public sector--technical and industrial schools, for example--and private enterprise.

- A system should be established for developing and testing innovative methods of teaching the practical courses in Basic Education in each of the governorates. It should include a communication system for sharing the results among the governorates and within each one, and a subsystem for implementing the adoption of these new proven methods in other schools through training programs, support services, appropriate supervision, and an incentive system to encourage headmasters and teachers to participate.

- A consistent and objective student performance assessment system for the practical courses needs to be designed, tested, revised, and implemented on a nationwide basis. It should include a requirement that the results of the measures have consequences of importance to students and teachers to ensure that they are taken seriously and administered fairly and properly. Such an assessment system must contain objective ways of measuring the practical skills as well as the acquisition of knowledge (often referred to as the "theoretical" portion of the courses).

The Evaluation Team will be glad to expand on the recommendations, of course, and is prepared to do so in greater detail should the request be made.

CHAPTER IV: STUDY OF TECHNICAL ASSISTANCE

BACKGROUND

Once the school construction and commodities programs were established, USAID and Ministry officials turned their attention to providing the Ministry with appropriate technical expertise in Ministry-designated high priority areas. The first so designated were curriculum, teacher training, educational planning, educational economics, and school designs.

The mechanism used was a host-country time-and-effort contract through the Ministry of Education (MOE) for the provision of technical assistance in support of the Basic Education Program. This provided the Ministry with flexibility to call on expertise as needed and to adjust work efforts easily to fit new needs as they arose.

In the spring of 1983, the Ministry completed negotiations with the Academy for Educational Development for a three-year contract to provide the required technical assistance. Specifically, in response to a statement of priorities from the Ministry, the Academy was to provide:

1. state-of-the-art information on the priority topics;
2. qualified consultants (to work on these same priority topics); and
3. management structure and coordination for the entire process.

In short, the Academy was to design and provide the technical assistance delivery system, to staff it as needed with qualified consultants, and to offer the latest state-of-the-art information upon which they and the MOE could base alternative courses of action.

APPROACH

"The objective of the technical assistance to be provided under the Basic Education Project is to support efforts of the Arab Republic of Egypt through its Ministry of Education (MOE) to develop an analytical base for and to devise programs to implement planned educational change at the primary and preparatory levels (grades one through nine)."*

The study of technical assistance is designed

- to assess the amount, nature, and utility of the impact of the technical assistance at the policy and operational level of the Ministry and its governorate offices;

---

*Project Paper, Egypt Basic Education, Project Number 263-0139.

- to determine what the program's effects, if any, were on other institutions in Egypt's educational system--such as the Schools of Educations' pre-service education programs and the Teacher Training Institutes' programs; and

- to determine what impact the program would have on actual school practices.

The study design was guided by the following hypotheses.

- AID-financed technical assistance will stimulate noticeable changes in important aspects of the rationale, objectives, and procedures through which the MOE organizes and supports curriculum development, teacher training, educational planning, and cost analysis for basic education.

- AID-financed technical assistance will stimulate noticeable changes in the rationale and procedures that guide the MOE in evaluating the effectiveness and efficiency of programs in the areas of curriculum development, teacher training, and related programs that enhance the relevance, efficiency, and effectiveness of basic education.

- AID-financed technical assistance may have a noticeable effect on educational activities in primary and preparatory schools.

The technical assistance study gathered data from interviews of key technical assistance providers, key recipients of the advice, and key department staff in the areas in which technical assistance is provided to see if they perceived any clearly identified areas of changes resulting from technical assistance and to gather their estimates of the significance and importance of those changes.

Additional data sources include the various documents generated in the course of the technical assistance program. Document analysis plays a prominent role in guiding the interviews, and when appropriate and feasible, in-system observations of practice will be made in the schools and in administrative offices at Ministry and governorate levels.

Clearly, not all technical assistance systems are, will be, or even can be fully comprehensive. Yet it is useful to analyze each on a set of idealized dimensions. Consequently, as we follow each work order and its consequent activities through the system that has been established between the Academy and the Ministry of Education, we will attempt to examine how the efforts surrounding each work order are affected by the properties of the technical assistance delivery system as it was designed, and as it is modified in practice over time.

ORGANIZATION OF THE TECHNICAL ASSISTANCE PROJECT

Since the delivery of technical assistance services was not to be either informal nor casual but formal; ordered, and deliberative, the Academy's first effort was to design a formal but temporary organization. This provided the mechanism through which services could be agreed upon, ordered, delivered, reviewed, deliberated upon, and accepted or rejected.

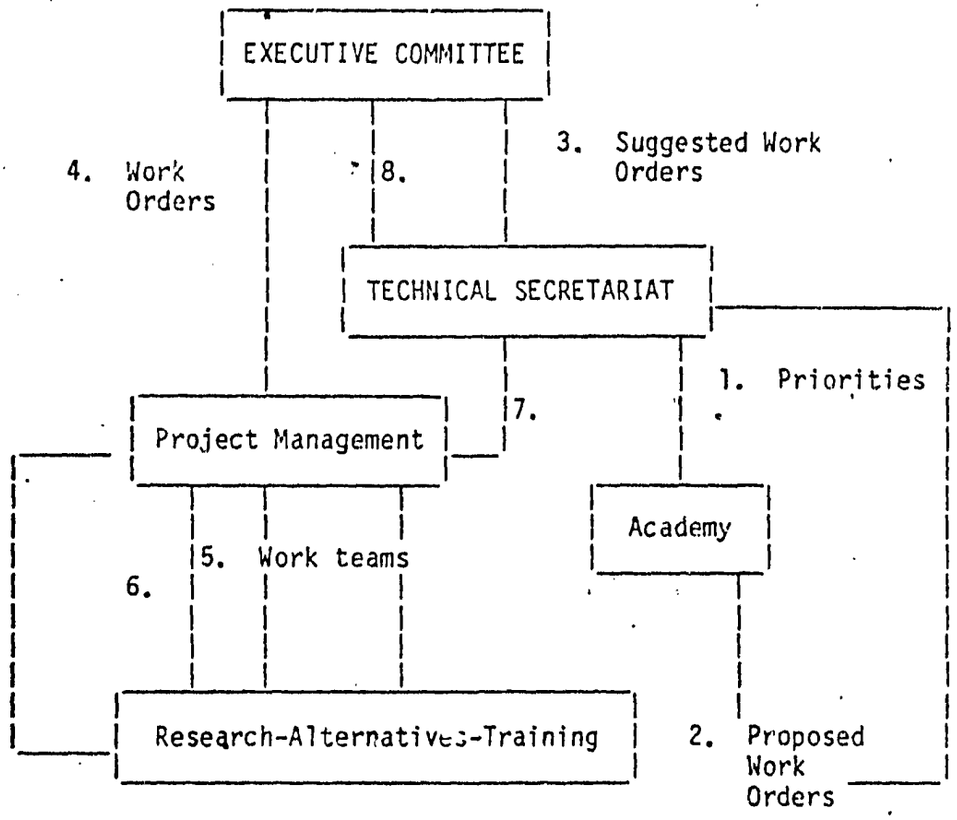
Early on, the Academy and the MOE agreed on the operational aspects of the technical assistance system by creating what was in effect a "charter" for its operation. This delineated the function each element in the organization was to play, empowered each with the appropriate authority and responsibility, listed its membership, and described the general procedures to be followed from the inception of a piece of work to its completion and final acceptance or rejection.

Figure IV-1, a verbatim copy from Work Order No. 1, shows the flow cycle of project activities. Note that the cycle commences with the Technical Secretariat working with management to convert priorities into work orders, which are then submitted to the Executive Committee for approval. Once approved, project management then selects personnel and forms the work teams. Upon completion of the work, products are fed back through project management to the Technical Secretariat for its consideration. In turn the Secretariat make recommendations to the Executive Committee for product disposition.

Note that, unlike most technical assistance efforts, this one contains no needs-assessment cycle. Nor is there any mention, in early project papers, of the process of product implementation--that is, of how or whether any of the results will be put into practice or "institutionalized."

Figure IV-1

Project Implementation Process Showing the Flow Cycle of Project Activities*



*The numbers show the sequence of activities.

TECHNICAL ASSISTANCE WORK SCHEDULES

The Academy had prepared and negotiated the first five work orders by mid-May 1983. Work Order No. 1 resulted in the design of the technical assistance delivery system and the "charter" for its operation. Work Order No. 2: "Assessing the State of the Art of Basic Education" (curriculum and teacher education), No. 3: "Education Economics of Basic Education," and No. 4: "School Designs for Basic Education," were derived from and directly responsive to the MOE's priority paper. Work Order No. 5: "A Computer-Based Planning Model for Basic Education" reflects a basic need arrived at by the Academy after discussion with MOE officials--that of helping the Ministry sophisticate its planning systems.

ACCOMPLISHMENTS

Figure IV-2 shows the status of all work orders undertaken or approved in the first two years of the TA contract (June 1983--May 31 1985).

Following the negotiation of these first five work orders, the Project Director quickly selected and nominated a slate of experts for each, early in the summer of 1983, since an early and prompt start was imperative if a tight timetable was to be met. However, no further overt action on the approval of the foreign experts nor on the nomination of a counterpart team took place until the Academy forced the issue by preparing to have the foreign experts begin Work Order No. 2 in early December. Even so, the Egyptian counterpart team was not appointed until over half the time available to the American experts had elapsed.

The Work Order No. 2 team's draft report was presented to USAID/Cairo on January 19, 1984. The Technical Secretariat met on three occasions--January 25, February 1, and February 8--to discuss the draft and to prepare a critique for the team to use in preparing the final report, which was completed in March 1984.

By mid-May of 1983, the foreign experts for the work orders on economics, school design, and computer-based planning had all arrived in Egypt to begin that portion of their work that required their presence in-country.

The unexplained delay first experienced in the summer of 1983 in approving foreign experts and nominating Egyptian experts for Work Order No. 2 seems to have had a lasting and compounding effect, as Figure IV-2 shows. Work on Work Order No. 2 got started four months late, No. 3 started over seven months late, No. 4 was delayed by about eight months, and Work Order No. 5 was substantially delayed, as well.

Phase II of Work Order No. 5: "A Computer-Based Planning Model for Basic Education," was completed in time for a presentation to USAID/Cairo and a presentation to and enthusiastic reception by the MOE in late February 1985. Work on Phase III has proceeded apace but its completion and the beginning of work on Phase IV are contingent upon the successful completion of the procurement and delivery of the computers to be installed in the Ministry and in governorate education offices. Unfortunately, there has been much confusion and backing and filling on the MOE's and USAID's part about the procurement. It became entangled in changes of mind about who should be responsible for the procurement, in delays in obtaining appropriate clearances, and in other bureaucratic red tape in both institutions. As of the end date of the period covered in this report, May 30, 1985, the procurement had become the responsibility of USAID/Cairo.

FIGURE IV-2
Technical Assistance Project Work Schedule
Planned vs Actual (As of May 30, 1985)

Work Orders	Start Dates		First-Draft Due Dates		Final Report Due Dates	
	Planned	Actual	Planned	Actual	Planned	Actual
#2: Assessing the State of the art of Basic Education (curriculum) and teacher education)	early Aug '83	mid Dec '83	early Sep '83	mid Jan '84	early Oct '83	Mar '84
#3: Educational Economics of Basic Education	early Oct '83	mid May '84	early Nov '83	Jun '84	early Dec '83	Sep '8
#4: School Designs for Basic Education	early Aug '83	mid May '84	early Sep '83	Oct '84	early Oct '83	late May '85
#5: A Computer-based Planning Model for Basic Education						
Phase I--Establishing data bank procedures and developing strategies	beginning Jun '83	mid May '84	No report 6 months for phase I	N. A.	N. A.	N. A.
Phase II--Model design and modification	beginning Jan '84		end of Mar '84	late Feb '85		
Phase III--Full Implementation and presentation	beginning Apr '84		end of Jul '84		end of Jul '84	
Phase IV--Training	beginning Aug '84		early Dec '84		N. A.	
Phase V--Followup and monitoring	beginning Jan '85		end of Jun '85		N. A.	

*The preparation of technical papers by the two Egyptian experts began in Feb '84. The American expert arrived in Egypt May 16 to begin the "in country" phase of his work.

Figure IV-2
(Continued)

Work orders	Start Dates		First-Draft Due Dates		Final Report Due Dates	
	Planned	Actual	Planned	Actual	Planned	Actual
#6: Development of Basic Education Teachers In-service Training—Programs and Techniques	Eff.Date: Feb 19, 1985		Not known		May, 1986	
#7: Handicapped in Basic Education	Eff.Date: Feb 19, 1985		Not known		May, 1986	
#8: Organization and Management	Eff.Date: Feb 19, 1985					
Part 1: Diagnosis	Will require 8 wks: 5 in Egypt, 3 in U.S.		8 weeks from starting			
Part 2: Policy Planning	Will begin 4 mos.after end of Part 1: Diagnosis		At end of period			
Part 3: Execution Monitoring	Will begin 4 mos.after reorganization efforts have been initiated		N.A.		May, 1986	

With the beginning of the new contract year (June 1, 1984--May 30, 1985)--a change took place in the top leadership of the Ministry. Responsibility for primary and secondary education and for the teacher training institutes was separated from responsibility for higher education and scientific research and placed under the direction of a new Minister of Education, appointed from outside the Ministry. Responsibility for higher education and scientific research remained in the portfolio of the Deputy Prime Minister of State for Education.

These leadership changes quite naturally affected the timing and conduct of technical assistance activities, especially with regard to defining and establishing new work orders. Fortunately, the new Minister had been a member of the Technical Secretariat and was familiar with the technical assistance project and how it worked. In addition, two of the original group of Ministry staff who had acted as architects of the project in the MOE remained in the Ministry as consultants and were available to brief those of the new leadership not fully familiar with the project.

The Academy was quick to respond to the new situation. By early October it had presented the new Minister with an ambitious and comprehensive new plan and reorganization of work for the remaining two years of the contract and a reorganization of its operating staff in Egypt. In the end it proved impossible for the Ministry to approve the proposal. After consideration, it first rejected the new work plan but continued consideration of the staff reorganization. In time, however, that was rejected as well, ostensibly because of its expense.

Following rejection of the plan, the Academy's Project Director and Assistant Director discussed possible new areas of work with members of the Technical Secretariat. From these discussions they were able to generate and rework formulation of three new work orders that were formally approved on February 19, 1985---nine months after the beginning of the second contract year.

THE NEW WORK ORDERS

The first, Work Order No. 6, entitled "Development of Basic Education Teachers Inservice Training--Programs and Techniques," had six major objectives.

1. Assess present organizational structure of training and suggest needed changes and improvements.

2. Assess present inservice training programs, techniques, and practices for Basic Education teachers in Egypt.

3. Develop a list of identified additional needed inservice training modules for Basic Education teachers.

4. Develop guidelines to prepare new inservice training modules appropriate for Basic Education teachers in Egypt.

5. Prepare a sample of inservice training prototype material.

6. Design and conduct an intensive training workshop to develop and improve the professional training skills of Basic Education inservice training staff.

Work Order No. 6 is the only one of the three new work orders that seems in some measure related to a previous work order. Establishing criteria for selecting, preparing, and training Basic Education teachers and administrators had been one of the objectives for Work Order No. 2. Their recommended number two priority in that final report was to "develop a short-range and long-range inservice education training plan for teachers and administrators of Basic Education." The evaluation team had made a similar recommendation in its First Annual Report.

Work Order No. 7: "Handicapped in Basic Education" has the following five objectives.

1. Assess present testing, evaluation, placement, and counseling techniques used with handicapped children at the Basic Education level in Egypt.

2. Evaluate presently used systems and different services and tools and suggest possible improvements and/or additions.

3. Develop prototypes of appropriate additional tools based on (2) above.

4. Train staff and personnel on the appropriate use of said tools.

5. Study possibilities of providing modern equipment to enhance the educational and rehabilitative processes for the handicapped.

Work Order No. 8: "Organization and Management" has one over-arching objective.

> The purpose of this work order is the preparation of a reorganization plan that, when executed, would strengthen the organizational and management capabilities of the Ministry, allowing the better utilization of time and effort in the spreading of Basic Education and reaching its goals.

Work Order No. 8 is divided into three parts: "diagnostic, policy planning, and execution monitoring." Part one is estimated to take a total of eight weeks, five in Egypt and three in the United States. Part two is scheduled to begin four months after the completion of part one. The last part, "execution monitoring," is to begin four months after "the reorganization efforts" have begun within the Ministry.

By the end of this reporting period, May 30, 1985, no detailed work schedule for the new work orders had as yet been projected. In each, the effective date--the date on which work could have commenced--is the "date of last signature," or February 19, 1985. The estimated completion date is May 1986, the last month of the current contract.

Figure IV-3 briefly summarizes the status of all work activities in the technical assistance project for the first two years of the contract. The left hand column shows the work accomplished in 1983-84; the right hand column shows the same for the 1984-85 contract year. The stages listed in the middle of the page, beginning with "Design" and ending with "Implementation" are convenient analytic categories under which to group technical assistance system design and construction.

Unfortunately, the technical assistance contract work is even farther behind now than it had been at the end of the first year. At this, the two-thirds point in the contract, four work orders out of the eight issued have been completed.

To summarize briefly, Work Order No. 1 enabled the organization and staffing of the technical assistance system and the development of its operational charter. Work was completed on Work Orders No. 2 and 3 and their final reports were accepted by the Executive Committee and have been shelved. Action on the final report of Work Order No. 4 by the Technical Secretariat awaits the results of a review by a specially appointed technical panel of experts.

The next set of activities planned for Work Order No. 5 is the training of appropriate MOE staff and the installation and trial use of the computer-based planning system. These await USAID/Cairo's completion of procurement action for the necessary hardware and software.

Three new work orders, Nos. 6, 7, and 8, were negotiated and signed by the MOE on February 19, 1985. The Academy received approval of the foreign expert candidates for the three work orders from the Technical Secretariat on May 19. However, no Egyptian experts had been approved by the end of this reporting period, May 31, 1985, and therefore no work on the three new work orders had yet started in Egypt.

These delays in the technical assistance system's timing mechanism will have the certain effect of forcing the remaining required work into the last contract year and there may well be problems in completing all the work laid out to date.

However, despite these problems, work proceeded on the three extant work orders during the 1984-85 year. No. 3 went from draft to final report preparation and acceptance, final report preparation was completed for No. 4 in the following month, and substantive work was accomplished on Work Order 5, culminating in successful presentations to MOE and USAID/Cairo in mid-February.

Figure IV-3: Work Flow Status as of May 31, 1985

1983-84	1984-85
A. Design Stage	
• Original design of TA system completed in May 1983.	• Reformulation of design for remainder of project presented to Ministry in October, 1984; eventually rejected by MOE.
B. Needs Assessment	
• None made. Contractor accepted MOE's statement of "priorities," except for study of school administration, school mapping, and student flow and drop-outs; computer-based planning was added.	• Informal needs assessment made through conversations, discussions with members of the Technical Secretariat, converted to draft work orders 6, 7, and 8, reviewed, critiqued by T.S., re-drafted by contractor (except for the priority on the handicapped W.O. No. 7 which originated with the Minister).
• "Priorities" translated into work orders in May 1983.	• Final work orders completed in January '85.
C. Work Specification	
• Completed in May 1983 for first five work orders.	• Completed for work orders 6, 7, 8, in January 1985.
• Work Orders 2,3,4,5 approved and project management authorized to proceed in May 1983.	• Work orders 6,7,8 approved and project management authorized to proceed in Feb. '85.
D. Expert Selection	
• Experts were nominated early by the Academy (mid July '83) but MOE approvals and the nomination of Egyptian counterparts were held up until it was too late to begin work on the original schedule. Thus, all work may fall behind schedule.	• Foreign experts were nominated by the Academy and accepted by the Technical Secretariat on May 10, 1985. All the Egyptian nominees for expert positions (10 nominees for each work order) were rejected by the Technical Secretariat who requested that additional persons be nominated.
• Foreign experts for Work Order 2 were hired and arrived in Egypt a week to 10 days before Egyptian counterparts were hired.	• By May 31, 1985, no Egyptian experts yet approved, no final action taken by the Executive Committee on foreign experts, no work schedules yet approved for work orders 6, 7, 8.
E. Pre-Visit Preparation	
• This was an area of great difficulty for Work Order 2. It was apparently remedied for subsequent work orders, at least with regard to the preparation of background papers by host country or other experts, by an agreement negotiated by the Academy that Egyptian experts be hired in advance of foreign experts and that foreign experts would not be sent to Egypt until they had received and had had time to study pertinent background papers, data, etc.	• No action taken as yet for Work orders 6,7,8.

Figure IV-3 Cont'd

1983-84	1984-85
F. Team(s) Begin Work	
• Work Order 2, 3, 4 and 5 teams began work, though starts were much delayed.	• Final report for Work Order 3, "Educational Economics" completed, accepted by Technical Secretariat and by Executive Committee.
• In-country work, preliminary draft reports, final report, and oral reports to USAID/MOE were completed for Work Order 2. Preliminary draft, oral report to AID/MOE, was completed for Work Order 3.	• Final report for Work Order 4, "School Designs," submitted to Technical Secretariat. Academy has recommended that a special committee of technical experts be appointed to review the final report and advise the Technical Secretariat on what action(s) to take with regard to the report (not acted on by MOE by May 31, 1985).
	• System design for Work Order 5, "Computer-based Planning," using partial, exemplary data completed, presented to MOE/AID for review, discussion, critique, feedback for use in design review; operationalization of system with "real" data completed by Feb 19, 1985. All system specifications reviewed, finalized and final decision on who would procure hardware, software made; fast procurement action urged yet again by May 1985. Next scheduled activity is installation of the system and the training of central MOE and governorate staff in its operation. Dependent upon the purchase of the computers and the related software, however, since the training is "hands on."
	• No teams yet appointed for Work orders 6, 7, and 8, so no work begun aside from general planning on Academy's part.
	• No technical Review I done by Technical Secretariat for Work Order 3, "School Designs." (See F. above)
G. Technical Review I	
• Completed for Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Completed for design stage, Work Order 5, "Computer-based Planning."
H. Final Report Preparation	
• Completed for Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Completed for Work Order 4, "School Designs."
I. Technical Review II	
• Completed for final report of Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Pending for final report of Work Order 4, "School Designs."
J. Executive Action	
	• Completed for final report Work order 3, "Educational Economics" only.
K. Implementation	
• None	• None

IMPACT

As previously noted, this study of technical assistance was designed to determine what impact the program would have on the Ministry and other government offices and in schools. Despite our hopes, it is clearly premature to make any firm judgments at this time on what impact, where, if any, the total Technical Assistance Project will have. In fact, one cannot yet assess the impact of the work done to date, for as mentioned previously, the only two final reports completed and accepted by the Executive Committee to date have been shelved. Given the Secretariat's response to the final report of Work Order No. 2 that it "met only minimal specifications," it seems only natural that it would be shelved.

The final report of Work Order No. 3 was received with enthusiasm, however, and therefore one would have expected its fate to be different. Perhaps, with the passage of enough time, it will have an impact at policy and operational levels within the Ministry and its governorate offices, though the fact that since its enthusiastic reception some eight months have elapsed to date with no action does not lead one to be too hopeful.

RECOMMENDATIONS

Given that we see no evidence as yet of implementation or planning for it, although Work Orders No. 5, 6, 7, and 8 all will involve some limited implementation, we recommend that the MOE, USAID/Cairo, and the Academy concentrate time and attention on implementation issues during this last contract year. Without implementation there obviously will be little institutionalization--little or no impact.

A good start would be to institute some changes in the Technical Secretariat's duties and responsibilities. This would involve setting up an implementation planning system that would operate under the general authority of the Technical Secretariat and would require its active involvement.

The system should contain at least the following functions:

a) deciding which technical assistance recommendations in each work order's final report should be implemented;

b) setting up a priority system for implementation through identifying
   - those that can and should be implemented without a great deal of additional development or research work, and
   - those that should be implemented but require more research or development work, and

   establishing a priority order for implementing the recommendations, including the additional research or development work required for some to be implemented;

c) setting up an overall action-plan and timetable for implementation in the appropriate sequences;

d) assigning implementation responsibilities for each set of recommendations;

e) analyzing the budgetary requirements for each;

f) recommending appropriate administrative, policy, and procedural action to accomplish the goal; and

g) planning and recommending appropriate follow-up and evaluation to assess the effectiveness of the action taken to implement the recommended changes.

We further recommend that every final technical assistance report be submitted in Arabic, for even those in the Secretariat most facile in English often find it difficult to read technical reports with complete understanding, particularly when the authors use technical jargon, as most do. Moreoever, having the reports in Arabic would make them fully accessible not only to Secretariat members but also to those relevant others in the Ministry and elsewhere whose understanding, involvement, and commitment are required if implementation is to occur.

Since the Technical Secretariat members are all busy officials with full-time positions, this recommendation may require assigning some staff and more administrative time for Academy staff in Egypt to work with them in order to make sure there is adequate time and energy devoted to this important set of tasks.

We suggest further that the MOE and USAID/Cairo discuss the implementation problem and the issues it generates fully, particularly with regard to supporting those efforts over the next two or three years.

These discussions should commence as early as possible and proceed concomitantly with the planning so that sufficient time is available to both the MOE and USAID/Cairo to plan and negotiate any further support project whose necessity and requirements emerge as a result of the Secretariat's planning system and the joint MOE-USAID/Cairo discussions.

creative associates

STUDY OF USAID CONTRIBUTIONS TO THE EGYPTIAN BASIC EDUCATION PROGRAM

SECOND ANNUAL REPORT

SEPTEMBER 1985

3201 NEW MEXICO AVENUE, N.W. · SUITE 270 · WASHINGTON, D.C. 20016 · (202) 966-5804 · TELEX: 440523 CREA
1901 N. MOORE ST. · SUITE 920 · ARLINGTON, VA 22209 · (703) 528-8626

55

ACKNOWLEDGEMENTS

We wish to express our gratitude to His Excellency, Abdel Salam Abdel-Ghaffar, Minister of Education; to His Excellency, Mohamed Kamal Monsour, First Undersecretary of Education; to His Excellency, Hamid Suliman, Undersecretary of Education; to Mr. Hassan Harass, Consultant to the Ministry of Education; to Mr. el Sawi Abdel Sami Ahmed and Mr. Azem el Saidi of the General Administration of Planning and Follow-up, Ministry of Education; and to the education officials of the governorates of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena, whose devotion to the quality of Egyptian education made this study possible. We also gratefully acknowledge the help of our hard working research assistant, Said Ali il Deeb, and the other field researchers who accompanied us in the data collection.

56

STUDY OF USAID CONTRIBUTIONS TO THE EGYPTIAN BASIC EDUCATION PROGRAM

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

SECOND ANNUAL REPORT

Submitted to: USAID/Cairo

September, 1985

Wells Hively, Ph.D., Team Leader
Nadia Makary, Ph.D., Project Coordinator
Wade M. Robinson, Ed.D., Senior Project Associate
Andrea Rugh, Ph.D., Anthropologist
Patricia E. Scully, Editor

CREATIVE ASSOCIATES, INC.
WASHINGTON, D.C.

57

TABLE OF CONTENTS

	Page
Preface	v
Background	viii
Chapter I: Intensive Study of New-School Communities	I-1
Chapter II: Extensive Study of the Impact of New Schools	II-1
Chapter III: Study of New Equipment	III-1
Chapter IV: Study of Technical Assistance	IV-1
Appendices	
Appendices to Chapter I	
A. Sites and Locations	I-5
B. Variables Affecting Educational Participation	I-9
C. Site Classification	I-13
D. Village Vignettes: Roda (Kafr il Sheikh) and Nag il Harif (Sohag)	I-17
E. Summary of the 1983 Findings	I-25
Appendices to Chapter II	
A. Example of Curve Fitting Procedure	II-5
B. Observed and Expected Enrollments at 1983 New School and Comparison-Control Sites	II-10
C. Tests of the Differences between the Comparison-Control Sites and the 1984 New School Sites in School Year 1983-84	II-17
D. Percentages of Girls Enrolled in Matched Pairs of Schools, 1983 New School Sites in School Year 1983-84	II-22
E. Data Used to Estimate Correlates of New-School Impacts on Enrollments in Grade 1 in the 1983 New School Sites, School Year 1983-84	II-26

58

TABLE OF CONTENTS
(Continued)

	Page
F. Data Table for Student Examinations, 1983 New School Sites, School Year 1983-84	II-30
G. Tests of the Differences in Proportions of Students Passing Examinations in 1983 New Schools and Paired-Comparison Schools, School Year 1983-84	II-37
Appendices to Chapter III	
A. Phase Two of the Study	III-5
B. Field Visit Schedules	III-13
C. Questions Asked in Study of New Equipment	III-25
Appendices to Chapter IV	
A. Work Order No. 1	IV-5
B. Work Order No. 2	IV-15
C. Work Order No. 3	IV-19
D. Work Order No. 4	IV-23
E. Work Order No. 5	IV-27
F. Work Order No. 6 (Proposed and Rejected)	IV-33
G. Work Order No. 6 (Accepted)	IV-41
H. Work Order No. 7	IV-47
I. Work Order No. 8	IV-51

59

PREFACE

This is the Second Annual Report of a four-year study of USAID contributions to the Egyptian Basic Education Program. The purpose of the study has been to collect information and develop theory that will help USAID and Ministry of Education (MOE) officials assess the impact of USAID contributions to the Egyptian Basic Education Program and plan future contributions to it, specifically in the areas of construction of new schools, provision of equipment for use in Basic Education classes, and provision of technical assistance to the Ministry of Education.

The study officially began in January 1983. Preliminary site visits were made in February 1983, and major data collection efforts, involving site visits to villages where new schools were located and to schools where equipment was being utilized, took place in the fall of 1983 and the fall of 1984, with a follow-up visit to equipment schools in the spring of 1984. Data were also collected from Ministry of Education officials and records throughout the two years. This report updates the findings presented in the First Annual Report, dated October 1984, and presents new findings from the second year's work.

The Second Annual Report is designed so that the reader can fully understand the study and its progress to date without having to refer back to the First Annual Report. It consists of four independent but closely related sub-studies:

- Intensive Study of New-School Communities, which is qualitative and anthropological, drawing its data from interviews with village leaders, school officials, and parents of school children; aimed at understanding the factors that influence children's enrollment and attainment in school;

- Extensive Study of the Impact of New Schools, which is quantitative and statistical, drawing its data from governorate and school records; aimed at assessing the impact of the new schools on enrollment and literacy;

- Study of New Equipment, which is qualitative and administrative, drawing its data from interviews with teachers and school administrators and classroom observations; aimed at understanding how the new equipment has been distributed and used, what factors constrain its effective use, and how it fits into the overall curriculum;

- Study of Technical Assistance, also qualitative and administrative, drawing its data from interviews of technical assistance providers and recipients; aimed at understanding the content and process of the technical assistance activity and their impact on Ministry of Education policy and procedures.

60

In the following report, each of the foregoing sub-studies is treated as a separate chapter with its own table of contents and appendices. Cross-connections among the studies are discussed where appropriate, in each chapter.

The remainder of this preface describes the overall background of the Egyptian Basic Education Program. Readers familiar with the program may wish to proceed to Chapter I.

CONTEXT OF THE STUDY

The methods and hypotheses that have guided the Study of USAID Contributions to the Egyptian Basic Education Program have been described in detail in a document entitled Scope of Work, May 1984, submitted to USAID/Cairo.

Figure i-1 shows the overall pattern of USAID contributions to Egyptian Basic Education toward which the study has been directed. The construction of new schools, which began as a USAID Project in 1982, has been a major effort, involving extensive joint planning by USAID and MOE officials concerning the choice of rural sites where schools would be likely to have an impact on increasing enrollment and literacy, particularly of girls and other educationally disadvantaged groups; creation of detailed maps of the local school regions (markaz) as a tool for determining sites of new schools; and close cooperation between USAID and MOE officials in financing and following up the construction of new schools.

Provision of new equipment, which began as a USAID project in 1981, has also been a major assistance project designed to support Ministry goals of increasing equity and access and enhancing the relevance and effective outcomes of the Basic Education curriculum. It has been carried out by MOE officials with USAID financial support.

The technical assistance program, which began in 1983, is a host country contract provided by USAID to the MOE for the purpose of obtaining consultation and assistance on all aspects of the Basic Education Program, as determined by MOE priorities. In the first two years, technical assistance work began in the areas of curriculum and teacher education, educational economics, school designs, and computer-based planning. New work orders were issued in the areas of inservice teacher training, the handicapped in Basic Education, and organization and management (of the MOE).

One can see from Figure i-1 that the USAID contributions have taken place, and are continuing to take place, in a large and complex context that is at the heart of the Egyptian education system. The USAID assistance is part of an unusually comprehensive cooperative project designed to facilitate the development of the Basic Education Program and the extension of schooling to unserved populations. The initial emphasis has been on increasing rates of literacy and numeracy, particularly among rural children and girls. The components of the overall effort include:

61

Figure 1-1: Pattern of USAID Contributions to Egyptian Basic Education
January 1983 - July 1984

Ministry of Education Activities	USAID Contributions
- Construction of New Schools school mapping site selection construction	- To New School Construction
- Development of New Basic Education Curriculum curriculum equipment teacher training school finance	- To Provision of New Equipment
- Planning and Policy Analysis	- To Provision of Technical Assistance

- providing more accessible, more attractive schools in areas where enrollments are particularly low;
- changing the curriculum to include practical skills courses useful to a broad range of students;
- providing equipment for the practical skills courses;
- providing teacher training to support the new curriculum; and
- solving problems of organization and school finance necessary to support these objectives.

In order to carry out an adequate and helpful assessment of USAID contributions to this ambitious project, it has been necessary for the Creative Associates' staff to develop to the greatest extent possible a comprehensive understanding of the Basic Education Program as a whole and its place in the evolution of Egyptian education. It has also been essential that the project staff develop close communication and mutual understanding with MOE officials responsible for carrying out the enormous task of overseeing the development of Egyptian schooling. We hope these annual project reports may become a significant element of that communication.

BACKGROUND

Compulsory free elementary education was proclaimed in the Egyptian constitution, Article 19, in 1923. However, lack of facilities and financial support prevented the early provision of broad educational opportunities for the population in general. It was not until the Revolution of 1952 under Gamal Abdul Nasser that a serious attempt to provide a broad-based education system began. The five-year plan for 1955-60 included within its provisions the goal of promoting universal primary education within a ten-year period. And indeed, in the period between 1956 and 1 a number of impressive advances in education took place.

In Law #213 of 1956, education from grades one through six was declared compulsory and subsequently a number of measures were taken to encourage voluntary compliance with the provision; in 1962, the system was declared tuition free; and between 1956 and 1966 school facilities were built across Egypt to provide for the rapidly expanding enrollments. However, in the 1970s the system struggled to keep up with the popular demand for education. Between 1967 and 1977, a decade of military spending and economic depression halted the construction of school facilities, resulting in severe overcrowding and general decline in the quality of Egyptian education. By the end of the 1970s, 60 percent of elementary schools and 30 percent of preparatory schools had a two-shift school day.

Despite adverse conditions in the decade of the 1970s, enrollments in primary and preparatory levels increased overall, 13 and 69 percent, respectively. In 1976, 43.5 percent of all Egyptians had experienced some schooling (including 29 percent of women). By the school year 1978-79, 68.2 percent of relevant age primary school and 59 percent of preparatory school children were enrolled. Of these enrolled children, females comprised 40 percent.

Despite general important advances in the educational system, access to education is still not equally available to all Egyptian children. Major disparities are still found between males and females, urban and rural, and Upper and Lower Egyptians. In 1977-78, from among six- to twelve-year-olds, 90 percent were enrolled in urban areas and 62 percent in rural. Of these, 94 percent of males enrolled in urban areas and only 75 percent in rural areas; girls enrolled 86 percent of the time in urban and 46 percent in rural areas. Girls' ratios of total enrollments have remained a fairly static 35 to 40 percent between 1965 and 1979. However, the absolute numbers of females out of schools has been increasing as a result of an ever-expanding population base.

Education plays a significant role in Egyptian life. If affects social mobility, the level and distribution of income, and the quality and quantity of the work force. Education contributes to a well-informed citizenry and to the realization of the full potential and self-esteem of individuals. Because of the important consequences to the nation and to its citizens, the MOE laid plans in the early 1980s to overcome the deficiencies hindering the expansion of school enrollment and attainment, especially among less-advantaged populations of the country.

In 1981, compulsory education was extended from six to nine years, under a Basic Education curriculum that was to increase the efficiency and skill level of students in both academic and practical course areas. With the cooperation of USAID, the MOE also embarked on an ambitious program to increase the number of institutional facilities available to school children, under the assumption that lack of facilities was a main hinderance to educational participation.

NEW SCHOOL CONSTRUCTION

The 1950s and early 1960s saw an extraordinary volume of school construction as Egypt set about accomplishing the goal of universal free education. This activity was interrupted by the large share of the Egyptian budget allocated to national defense in the late 1960s and early 1970s. In the late 1970s, attention returned to school building, which by that time had fallen seriously behind population growth. On September 20, 1982, Minister Helmy announced that the five-year plan to meet the new needs of an expanded student body envisioned construction of almost 2,000 primary and preparatory schools with annual allocations increased for education to LE 102 million from a then-current rate of 71 million. Although it was an unusual step for USAID, which ordinarily does not provide funding for "bricks and mortar," an agreement was

reached between USAID and MOE for an extensive new school-building program aimed specifically at reaching educationally disadvantaged rural populations.

To make most effective use of limited resources, MOE chose to begin building schools in governorates where rural enrollments and enrollments of girls were particularly low, identifying in the first phase of the project the governorates of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena. Specific sites within the governorates were chosen after the MOE prepared up-to-date school maps that identified the areas most lacking in facilities. A basic criterion set a two-kilometer minimal distance between location of a new school and already existing facilities.

MOE officials worked with local citizens to obtain donations of land for the schools, and construction was financed by USAID in such a way as to ensure rapid completion of the buildings. A standard school building design was used, the basic module being classrooms for grades one through six, expandable to grades one through nine, electricity, water facilities, and indoor toilets. This initial design resulted in an easily constructed, inexpensive, and utilitarian school. (New designs are the subject of one of the technical assistance studies.) School construction in the first five governorates has now been followed by construction in five additional governorates where work already had previously been completed on up-to-date school maps.

In discussions surrounding the choice of new school locations for this ambitious project, many questions arose about the factors that facilitate or stand in the way of children's attendance in school--social factors, distance, economics, and so forth. These concerns, along with a need to assess the direct impact of the new schools on enrollment and literacy, form the background for the Intensive Study of New-School Communities and the Extensive Study of the Impact of New Schools.

NEW EQUIPMENT SUPPLY

By the late 1970s, the primary and preparatory schools in Egypt lacked not only appropriate facilities but also instructional equipment in the classrooms. With the advent of the Basic Education program, it became imperative to provide equipment for teaching the practical courses in the primary and preparatory schools. Also, it was necessary to upgrade equipment in the science classrooms, because much of the equipment was worn-out or obsolete and many schools had none.

As part of the general agreement between USAID and the Government of Egypt to support the Basic Education program, the commodities import program was used to supply the requisite equipment. The Ministry assembled meetings of supervisors in the pratical courses, science, and social studies, and charged them with drawing up lists of equipment needs. After the lists were determined, a system was devised for tendering, purchasing, receiving, storing, and distributing the equipment to the schools.

New equipment may require new school practices/procedures for storage, maintenance, and replacement; procedures for acquiring raw materials; training of teachers and administrators; and new kinds of classroom organization. These considerations form the background for the Study of New Equipment.

TECHNICAL ASSISTANCE STUDY

Once the school construction and commodities programs were established and operating well, USAID and Ministry officials turned their attention to the matter of how to provide the Ministry with appropriate expertise in technical areas such as curriculum development or teacher education, on an on-call basis over a period of time long enough to ensure adequacy of input.

Consequently, a decision was made to set up a three-year, host-country, time-and-effort contract through the Ministry of Education for the provision of technical assistance in support of the Basic Education Program. It was felt that such a contract would provide the Ministry of Education with the flexibility to call on expertise as needed and to adjust work efforts easily to fit new needs that might arise. This is the background for the Study of Technical Assistance.

CHAPTER I

INTENSIVE STUDY OF NEW-SCHOOL COMMUNITIES

TABLE OF CONTENTS

	Page
Introduction	I-1
Summary of First Annual Report Findings	I-2
Urban/Rural Environment and Educational Participation	I-2
Parent-Identified Variables Affecting Educational Participation	I-3
General Findings of the 1983 Data Collection	I-4
The 1984 Field Study	I-5
Data Collection	I-6
General Characteristics of the Six Villages	I-8
Variables Related to Educational Participation	I-10
Age and Educational Participation: Historic Trends	I-10
Generational Comparisons	I-10
Initial Enrollment by Age Group	I-13
Persistence in School of the Age Groups	I-15
Persistence in School of Children Who Enroll	I-17
Age Levels and Educational Participation: Individual Villages	I-19
Initial Enrollment	I-19
Persistence (dropout rates in individual sites)	I-19
Reasons for Dropping Out or Not Enrolling in School	I-22
Parent-Identified Variables and Educational Participation	I-25
Economic Variables	I-26
Distance and Educational Participation	I-29
Parental Choices	I-33
Birth Order and Age Relationship	I-33
Family Patterns by Sex and Economic Levels	I-37
School Characteristics and Consequences	I-38
Registration for First Grade	I-39
Crowding	I-40
Type of School and Educational Participation	I-42
Absence Rates	I-43
Retention Rates	I-44
Drop out	I-46

68

TABLE OF CONTENTS
(Continued)

	Page
Parental Attitudes About Educational Participation	I-46
School Drawing and Holding Power	I-46
Villager Models and Motivations	I-49
The Occupational Context of School-Sending Decisions	I-51
Comparisons	I-52
Place of Work	I-54
Migration	I-55
Girls' Educational Participation	I-56
Review of the Findings (1984 Field Study of Six Villages)	I-56
Enrollment and Persistence	I-56
Factors Affecting the Educational Participation of Girls	I-57
Perceptions and Other Factors Affecting Girls' Participation	I-57
Conditions Conducive to the Educational Participation of Girls and Boys	I-58
Increasing Girls' Participation	I-58
Female-Only Schools (Primary Level)	I-58
Female-Only Schools (Preparatory Level)	I-61
Context of Impact	I-62
Indicators	I-63
Case Illustrations	I-66
The New School's Absolute Impact on Sample Enrollment	I-86
Recommendations	I-88
Plans for the 1985 Data Collection	I-91
Notes	I-92

LIST OF TABLES

I-1 Data Collection Schedule	I-7
I-2 Households, Families, and Generational Membership in the Sample	I-9

69

TABLE OF CONTENTS
(Continued)

		Page
I-3	The Economic Levels of Families in Six Villages	I-10
I-4	Distance of Families in Six Villages from New-School Sites	I-10
I-5	Generations' Educational Attainment in Six Villages	I-12
I-6	Initial Enrollment by Age Groupings and Sex in Six Villages.....	I-20
I-7	Rates of Dropout Before Grade nine	I-21
I-8	Reasons Individuals of Six Villages Never Enrolled	I-
I-9	Reasons Individuals of Six Villages Dropped Out Before Grade Nine	I-23
I-10	Parent-Estimated Annual Costs of Schooling Per Child at Primary and Preparatory Levels	I-29
I-11	Are Present School-age Children (6-15) More Likely to go to School than their Older Siblings?	I-33
I-12	Is the Youngest Child in a Family More Likely To Go To School Than the Oldest Child?	I-34
I-13	Are Boys or Girls More Likely To Go To School If They Are Younger or Older?	I-35
I-14	Do Parents Make Different Choices about School Sending for Younger/Older Sons and Daughters When Both Are Present in the Same Families?	I-36
I-15	Family School-Sending Patterns for Boys	I-37
I-16	Family School-Sending Patterns for Girls	I-37
I-17	Family School-Sending Patterns for Boys by Economic Level	I-38
I-18	Family School-Sending Patterns for Girls by Economic Level	I-38
I-19	Predicted Impact of Crowding and Distance	I-41
I-20	Kinds of Schools Attended or Available in Six Villages	I-42
I-21	Absence Rates among Those Currently Enrolled in Six Villages ...	I-43
I-22	Reasons for Absences among Those Currently Enrolled in Six Villages	I-44

LIST OF TABLES
(Continued)

		Page
I-23	Occupational Structure of the Older Generation	I-51
I-24	Summary Table of Girls' Ratios of Enrollments in Ten New-School Sites	I-65
I-25	Absolute Impact of New Schools on Sample Enrollment	I-87

LIST OF FIGURES

I-1	Ages of Younger and Older Generations	I-11
I-2	Ratio of Age Groups Enrolled--Older Generation	I-14
I-3	Ratio of Age Groups Enrolled--Younger Generation	I-14
I-4	Ratio of Age Groups Completing Grades Three, six, and nine Older Generation Males	I-16
I-5	Ratio of Age Groups Completing Grades Three, six, and nine--Younger Generation Males	I-16
I-6	Ratio of Age Groups Completing Grades Three, six, and nine--Younger Generation Females	I-16
I-7	Enrolled Age Groups Completing Grades Three, six, and nine--Older Generation Males	I-18
I-8	Enrolled Age Groups Completing Grades three, six, and nine--Younger Generation Males	I-18
I-9	Enrolled Age Groups Completing Grades three, six, and nine--Younger Generation Females	I-18
I-10	Economic Level and Enrollment-- Older and Younger Generations	I-27
I-11	Economic Level and Dropout-- Older and Younger Generations	I-27
I-12	Economic Level and Completion of Grade Nine-- Older and Younger Generations	I-27
I-13	Distance and Enrollment--Younger Generation	I-31
I-14	Distance and Dropout--Younger Generation	I-31

LIST OF FIGURES
(Continued)

	Page
I-15 Student Retention by Grade--Younger Generation	I-45
I-16 Dropout by Last Completed Grade--Younger Generation	I-45
I-17 Occupational Structure by Educational Status--Younger Generation Males	I-52
I-18 Occupational Structure by Educational Status--Younger Generation Females	I-53
I-19 Comparison Schools: Girls' Rates of Participation: Manshiya--Total Enrollment	I-66
a Grade One	I-67
b Grade Six	I-67
I-20 Comparison Schools: Girls' Rates of Participation: Kafr Nekla--Total Enrollment	I-68
a Grade One	I-69
b Grade Six	I-69
I-21 Comparison Schools: Girls' Rates of Participation: Monshat il Awkaf--Total Enrollment	I-70
a Grade One	I-71
b Grade Six	I-71
I-22 Comparison Schools: Girls' Rates of Participation: Roda--Total Enrollment	I-72
a Grade One	I-73
b Grade Six	I-73
I-23 Comparison Schools: Girls' Rates of Participation: Nag il Harif--Total Enrollment	I-74
a Grade One	I-75
b Grade Six	I-75
I-24 Comparison Schools: Girls' Rates of Participation: Khutaba--Total Enrollment	I-76
a Grade One	I-77
b Grade Six	I-77
I-25 Comparison Schools: Girls' Rates of Participation: Nag il Taref--Total Enrollment	I-78
a Grade One	I-79
b Grade Six	I-79

72

LIST OF FIGURES
(Continued)

	Page
I-26 Comparison Schools: Girls' Rates of Participation:	
Nag Dahi--Total Enrollment	I-80
a Grade One	I-81
b Grade Six	I-81
I-27 Comparison Schools: Girls' Rates of Participation:	
Ghaneyem--Total Enrollment	I-82
a Grade One	I-83
b Grade Six	I-83
I-28 Comparison Schools: Girls' Rates of Participation:	
Beni Rafa--Total Enrollment	I-84
a Grade One	I-85
b Grade Six	I-85

73

INTRODUCTION

This document reports the data from the second annual field trip carried out in the fall of 1984. The first field trip in 1983 validated the research design, identified the relevant variables affecting educational participation, and began the development of measures to assess the extent to which these variables affect enrollment and persistence in school. The second field trip had two main goals: first, the continuation of the study of variables affecting educational participation and the refinement of points raised in the previous year and, second, the completion of the basic file on six of the villages. The 1985 field trip is intended to round out the basic file on the final villages, start follow-up visits to the previously visited sites, and collect data on several naturally occurring "experiments" in the environs of the intensive villages. The final 1985 field study will consist of a full impact evaluation of the USAID-funded schools in the sample sites. The goal of the community study is to understand the trends in and variables affecting educational participation to provide a more realistic assessment of the quantitative and qualitative impact of AID-funded interventions.

The 1984 results reported in this Second Annual Report of the community study are consistent with the general conclusions drawn from the 1983 data. Where they differ are in the refinements of certain points that now can be addressed because of additional data and modified analytical techniques. In the interest of producing a document that can stand alone, the Second Annual Report provides a short summary of the 1983 results, and under each major section, where it is appropriate, summarizes last year's findings and compares them with the findings of this year. A number of new sections have been added to the Second Annual Report and a complete set of new data provides the basis for the analysis.

74

SUMMARY OF FIRST ANNUAL REPORT FINDINGS

In the 1983 data collection period, eight intensive sites were studied in the governorates of Assiut, Beheira, and Qena. In 1984 two more intensive sites in Sohag and Kafr il Sheikh have been added. (See the Appendices to this chapter for the vignettes of these 1984 sites and for the names and locations of all the sites.)

The original eight sites were chosen to represent prototypical combinations of variables hypothesized to affect school sending--accessibility of educational opportunity, occupational opportunities, value placed in education (as deduced from numbers of schools available and length of time established in a community), and association with urban or rural contexts (see the Appendix to this chapter for the variables). For convenience, environments with hypothesized positive characteristics encouraging educational participation were called "urban" villages, and those with negative characteristics "rural" villages. "Mixed" villages fell between. Two sites in Assiut governorate were chosen for special study of girls' enrollment in single-sex schools (see the Appendix E for site classifications). Care was taken to match the main characteristics of villages in Upper Egypt with those in Lower Egypt. In each site, interviews were carried out with community leaders and a representative sample of households having school-age children.

The aim of the first year's data collection was:

- to validate the research design and the basis of site selection by measuring the hypothesized relevant variables' effect on enrollment and attendance and comparing site characteristics;
- to identify parent-identified relevant variables; and
- to begin to develop basic sample characteristics and baseline data.

URBAN/RURAL ENVIRONMENTS AND EDUCATIONAL PARTICIPATION

We found from the evidence of the 1983 data that the combinations of site characteristics had the anticipated effect. Among the older generations of the households surveyed, the extent of educational participation varied according to the hypothesized positive and negative environments so that the highest rates of participation were found in urban villages and the lowest in rural villages, with mixed villages falling in the middle. From this we concluded, first, that our sample of sites gives us a rough spectrum of the schooling environments existing in Egypt and, second, that the positive and negative factors hypothesized to affect educational participation do in fact have the expected effect.

75

By comparing the older generations' rates of educational participation with those of younger generation members from the same households, we developed a sense of the historic changes that have occurred in recent years. The rates of urban boys' educational participation in the younger generation are about the same as in the older generation but younger girls' rates have increased significantly. In mixed villages male and female rates of participation in the younger generation are substantially higher than the rates found for the older generation. In rural villages younger boys' rates of participation are higher than those of older generation males but younger girls' rates remain low. The differences that appear between the generations and between the residents of urban, rural, and mixed sites can be viewed as the progressive stages of educational participation that most villages pass through on the way to universal levels of enrollment.

We found most villages followed a pattern similar to the following.

When schools initially became accessible[1] to villagers, boys began to enroll but few if any girls attended schools in the early years. At first sizeable numbers of boys who were motivated to go to school remained in school for fairly extended periods. As the numbers of those enrolling increased, however, a larger proportion dropped out for a time. In recent years, extended schooling has become a norm and most boys now remain in school.

In the early years that schools became accessible, one or two girls may have enrolled. But it was usually not until some time had lapsed and it was fairly common for boys to enroll that the numbers of girls became more substantial. Dropout was fairly heavy for girls at first, because of the weak connection that existed between their perceived needs and the benefits derived from education, and also because in many villages just by their act of enrolling girls behaved in a manner that contradicted prevailing social norms. Even now, it is only in solidly urban areas that girls' rates of total enrollment have reached levels similar to boys. (See the Appendix to this chapter for a more detailed summary of the impact of hypothesized variables on educational participation from the 1983 findings.)

PARENT-IDENTIFIED VARIABLES AFFECTING EDUCATIONAL PARTICIPATION

The second purpose of the first data collection was to identify the variables parents considered relevant to their children's educational participation and to test their effects. The responses of parents fell into three major categories of reasons for not enrolling or withdrawing their children from school: economic reasons, lack of accessibility of facilities, and social norms. From data on the educational profiles of household members, the younger generation's school-going behavior consistently showed a correlation with the socioeconomic level of the household, with enrollment levels rising as the economic level of the household increases. Social norms,

76

as reflected in the disparity between girls' and boys' educational participation at all sites and all levels of schooling, also showed a consistently strong effect on school-sending behavior. However, parents of the younger generation were less likely to articulate social norms as a reason for keeping their children home from school than they were to identify this factor as a cause for their own lack of education. School accessibility is also mentioned less frequently as a problem for the younger generation since school construction programs over the years have brought schools closer to most villages. Now the problem of facilities is more often one of school crowding that prevents some children from enrolling, or more critical is the psychosocial dimension when parents feel that the distance to school is too far for certain children, especially those who are young or female.

GENERAL FINDINGS OF THE 1983 DATA COLLECTION

The 1983 field study confirmed several important facts about educational participation.

- Universal education is still far from a reality in the Egyptian countryside. As anticipated, the hard-core resisters are the poor, the more remotely rural, and girls.
- As a single category, girls are the major group of unenrolled children. General conditions that are attractive to their participation will also normally be attractive to other groups of children who do not enroll in school.
- Few rural children of either sex continue on to the full nine years of Basic Education.
- Families usually accept the fact that education is good for their children in general but, in specific, need to be convinced that it is appropriate for all their children.

Concerning the new USAID-funded schools, evidence from the sample shows that the schools are generally well sited in areas where a need for facilities exists. Though in some cases schools have been underutilized at first, this should be a temporary phenomenon to be expected in areas where limited facilities in the past have not produced sufficient students for the upper grades.

Overall, there is an enthusiasm in Egyptian villages for education, especially for boys and increasingly for girls. In the recent past this enthusiasm has been constrained by the lack of facilities. Data on family decision making showed the general receptiveness of parents to their children's schooling: 96 percent of all families in the sample had enrolled at least one boy in school and 60 percent had enrolled at least one girl. Overall 93 percent of the families had enrolled at least one eligible age child.

This fairly bright picture is dimmed, however, by the major differences in rates of educational participation between city and rural children and between boys and girls. Only 88 percent of families in the sample rural villages had at least one boy enrolled and only 38 percent had a girl enrolled. Of the entire sample, only 42 percent of the families had all eligible age boys enrolled and only 20 percent had all girls enrolled. There is therefore considerable margin still remaining before all Egyptian children are enrolled and persisting in school to the end of Basic Education.

THE 1984 FIELD STUDY

This Second Annual Report of the Intensive Study of New-School Communities continues the evaluation of the impact of USAID-funded school construction. As with the First Annual Report, the study seeks to assess whether provision of school facilities meets the goals USAID and the MOE intended for them. These goals are:

- that the new schools increase enrollment rates and hold children in school longer;
- that the new schools reach the intended target groups of disadvantaged children--rural, poor, and underenrolled female populations.

These goals continue to be assessed in the context of the variables that independently affect the rates of educational participation. The study also seeks to provide basic data upon which planners can make rational decisions about how to accomplish universal levels of educational participation as quickly and efficiently as possible.

The Second Annual Report contains sections that extend the work of the 1983 field study. Our goals for the 1984 data collection were:

- continuation of the study of relevant variables affecting educational participation as identified in the 1983 field trip;
- assessing the relevance of as yet unidentified family characteristics that may have a bearing on educational participation;
- exploring school-related factors that may affect parental decisions about school sending (study of these issues is preliminary to an intensive study of school characteristics affecting educational participation that will be carried out in 1985 and 1986);
- providing preliminary evidence on the impact of single-sex schools on girls' enrollments;
- completing the basic information file on six villages;

- developing the measures against which final impact can be assessed; and

- collecting enrollment information on comparison schools and "ideal" schools in markaz capitals to assess the preliminary impact of USAID schools already in place.

DATA COLLECTION

The 1984 data collection returned to four sites surveyed in 1983: Monshat il Awkaf (Beheira), Ghaneyem (Assiut), Nag il Khutaba (Qena), and Nag Dahi (Qena). In addition, two new sites--Roda (Kafr il Sheikh) and Nag il Harif (Sohag)--completed the sample from the last two of the five governorates that were included in the first-phase building program.

Data collection was carried out in November and December of 1984 in basically the same manner as the 1983 data collection with community leader initial or follow-up interviews as appropriate, and a sample of approximately 40 household interviews in each village. In the old sites we returned, where possible, to the original households. Our goal this year was to complete the data collection in the last two intensive sites where USAID schools were newly opened, to finalize the baseline data on four sites surveyed the previous year, to explore questions raised by the 1983 results, and to check on the reliability of 1983 data by re-asking some of the questions again.

Two schools, in Beni Rafa and Nag il Taref, that were near completion at the time of the 1983 baseline collection did not open as planned in 1984 and thus necessitated revision of the data collection schedule. In their place, visits were made to Ghaneyem and Khutaba. The revised schedule of data collection appears in Table I-1.

Minor differences will be found in this year's summary data from last year's data in the same villages for the following reasons.

- Researchers this year were specifically trained to probe questions that appeared to give ambiguous results last year.

- Economic level of household is a subjective judgment[2] based on objective criteria, and therefore groups of researchers[3] vary in their judgements. When this year's researchers evaluated the households differently from last year's households, the majority of times the trend was to evaluate them higher. The conclusions drawn from these data remained the same as last year.

79

Table I-1: Data Collection Schedule

Site and Year School Opened	Fall Collection 1983	Fall Collection 1984	Fall Collection 1985	Fall Collection 1986
Manshiya 1983	x		x	x
Kafr Nekla 1983	x		x	x
Menshat il Awkaf 1984	x	x		x
Khutaba 1983	x	x		x
Nag Dahi 1983	x	x		x
Nag il Tarif 1985	x		x	x
Ghaneyem 1983	x	x		x
Beni Rafa 1985	x		x	x
Roda 1984		x	x	x
Nag il Harif 1984		x	x	x

- We replaced a few households in the sample when we discovered this year that a new school had been built in a related village, making the children of the original households no longer eligible for enrollment in the new USAID school.

- Respondents do not necesssarily answer the same question in the same way from year to year.

We feel these adjustments make our sample more representative of the new school attendance areas, and our arguments more powerful when they are reinforced by the conclusions of a second round of interviewing.

This Second Annual Report will provide a summary of the statistics collected in the six villages in the 1984 field study. Next year's report will add the last four villages, and the final report will return to a discussion of the educational environments as represented in urban, rural, and mixed villages to show how these environments may have contributed to a differential rate of impact on enrollment and persistence in the new USAID schools. All the conclusions rely heavily on behavioral evidence for historical changes and trends and attitudinal data only for current opinions about present and future possibilities. Attitudes, however, are not here taken as necessarily predictive of behavior without further supporting evidence that there is a connection.

GENERAL CHARACTERISTICS OF THE SIX VILLAGES SURVEYED IN 1984

The characteristics of the six villages surveyed in 1984 essentially follow the patterns established for urban and rural villages in the 1983 data collection. This section summarizes the general characteristics of the six villages, while later sections analyze how these characteristics affect educational participation. Village vignettes for the two new villages surveyed this year are found in the Appendix to this chapter and the remaining four villages in the Appendix of the First Annual Report.

In the 1984 field study, 201 households were surveyed containing 270 families with 2,236 individual members. Household members were divided for convenience into two categories, an older generation of 778 and a younger generation of 1,458 individuals (see the definitions of who comprises the generations below). Households were selected in a regular way that physically distributed them across the residential space of a village (see the First Annual Report for more particulars on the research design). Families chosen in this way were excluded only if they did not contain children in the age range 4-to-15 since our intention was to study the case of school-age children. Children age 4 at the beginning of the survey would have reached school age by the end of the evaluation. (See Table I-2 for the specifics of sample composition.)

Overall in the six villages, family economic levels on a five point scale ranged from poor to affluent, roughly forming a normal curve that peaks at the "average" level but is skewed otherwise to the poor end (see Table I-3). "Rural" villages were more homogeneous in economic composition than "urban" villages, consisting in the main of poor and below average families. Urban families tended toward average economic levels but included families in the full range of levels.

This year 96 percent of the families were Muslim and 4 percent (all in Ghaneyem) were Christian. More than half of the families (58 percent) lived within a half kilometer of the new school but the house-to-school distances for other families ranged up to three-and-a-half kilometers or more (see Table I-4). The main occupation of male adults of the older generation was farming (43 percent) followed by unskilled labor (11 percent). Ninety percent of female adults reported themselves solely involved in household care. In general, the more rural a village, the higher the ratio of males engaged in farming and the less diverse the occupational structure, with government employment and the Army the only other alternative opportunities to farming. Urban villages had a more diverse occupational structure, including more skilled, craft, industrial, and commercial jobs and fewer older generation males involved primarily in farming.

Table 1-2: Households, Families and Generational Membership in the Sample

GOVERNORATE	VILLAGE	NUMBER OF HOUSE-HOLDS	NUMBER OF FAMILIES	NUMBERS OF INDIVIDUALS											
				NO. OF OLDER GENERATION					NO. OF YOUNGER GENERATION			GRAND TOTAL			
				M		F									
				Living	Dead	Living	Dead	Total	M	F	Total	M	F	TOTAL
Kafr il Sheikh	Roda	41	47	56	11	74	2	142	125	131	256	191	207	398
Behetra	Kousbat il Akkad	40	52	75	3	81	0	159	148	150	298	226	231	457
Assiut	Ghaneyem	40	40	42	2	42	1	87	103	135	238	152	172	324
Sohag	Nag il Harif	40	45	62	4	68	0	134	138	106	244	204	174	378
Qena	Nag il Khetaba	40	43	68	2	68	0	138	173	100	273	183	168	351
Qena	Nag Dahi	40	43	62	2	64	0	118	110	94	204	164	158	322
GRAND TOTAL		201	270	354	24	397	3	778	742	716	1,458	1,120	1,110	2,236

28

Table I-3: The Economic Level of Families in Six Villages

Families in Six Villages	Poor	Below Average	Average	Above Average	Affluent	Total
Number	45	58	95	54	18	270
Percent	19	21	35	20	07	100

Table I-4: Distances of Families in Six Villages from New-School Sites

Families in Six Villages	.5 km	1 km	1.5 km	2 km	2.5 km	3 km	3.5+ km	Total
Number	157	20	7	51	6	19	10	270
Percent	58	07	03	19	02	07	04	100

VARIABLES RELATED TO EDUCATIONAL PARTICIPATION

This section reports on the completed data of six villages,[4] summarizing evidence that reviews, reinforces, and refines the relationships discovered in the 1983 field study between specific variables and educational participation. This year we have expanded some of the questions to obtain more detailed responses and in some cases we have adjusted our analytical framework to develop more subtle measures of educational participation.

AGE AND EDUCATIONAL PARTICIPATION: HISTORIC TRENDS

This year the data have been disaggregated in several ways to show the relationship between educational participation and age. The breakdown includes generational comparisons, age sequences reflecting historical trends, and birth order relationships affecting participation.

General Comparisons

The decision was taken early in the study to aggregate household members into two generational groups based on potentially different school-sending climates rather than strictly according to arbitrarily assigned age groupings. The group that was called for convenience "the younger generation"

83

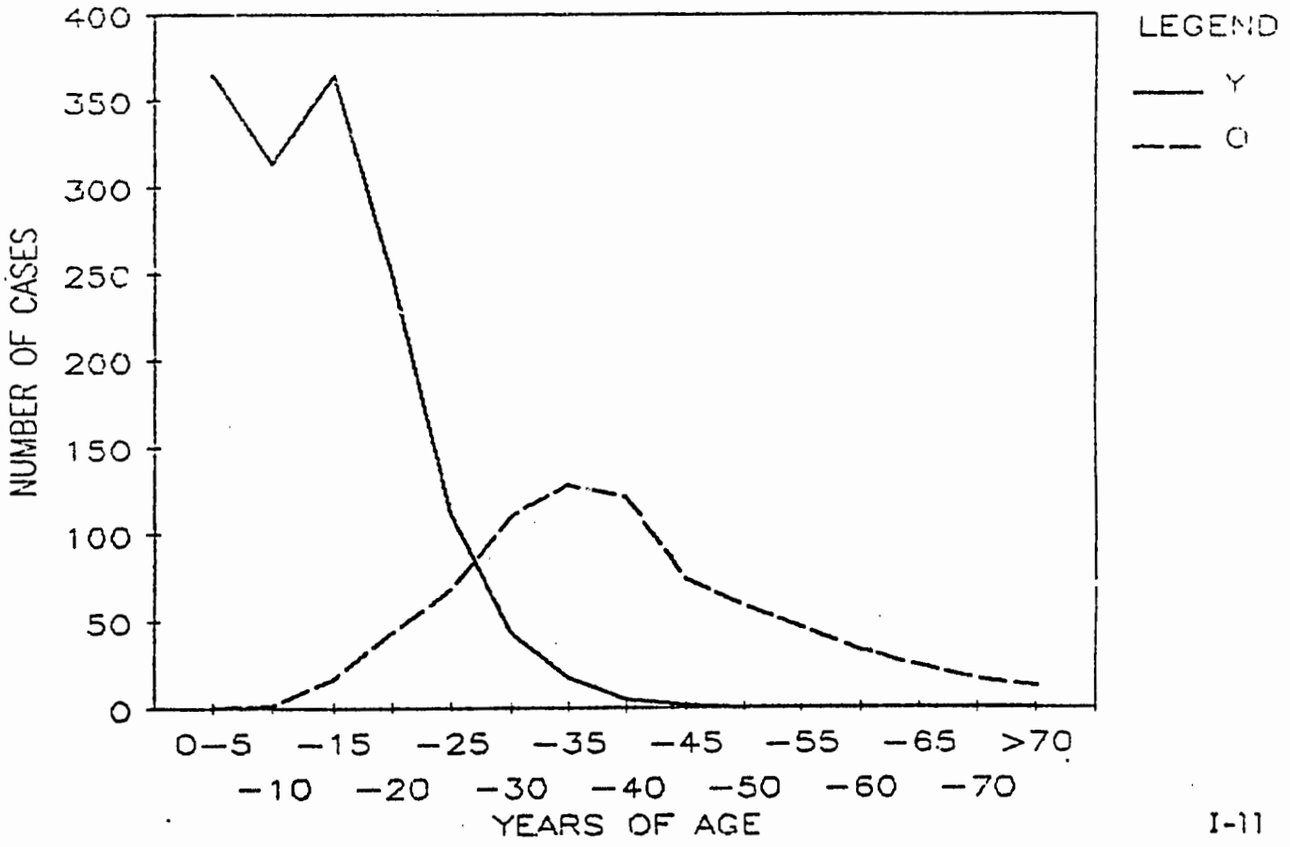
consists of the children of the household who are presently or will soon be school age (4-to-15) and their siblings. The older generation consists of the parents of these children, the parents' siblings present in the household, and any elderly parents or relatives also present.

The assumptions in defining the generations this way are two-fold. First, as siblings in the younger generation group, children are generally subject to approximately the same family decision-making matrix, and second, growing up in a similar time period, they share many of the same community influences with other children of school age. As for the older generation, it is assumed that they made the decisions about school sending for the present school-age children, and in turn had those decisions made about them by an older set of parents. For the grandparents of present school-age children, the decision-making set of parents is even further removed. But for the most part, the early beginnings of education in these villages started with the parents of current school-age children. Beyond this group, historically there appears to be little change in the decision-making matrix. Consequently, we have assumed that there is little point in distinguishing the successive sets of parents in the older generation.

Figure I-1 shows the way the generations overlap in ages. The mean age falls between 10 and 11 years for the younger generation and between 36 and 40 years for the older generation.

Figure I-1:

Ages of Younger and Older Generations



84

Table I-5 shows educational attainment of older and younger generations.

Again this year we find the older generation reporting low levels of educational attainment. Only 19 percent of the women of that generation enrolled in school while only 1 percent went on to reach ninth grade. Slightly more than half of the men of that generation (52 percent) enrolled, and only 12 percent of the generation completed ninth grade.

In the younger generation 90 percent of age-appropriate boys and 56 percent of the girls enrolled initially. The rate of boys' enrollments therefore almost doubled while the girls' rates almost tripled in comparison with the rates of the older generations. Though the rates of those completing ninth grade are not substantially different in the two generations, the younger generation still has a large number of children currently enrolled so one would expect the numbers of those completing ninth grade in that generation to increase eventually. In general, rates of educational participation have increased markedly in the younger generation but the fact remains that large numbers of children still have never enrolled in school; in these six villages 10 percent of boys and almost half the girls never enrolled.

Table I-5: Generations' Educational Attainment in Six Villages

	NEVER ENROLLED			ENROLLED AT ONE TIME												GRAND TOTAL OF GENERATION OVER AGE 6		
				Currently Enrolled			Dropout by 9th			Completed 9th and higher *			Total Enrolled					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Older Generation																		
No.	171	321	492	12	1	13	128	71	199	43	4	47	183	76	259	354	397	751
Percent of Sex	48	81	66	03	0	02	36	18	26	12	01	06	52	19	34	100	100	100
Younger Generation																		
No.	57	233	290	389	221	610	80	56	136	49	16	65	518	293	811	575	526	1101
Percent of Sex	10	44	26	68	42	55	14	11	12	08	03	06	90	56	74	100	100	99

*This category includes only those who are no longer in school. Some of the currently enrolled have also completed grade nine. See section on persistence for the total of those who completed grade 9.

45

Initial Enrollment (Grade One) by Age Group

Figures I-2 and I-3 show the ratios by age group and generation of those who enrolled in formal education programs at any time. These figures may be taken as a history of enrollment trends.

- In the entire older generation, as noted earlier, 52 percent of males and 19 percent of females enrolled in formal programs. The ratios of males in the different age groups who enrolled vary considerbly but in general show the expected relationship: the younger the age the more likely that the individual enrolled at one time. Females did not follow the same consistently progressive trend. Instead, with some irregularity, females maintain a fairly constant rate of enrollment (at about 20 percent) over a 40-year period. There appears to be no time, however, even in the older generations when social norms were so strong, that girls were entirely prohibited from attending school.

- In the younger generation 90 percent of the boys and 56 percent of the girls age 6 and over enrolled at one time. Only 33 percent of those boys who would have been at the appropriate age to enter first grade between 1955 and 1959 enrolled while in the next five-year period the ratio of enrolled boys more than doubled. From that time until the present over 80 percent of the boys have enrolled and in the last few years virtually all boys have been enrolled at some time.

- Girls' ratios of age-group enrollments have lagged behind the boys consistently. Note however, that in the last two years during the period when new USAID-funded schools[5] opened in these villages, girls' rates of age-group enrollment accelerated at such a rapid pace that now more than 90 percent of the sample age group is enrolled in first grade in these six villages.

One would expect from these figures that the new schools would have less impact on boys' levels of enrollment in grade one than on girls, because boys' enrollment has already reached close to saturation levels. As seen in the Extensive Study of the Impact of New Schools (Chapter II), the new schools that opened in 1983 are having a significant impact on both boys and girls enrollment in grade one. However, from the above data, we can expect the impacts to be more long-term for girls than for boys. In the two years that new schools have been open in these six villages, enrollment rates of the first-grade age group rose about 30 percent for girls.

Figure I-2:
Ratio of Age Groups Enrolled--Older Generation

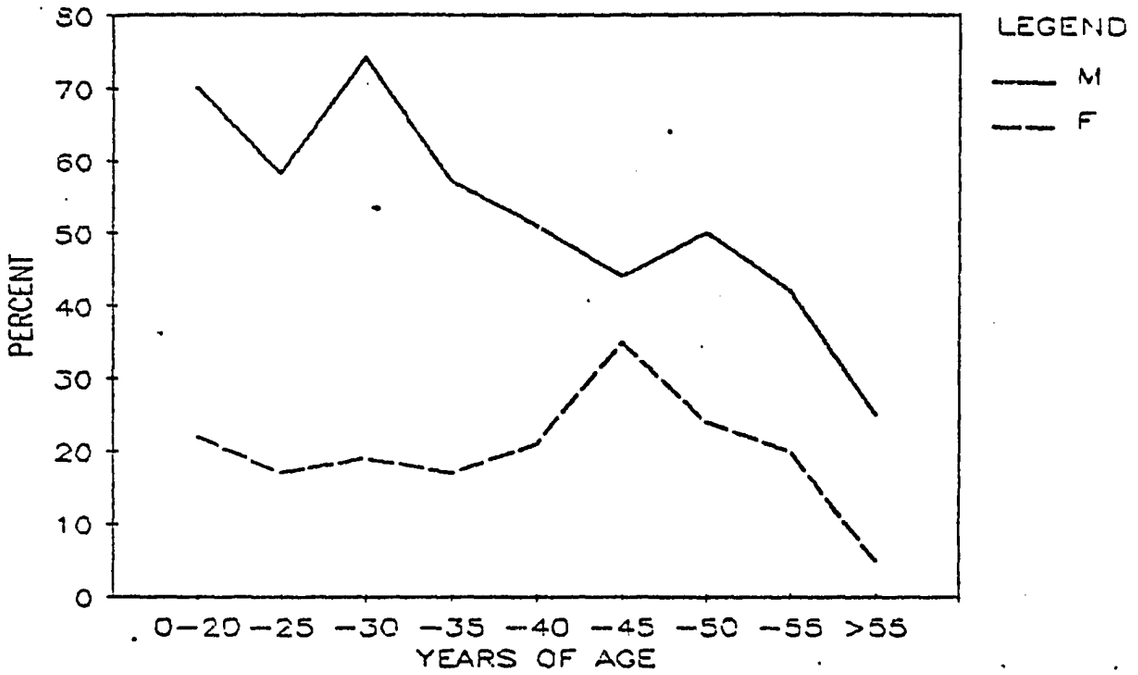
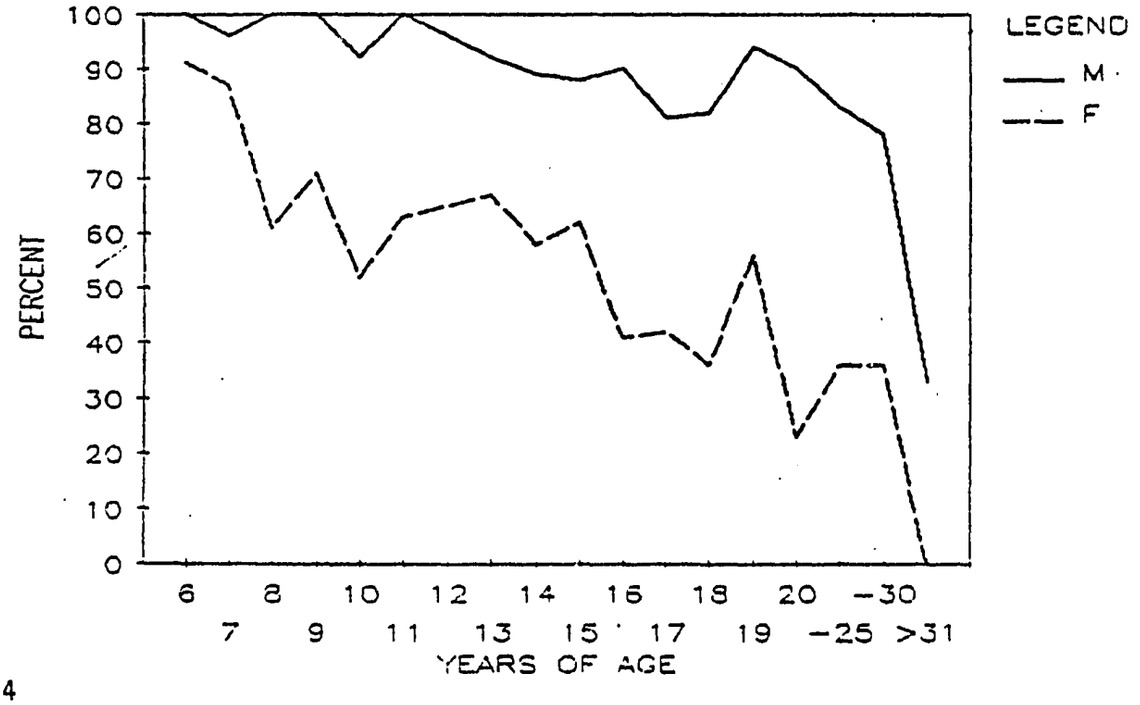


Figure I-3:
Ratio of Age Groups Enrolled--Younger Generation



87

Persistence In School of the Age Groups: Historical Trends.

Figures I-4, I-5, and I-6 show the ratios of the generational age groups completing grades three, six, and nine. Females of the older generation are not graphed because the numbers of those completing these levels are so small.

- Overall 38 percent of those males of the older generation completed grade three, 22 percent grade six, and 14 percent grade nine. In the younger generation, of those males eight years and above, 78 percent completed grade three; of those twelve and older, 59 percent completed grade six; and of those 14 and over, 44 percent completed grade nine.

- Overall, for females of the older generation 13 percent completed grade three, 3 percent grade six, and 1 percent grade nine. In the younger generation, of those females eight years and older, 41 percent completed grade three; of those twelve and older, 28 percent completed grade six; and of those 14 and over 13 percent completed grade nine.

Figures I-4, I-5, and I-6 represent the historic trends of persistence in school. Note that few children of the younger generation complete the specified grade level at the age one would expect.[6] If one assumes that a child starts grade one at age six and completes the grade by age 7 then the child should complete grade three by age 9, grade six by age 12, and grade nine by age 15. But in fact the large percentage do not complete grade three until age 10, grade six until age 13, and grade nine until age 16. With each higher grade category the peak ratios tend to lag to even higher age levels. These findings suggest that students are either entering school later than the normal six years or that already by third grade many have repeated a year of school. Another possibility is that parents are not reporting their children's ages correctly. (See the section on age of entering school.)

Note that historically girls lagged behind boys in the extent to which they completed different grade levels. For example, of those males who entered school between 1955 and 1959 only about a third finished third grade, and only about 20 percent finished grades six and nine. Five years later females achieved the same ratios as males for grades three and six, and ten years later the same ratio for grade nine. But after the period of the late 1960s, girls' rates of grade level completion never again reached the levels of boys.

From these tables it is clear that second to the need to enroll girls initially, the greatest potential exists for the new schools to increase the persistence of children in school. The need to hold males longer in school is greatest at grades six and nine but for girls it exists at all three grade levels. The next section looks at the extent of student persistence in school once the obstacle of initial enrollment in grade one is overcome.

88

Figure I-4: Ratio of Age Groups Completing Grades Three, Six, and Nine--Older Generation Males

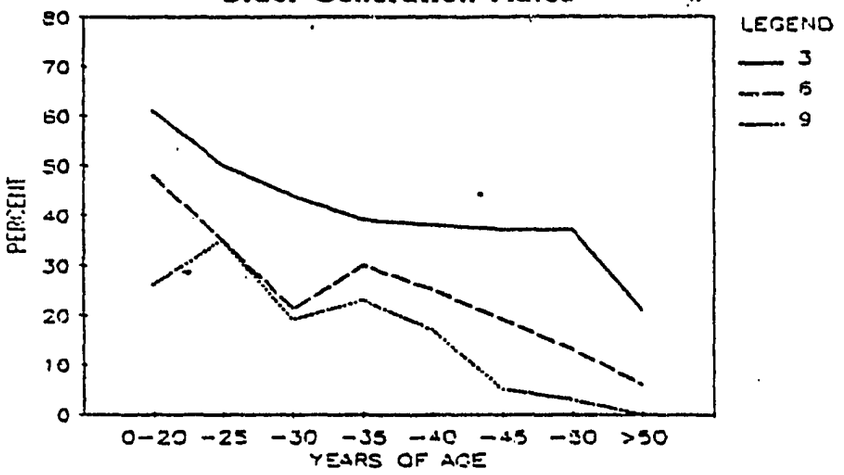


Figure I-5: Ratio of Age Groups Completing Grades Three, Six, and Nine--Younger Generation Males

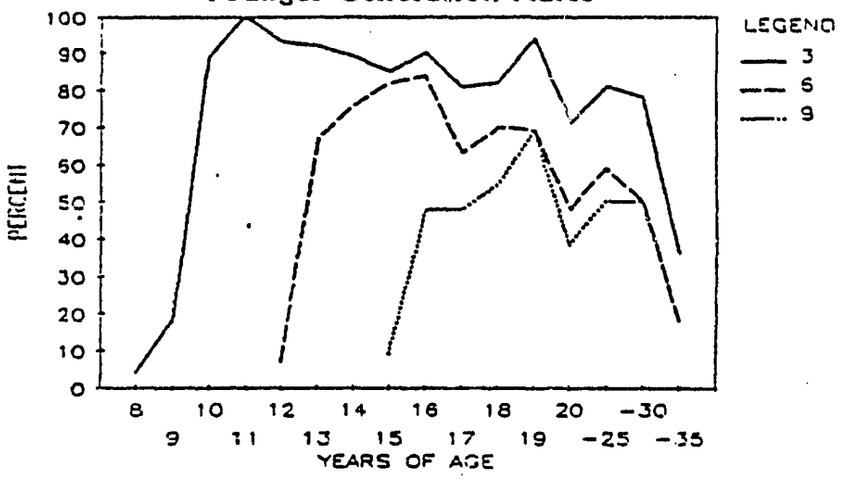
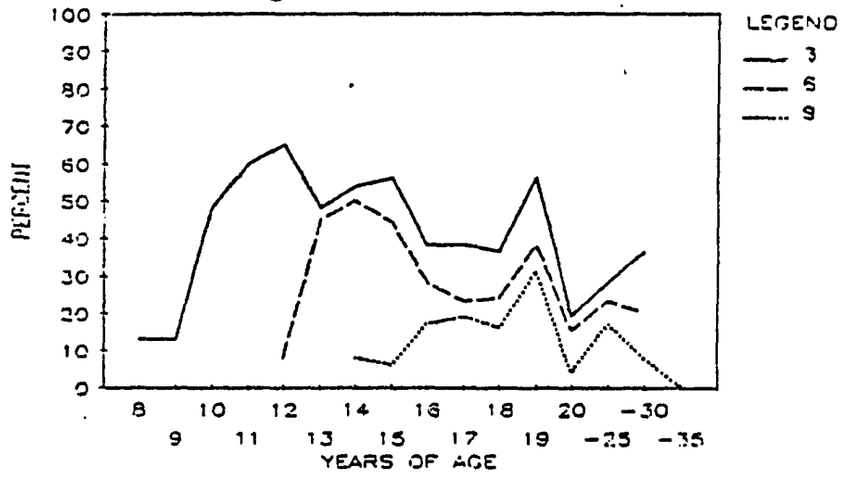


Figure I-6: Ratio of Age Groups Completing Grades Three, Six, and Nine--Younger Generation Females



Persistence in School of Children After They Have Enrolled Initially.

Figures I-7, I-8, and I-9 show the ratios of persistence by age groups of those who enrolled initially in grade one.

- Males of the younger generation who have enrolled in school complete grade three at high rates and fairly substantial levels in recent years have completed grade six. However, large numbers do not complete grade nine. Note that for males of both older and younger generations the ratios of those completing grade nine varies in relation to those who complete grade six but that the relationship is not as marked for girls. This suggests that for girls factors other than success in passing grades operates to construct persistence. Overall, in the younger generation 87 percent of the males age 8 and over who enroll complete grade three, 68 percent of those 12 and over complete grade six, and 53 percent of those 15 and over complete grade nine. In the older generation the percentages were 73, 43, and 27 respectively.

- Females of the younger generation who have enrolled in school complete grade three in substantial numbers in recent years and a good number complete grade six. As yet, however, less than half of most age groups have completed grade nine. What is noticeable, however, is that when girls have overcome the obstacle of initial enrollment, their rates of completing grades three, six, and nine are no longer as different from those of boys as they were when the rates of total populations of the sexes completing the three educational stages were compared. This is because of the major difference created by the girls' much lower levels of initial enrollment. Overall, in the younger generation 79 percent of the females age 8 and over who enroll complete grade three, 59 percent of those 12 and over complete grade six, and 31 percent of those 14 and over complete grade nine. This compares with the older generation ratios of 68, 17, and 7 percent, respectively, but because the numbers of women in the older generation who enrolled at all were so small the ratio cannot be considered very meaningful.

This evidence suggests that once the obstacle of initial enrollment is overcome by girls they may persist in school at rates not greatly different from the boys, particularly in recent years. In recent years most boys and girls who enroll at all in formal programs complete grade three, around three-quarters complete grade six, almost half the girls and more than half the boys complete grade nine. Consequently, the area where the new schools can have a significant impact is in providing the conditions conducive to keeping children in school longer. The need is greatest to grade nine (preparatory level) but is also important to grade six for both boys and girls.

Figure I-7: Enrolled Age Groups Completing Grades Three, Six, and Nine--Older Generation Males

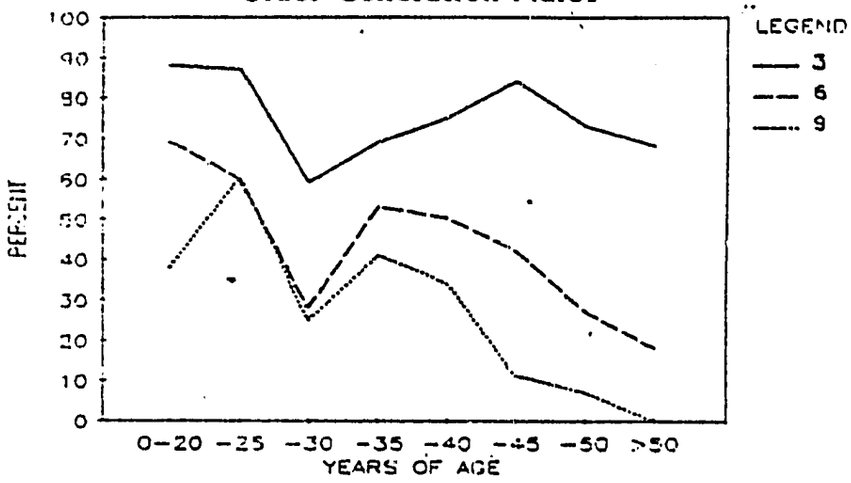


Figure I-8: Enrolled Age Groups Completing Grades Three, Six, and Nine--Younger Generation Males

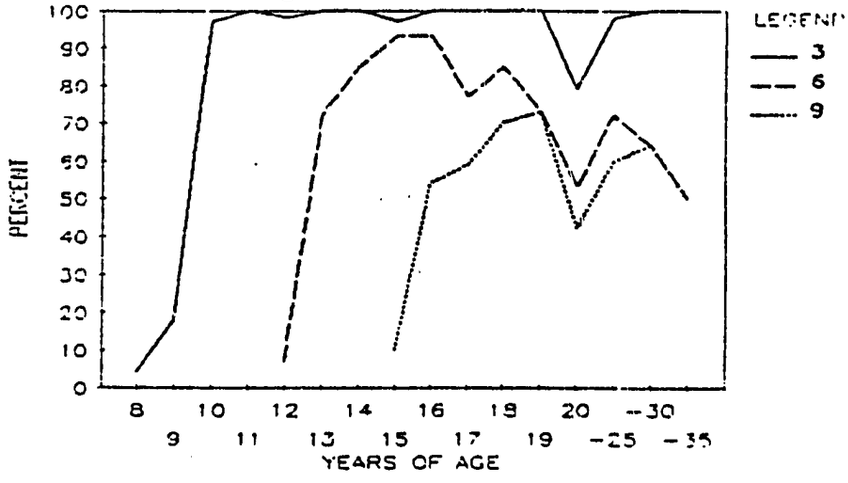
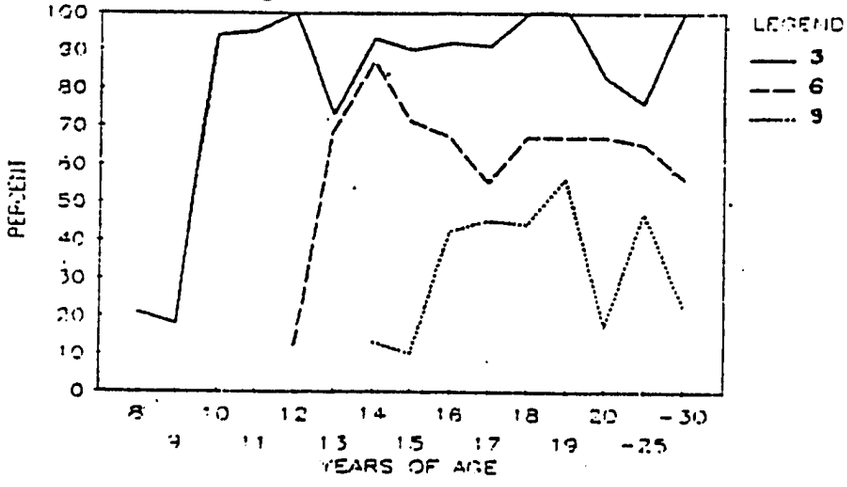


Figure I-9: Enrolled Age Groups Completing Grades Three, Six, and Nine--Younger Generation Females



91

In rural areas a child who wants to continue beyond grade six is often faced again with the problem of whether a facility is accessible. Frequently, preparatory schools are located at some distance from a child's house and require long and sometimes expensive commuting. To encourage children to persist to grade nine, therefore, an obvious solution may be the extension of the local new schools from six to nine grades. Before this is done, however, consideration needs to be given to what differences may develop between a program housed in an essentially primary school and one carried out in specialized seven-to-nine schools where more appropriate facilities and better qualified teachers might be more cost effectively assembled. Administrators may decide, however, that an inferior program is better than no program at all if the child can be expected to drop out because the preparatory school is too far from home.

AGE LEVELS AND EDUCATIONAL PARTICIPATION: INDIVIDUAL VILLAGES

Initial Enrollment.

This section shows the range of variability between the sample sites both within the village and in comparisons between villages. The data broken down by age groups and sex roughly reflect the rate of historic change in various types of village.

Table I-6 shows enrollments in six individual villages by age levels and sex. In all six villages, male enrollments in the 6-to-12 age group exceed 90 percent. Overall, the male rates are highest in Ghaneyem and Nag Dahi, next highest in Monshat il Awkaf and Nag il Harif, and lowest in Khutaba and Roda. However, the lowest boys' rate exceeds the highest girls' rate found in any village.

Female rates of enrollments vary to greater degree than boys' rates, not only in the level to which they have risen in the present 6-to-12-year-old groups of various villages but also in the rapidity with which changes have occurred over the years. For example, Roda, Nag il Harif, and Nag Dahi rates of female enrollment have about doubled over the three age groups of the younger generation. The Monshat il Awkaf rate is almost six times greater than it was before, and Nag il Khutaba's rate is almost eight times greater. Ghaneyem has vacillated but not made consistently major changes. In the present group of 6-to-12-year-olds, female rates of enrollment are highest in Nag Dahi, Ghaneyem, and Roda, and lowest in Nag il Harif, Khutaba, and Monshat il Awkaf. Note that where female rates of enrollment are already fairly high, there is, as one would expect, generally less dramatic change over time. One might predict from this evidence that the greatest impact on female enrollments would come as a result of the new school established in Khutaba and Monshat il Awkaf. Receptivity to girls' enrollment is demonstrated by recent rapid changes but ratios of enrollment are still low.

Persistence (dropout rates in individual sites)

Table I-7 shows the numbers and ratios of those who dropped out before grade nine out of those who enrolled initially.

92

Table I-6: Initial Enrollment by Age Groupings* and Sex in Six Villages

SITE		6 to 12 years old			13 to 16 years old			Remainder of Younger Generation			TOTAL		
		Number Enrolled	Percent	Total	Number Enrolled	Percent	Total	Number Enrolled	Percent	Total	Number Enrolled	Percent	Total
Roda	M	32	91	35	20	83	24	27	82	33	79	86	92
	F	31	74	42	18	67	27	13	38	34	62	60	103
	T	63	82	77	38	75	51	40	60	67	141	72	195
Monshet Il Awkaf	M	42	100	42	23	88	25	39	81	48	103	90	115
	F	36	69	52	7	39	18	4	12	34	47	45	104
	T	78	83	94	30	67	43	43	52	82	150	68	219
Nag Il Herif	M	46	96	48	19	86	22	30	83	36	95	90	106
	F	17	52	33	7	35	20	7	30	23	31	41	76
	T	63	78	81	26	62	42	37	63	59	126	69	182
Nag Il Khutsoa	M	36	97	37	23	92	25	9	47	19	68	84	81
	F	20	63	32	1	09	11	2	08	24	23	34	67
	T	56	81	69	24	67	36	11	26	43	91	51	148
Nag Dahl	M	40	100	40	19	100	19	21	88	24	80	95	83
	F	23	82	28	14	78	18	10	45	22	47	69	68
	T	63	93	68	33	89	37	31	67	46	127	84	151
[illegible]neyem	M	35	100	35	24	92	26	28	90	31	87	93	92
	F	31	78	40	25	89	28	25	66	38	81	76	106
	T	66	89	75	49	91	54	53	77	69	168	85	198
TOTAL	M	231	97	237	127	90	141	154	81	191	512	90	569
	F	158	70	227	72	59	122	61	35	175	291	56	524
	T	389	84	464	199	76	263	215	59	365	803	73	1093

Table I-7: Rates of Dropout Before Grade Nine

SITE		6 to 8 years old			9 to 11 years old			12 to 14 years old			15 to 17 years old			18 + years old			TOTAL		
		DO	%	T	DO	%	T	DO	%	T	DO	%	T	DO	%	T	DO	%	T
Roda	M	0	0	11	0	0	17	1	06	17	4	29	14	6	30	20	11	14	79
	F	0	0	16	0	0	12	0	0	13	4	33	12	6	67	9	10	16	62
	T	0	0	27	0	0	29	1	03	30	8	31	26	12	41	29	21	15	141
[illegible]	M	0	0	17	1	05	19	5	26	19	4	33	12	19	53	36	29	28	103
	F	[illegible]	0	19	1	09	11	2	25	8	2	40	5	2	50	4	7	15	47
	T	0	0	36	2	07	30	7	26	27	6	35	17	21	53	40	36	24	150
Nag II Harif	M	0	0	16	1	05	21	1	06	18	2	18	11	16	55	29	20	21	95
	F	0	0	12	1	25	4	0	0	4	0	0	4	1	14	7	2	06	31
	T	0	0	28	2	08	25	1	05	22	2	13	15	17	47	36	22	17	126
Khutaba	M	0	0	11	0	0	13	2	08	24	1	08	12	3	38	8	6	09	68
	F	0	0	11	0	0	7	0	0	2	1	100	1	0	0	2	1	04	23
	T	0	0	22	0	0	20	2	08	26	2	15	13	3	30	10	7	05	91
Nag Dahi	M	0	0	14	0	0	22	1	07	15	2	17	12	3	18	17	6	08	80
	F	0	0	11	1	13	8	1	07	14	3	60	5	6	67	9	11	23	47
	T	0	0	25	1	03	30	2	07	29	5	29	17	9	35	26	17	13	127
Ghaneyem	M	0	0	15	0	0	12	3	15	20	2	11	18	3	14	22	8	09	87
	F	0	0	12	0	0	11	6	27	22	6	35	17	13	68	19	25	31	81
	T	0	0	27	0	0	23	9	21	42	8	23	35	16	39	41	33	17	168
Total	M	0	0	84	2	02	104	13	12	113	15	19	79	50	38	132	60	16	512
	F	0	0	81	3	06	53	9	14	63	16	36	44	28	56	50	56	19	291
	T	0	0	165	5	03	157	22	13	176	31	25	123	78	43	182	136	17	603

94

- For both boys and girls, the overall dropout rates are very similar (16 and 19 percent respectively). As age increases girls' rates of dropout rise much more quickly than boys' rates. No children dropped out in the six-to-eight-year-old group, three percent dropped out in the nine-to-eleven-year-old group, and other age groups have increasingly higher rates of dropout. Once enrolled, children generally persist in school to levels that should ensure them a level of functional literacy if the educational program is reasonably adequate.

  Once again the evidence pinpoints initial enrollment and campaigns to draw children into the system as the most vital point at which to affect children's educational skills.

- Boys' highest rates of dropout are found in Monshat il Awkaf, Harif, and Roda, all areas where the occupational structure does not demand high levels of educational skills. Boys' rates are lowest in Dahi, Khutaba, and Ghaneyem.

- Girls' dropout rates are highest in the conservative Ghaneyem and Dahi sites, are moderate in Roda and Monshat il Awkaf, and low in Khutaba and Harif.

C. Reasons for Dropping Out or Not Enrolling in School

Tables I-8 and I-9 show the reasons children never enrolled or dropped out before completing ninth grade.

Older Generation (never enrolled). The major reason given why males and females in the older generation did not enroll was that no facilities were available. The second most important reason for males was the cost of schooling, and for girls, social norms. It is probable that the costs of schooling were weighed more seriously for boys of that generation than for girls, who were not considered as serious candidates as boys for education. Third place in terms of importance for both males and females this year, another variation of the accessibility problem, was the response that no one was available to accompany the child. Parents explained that especially when children are young, at the time they begin school, they need to have someone--the parent or an older sibling--accompany them to school. Fourth place for males and females was again economic problems, the need for the boys' labor and the costs of schooling for girls. Overall, in the older generation the inaccessibility of facilities ranked first as the reason why children didn't enroll.

Younger Generation (never enrolled). In the younger generation, the problem of availability of facilities was not as important, though school was still too far for nine percent of the boys and nine percent of the girls who never enrolled. A further 25 percent of boys and 25 percent of girls who

95

Table I-8: Reasons Individuals of Six Villages Never Enrolled
By Order of Importance
(percent of those who never enrolled)

Older Generation

Males:

1. No school available (43)
2. Costs of schooling (25)
3. No one available to accompany child (18)
4. Family needed child's work (7)
5. Other (7)

Females:

1. No school available (35)
2. Social norms (28)
3. No one available to accompany child (17)
4. Costs of schooling (12)
5. Other (8)

Younger Generation

Males:

1. Costs of schooling (30)
2. No one available to accompany child (25)
3. Child sickly (12)
4. No birth certificate (9)
5. School too far (9)
6. Other (15)

Females:

1. No one available to accompany child (25)
2. Costs of schooling (22)
3. Social norms (19)
4. School too far (9)
5. No school available (8)
6. Family needs child's labor (8)
7. Other (9)

Table 1-9: Reasons Individuals of Six Villages Dropped Out Before Grade Nine by Order of Importance
(percent of those who dropped out before grade Nine)

Older Generation

Males:

1. Costs of schooling (26)
2. Family needs child's work (20)
3. Parents couldn't accompany child (16)
4. No school available (12)
5. Child refused to go (11)
6. Failed exams (7)
7. School too far (05)
8. Other (3)

Females:

1. Social norms (23)
2. Parents couldn't accompany child (14)
3. Costs of schooling (13)
4. Child refuses to go (11)
5. Failed exams, child's work, chance to marry (10 each)
6. Other (9)

Younger Generation

Males:

1. Failed exams (40)
2. Child refuses to go (24)
3. Costs of schooling (14)
4. Family needs child's work (8)
5. Child sick (5)
6. Other (10)

Females:

1. Family needs child's work (25)
2. Child refuses to go (18)
3. Failed exams (16)
4. Social norms (09)
5. Costs of schooling (09)
6. No one to accompany child; chance to marry (7 each)
7. Other (9)

97

never enrolled stayed home because they had no one to accompany them. The primary reason, however, that boys did not enroll was the high cost of schooling, with this being the second major reason for girls. Overall costs of schooling and the problem of not having someone to accompany the small child to school were the major reasons members of the younger generation weren't sent to school.

Older Generation (dropouts). Once males of the older generation were enrolled in schools, they were most likely to drop out because of economic reasons, the high cost of schooling, or the family's need for their labor. If they dropped out at a young age, it was often because no one was available to accompany them to school and if it was later, it was often because a preparatory-level school was far away. Girls of that generation mainly dropped out because of social pressures or, as for the boys, because there was no one to take them to school. In this generation, major reasons for dropout centered in family-related matters.

Younger Generation (dropouts). The younger generation, especially males, dropped out increasingly for reasons related to the school itself: they failed exams or the children themselves decided they didn't like school. For girls the major reason for dropout was that the family needed their help around the house. Boys of this generation were drawn out of school for economic reasons less often than males of the older generation and females of the younger generation. This is probably the result of parents realizing the economic potential of extended education for boys in this generation. For younger girls social norms have receded in importance, moving from first priority in the older generation to fourth place in the younger generation.

PARENT-IDENTIFIED VARIABLES AND EDUCATIONAL PARTICIPATION

The 1983 and 1984 field trips identified three major variables that parents reported affected their decisions about enrolling or keeping their children in school: economic factors, accessibility of school facilities, and social norms. This section reports the behavioral evidence in support of the claim that these factors affect educational participation. The data from the 1983 field trip demonstrated that a relationship existed. The 1984 field trip allows us to determine more precisely the extent and kind of effect the variable produces. Discussed below are economic and distance (accessibility) variables. Social norms primarily affect the participation of girls. Throughout the report data are disaggregated by sex to show the disparities in enrollment and persistence. For the effect of social norms, see also the section below that discusses the findings with regard to girls' participation. In addition, parents reported important school-related factors such as failed exams and a child's refusal to go to school. These variables will be examined more closely in a school characteristics study.

Economic Variables

Household Economic Level

The 1984 data again show that household economic level is consistently and powerfully related to children's educational participation in school. Figures I-10, I-11, and I-12 show the relationship in older and younger generations of school age and older children.

In the older generation the following relationships apply.

- Enrollment in school programs of any kind rises sharply for males and females of the older generation as household economic levels rise.

- Males in households of "below average" to "affluent" economic levels tend to drop out at higher levels than those in "poor" households. These children from higher economic status households are also more likely to have gone to school in that generation than boys of poorer families so the pool from which dropouts come is larger in that category. Female dropout in the older generation increases rapidly as household income level rises, and again these more affluent households sent larger numbers, with possibly more less-motivated students, to school.

- The rates of males completing grade nine rise rapidly with household economic level but famale rates show little change. The numbers of females completing grade nine in the older generation, however, are so small that the results are only suggestive.

In the younger generation the following relationships apply.

- Initial enrollment rates rise steadily and sharply with rises in the economic level of households for all children.

- Disaggregated, boys' rates of enrollment rise gradually with increases in household economic level, reaching close to 100 percent participation in families that are above average and affluent.

- Girls' rates of enrollment rise even more dramatically than boys' rates with increases in household economic level, from a low 31 percent enrollment in poor households to a high 93 percent enrollment in affluent households. The more dramatic rise in enrollment for girls is undoubtedly tied to the tendency of families that are constrained economically to support males in school before females. Thus the higher the economic level of the family the more likely that parents would be willing to pay the costs of sending a girl to school, in addition to any boys they may already be sending.

99

Figure I-10: Economic Level and Enrollment--
Older and Younger Generations

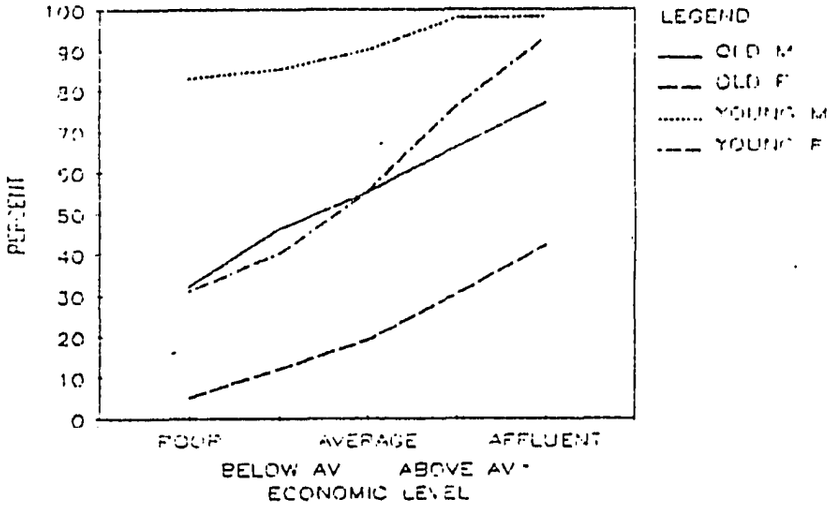


Figure I-11: Economic Level and Dropout--
Older and Younger Generations

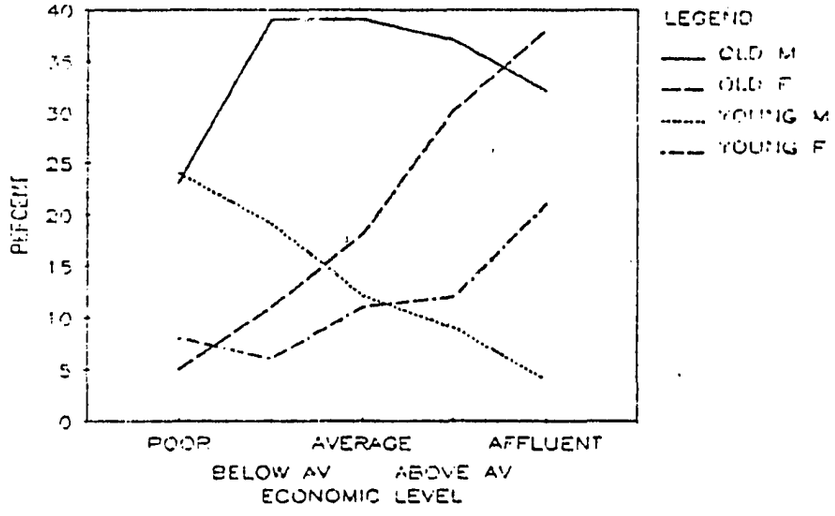
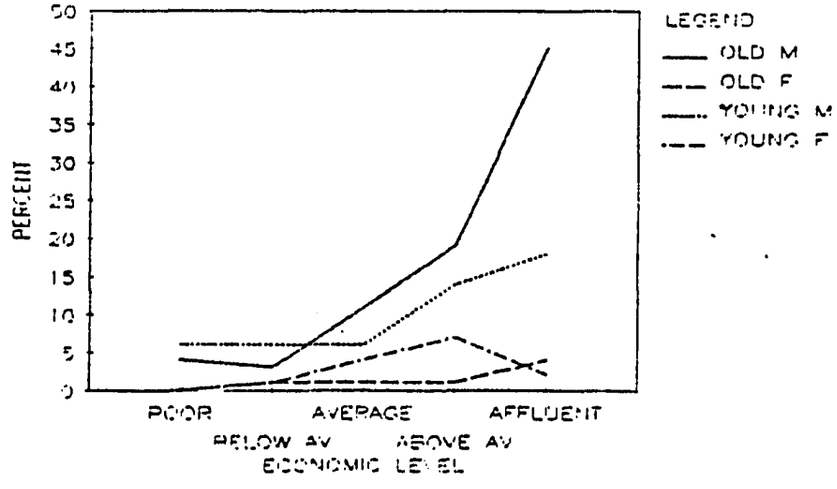


Figure I-12: Economic Level and
Completion of Grade Nine--
Older and Younger Generations



100

- Dropout rate in relation to economic level is overall fairly stable for all children of the younger generation, but this is only because boys' and girls' rates of dropout cancel each others' effects as economic level rises. Disaggregating the figures by sex, we find that boys' dropout rates show consistent decline while girls' rates increase with economic level. This finding is consistent with the greater dependence of poorer families on income derived from a male child's labor and in affluent families with the ability to substitute for the child's labor. For girls, more affluent families provide a quality background that compensates, when it comes to marriage, for lower educational achievement, while in poorer families staying in school longer for girls may enhance their attractiveness for marriage.

- Overall there is a slight increase in those who complete grade nine as economic level of the household increases. For boys, those of average economic levels and below maintain the same rate of completing ninth grade, while those of higher than average economic levels more than double the rate of those in the lower economic groups in completing preparatory level. Girls show small increases in rates of completing grade nine as economic level rises until the affluent level of household and then their rates drop. The number of those in this younger generation who complete grade nine, however, is still so small that the trends are only suggestive.

School Costs

The economic costs of schooling are of two kinds: the actual expenses involved in providing the child with necessities to go to school and the lost opportunity cost of a child's household or wage labor. The second is difficult to estimate since people do not usually attach monetary value to household work and the earnings of children from wage labor vary considerably by family, availability of the work, and the prevailing price being paid. It is enough to note that children can earn more than a government worker's salary when good agricultural work is available.

With regard to the incidental costs of school, this year we asked each parent to estimate the specific costs of sending a child to school. Parents were immediately aware that educating a child requires expenditures for the family. They broke down expenses into rough categories that included initial expenses at the beginning of the year for clothing, shoes, school bags, school fees, notebooks, and writing equipment; daily expenses for transportation, food, and snacks; and special expenses for tutoring. The interviewer added the totals and where appropriate extrapolated to a yearly total. If the family included both primary and preparatory-level children, separate accounting was asked for these two levels. By detailing school costs in this way, we came to know what were reasonable amounts and were able to probe more

deeply when responses seemed unreasonably high. We noted that these expenses varied considerably by economic level of the household. For example, parents in a poor household might give a child 10 piasters a day for snacks while a more affluent family could afford from 25 to 50 piasters a day at the highest. Most families feel that this pocket money is as obligatory as, for example, making sure the child has shoes to wear to school.

Table I-10 shows the parent-estimated annual costs of a school child's expenses. At both the primary and preparatory levels, the largest percentage of parents claim they spend more than 100 LE per year per child. This is true for a little more than a quarter of primary students and almost two-thirds of preparatory students. The cost range is much broader for primary school children but few families spend less than 40 LE per child at that level. At preparatory level few families spend less than 80 LE per child.

If these estimates are reliable, the magnitude of school costs when several children of a family are enrolled can be appreciated.

Table I-10: Parent-Estimated Annual Costs of Schooling Per Child at Primary and Preparatory Levels

Level	Costs in Egyptian Pounds							
	0-20	21-40	41-60	61-80	81-100	100+	Don't Know	Total Responses
Primary								
Number	1	33	58	37	22	63	6	220
Percent	0	15	26	17	10	29	3	100
Preparatory								
Number	1	3	8	8	19	66	4	109
Percent	1	3	7	7	17	61	4	100

Distances and Educational Participation

The major factor affecting educational participation, particularly of the older generation, is whether there are accessible facilities available. For the older generation, in many cases there were no schools near at all. For the younger generation of the villages sampled, in recent times schools have been available but often at a distance that has caused many to claim that they

102

are inaccessible. We have found distance to be as much a psychosocial dimension as a physical dimension. What is too far for one family is accessible to another. What is close enough for boys or older children may be too far for girls or small children. What is close in one set of circumstances may be far when it means sending a child into a "community of strangers." Distance also assumes greater causal priority in certain situations than it does in others: if there are no schools available except a distant one, the question of whether to educate or not becomes more critical than physical distance.

In 1983 the summary data in eight villages were not completely clear about the effect of distance. Children who lived distances of three kilometers or less from a school achieved higher levels of enrollment and age level attainment than did those who lived further away. However, the relationship was not completely progressive because of the nature of the sample, which included some villages where distant schools left the parents with the more vital question of whether to educate the child or not.

This year new schools have opened in all the six villages studied. These villages include two where schools were located previously at some distance and, therefore, since the historic impact of inaccessible facilities necessarily shows up in the data, we still have figures that reflect the varied conditions of rural Egypt. This year, in addition to asking how far away schools were for currently enrolled children, we asked parents to tell us the distance to the nearest available school when children who never enrolled were at an age for starting school and similarly the distance to the last school attended when a child dropped out. In this way we were able to compare the three groups--enrolled, dropouts, and never enrolled--to assess whether their educational participation showed the differential impact of distance. Children who completed grade nine or higher and those currently enrolled in programs at those levels (altogether six percent of the younger generation six years and older) were excluded from the total since schools of this level are usually very far from a child's home. Their inclusion would not clarify the decisions made in the initial stages of enrollment. One assumes that many of these children lived close to primary schools because they are enrolled and thus, excluding them, strengthens the case by underestimating it. Figures I-13 and I-14 show the effects of distance on enrollment and dropout. The reciprocal of Figure I-13 would give the pattern of effect on those who never enrolled.

Enrollment

- For all children combined, the threshold distance at which impact on enrollment becomes significant is somewhere between one and two kilometers. The ratio of those who enroll is three times higher for children who live one rather than two kilometers from school. At one kilometer about five times as many go to school as stay home, but from two kilometers out to greater distances about equal numbers go to school as stay home.

Figure I-13: Distance and Enrollment--
Younger Generation

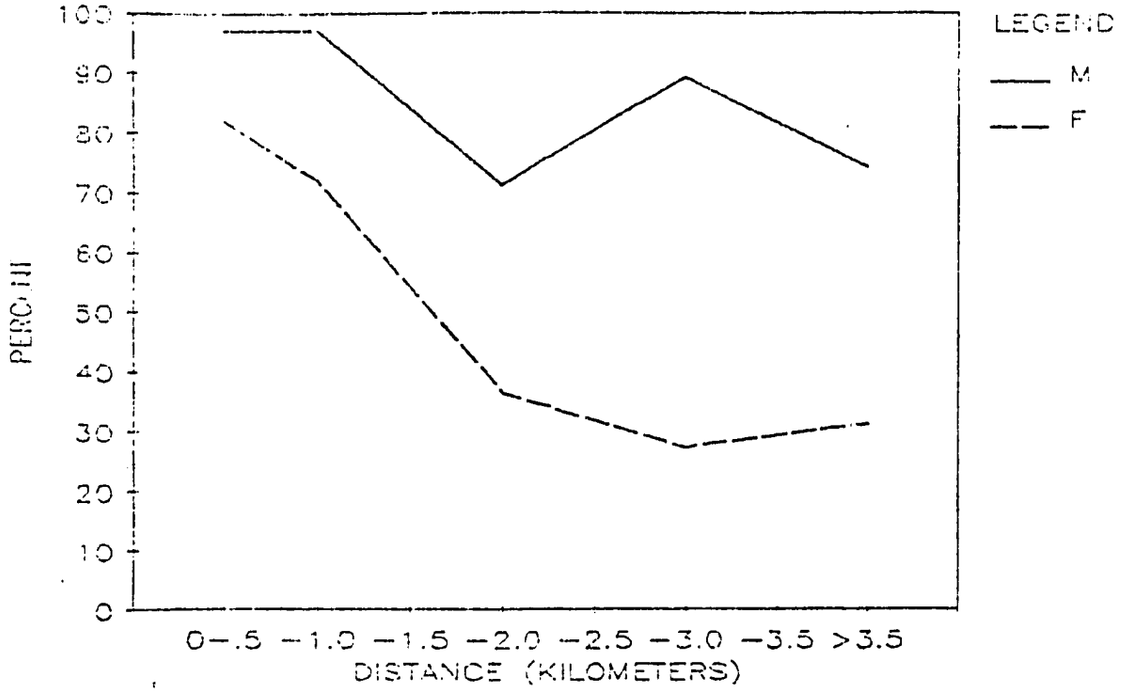
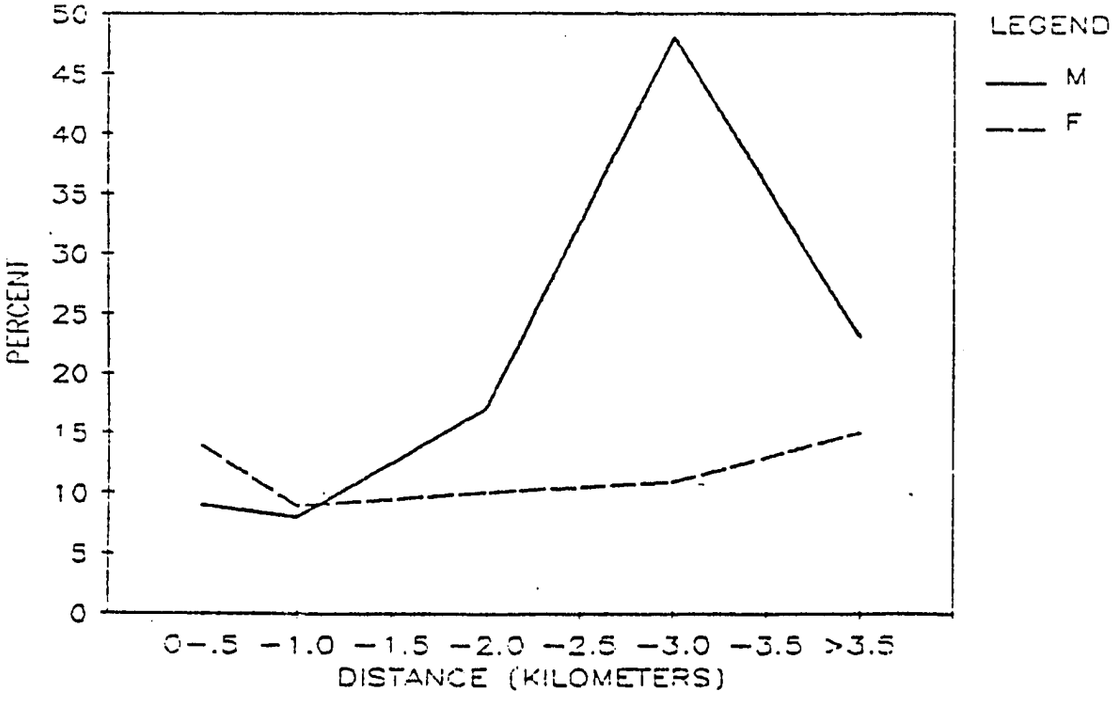


Figure I-14: Distance and Dropout--
Younger Generation



104

- Disaggregated, the sexes show slightly different tendencies. For boys, the threshold again occurs between one and two kilometers. Close to 100 percent of the boys living at a distance of one kilometer or less enroll in school while only 71 percent enroll by a distance of two kilometers. The ratio of boys who enroll, however, does not decrease regularly with distance but fluctuates as a consequence of what choices are available to parents. Parents' aspirations for their sons can overcome distance as a barrier in many cases; in a village like Monshat il Awkaf, for example, with a school three or four kilometers from most children's homes, boys may have made the choice to go to school even though the distances were greater.

- For girls, the relation between distance and enrollment is strong and consistent. Ratios of enrollment drop off more quickly than for boys as distance increases. When the school is within a half-kilometer of their homes, 82 percent of girls enroll. Already by one kilometer the ratio declines to 72 percent and by two kilometers that ratio is reduced by half (36 percent). Girls' enrollments from two kilometers out to farther distances stabilize at about a third.

These figures suggest that if schools were accessible within a radius of one kilometer of children's homes boys' initial enrollments would increase to 97 percent and girls' initial enrollments to 72 percent. Overall this would mean a minimum addition of 7 and 16 percent respectively to the current enrollment ratios of the younger generation. If schools were even closer, at a half-kilometer distance from children's homes, there would be no further increase in the enrollment of boys but girls' enrollment would increase by 26 percent rather than 16 percent.

Persistence

- For all children combined, there is a weak tendency for children to drop out as distance between the school and home increases. Disaggregated, the sexes show different patterns of dropout. Boys' rates of dropout in this sample rise precipitously with distance up to three kilometers but by distances of three and a half or more kilometers the ratio falls somewhat. Girls' rates of dropout increase slightly but consistently with distance. The evidence from these figures and parents' comments suggests that distance is just one of the factors that affect the motivation of boys to attend school. Those with weak motivation find distance a formidable barrier; those with strong motivation disregard it. For girls, the importance of distance is most significant at the school entry years of grades one and seven. Once the decision has been made to enter a girl in school, the distance problem is no longer formidable enough a barrier to cause her to drop out.

105

In general, dropout does not appear to be strongly correlated with distance, but rather to be related more strongly to household economic factors and school-related factors. The sharp rise in the dropout rate for boys at three kilometers is probably due to the Monshat il Awkaf site where boys are dropping out because of the occupational opportunities available that do not require more than basic literacy skills.

PARENTAL CHOICES

The 1983 field trip showed that when enrollments were considered in the context of family decision making, one could see more clearly some of the biases that affect parents' choices. For example, one might assume that a parent who sent all children in the past, or no children in the past, or only children of one sex would be more likely to continue the same practice in the future. This kind of breakdown helps to provide a more reliable basis for prediction of future parental school-sending decisions.

Birth Order and Age Relationships

The following section describes some of the major patterns found in the sample families. Did parents change their minds about school sending over the last decade? Table I-11 examines family choices by comparing the enrollment of children of present school age, six to fifteen, with that of their older siblings.

Table I-11: Are Present School Age Children (6-15) More Likely to Go to School than Their Older Siblings Were? (Data from Six Villages)

Pattern	Number of Families*	Percent
1. No children over 15 enrolled; No children under 15 enrolled	63	36
2. No children over 15 enrolled; Some children under 15 enrolled	54	31
3. Some children over 15 enrolled; Some children under 15 enrolled	50	29
4. Some children over 15 enrolled; No children under 15 enrolled	7	4

*Remaining families did not have children of the appropriate ages.

When children of both age groups are present in the family, the most common pattern is for neither to be enrolled. The second most common pattern is for parents to change their minds and educate some younger children. The third pattern is for parents to educate children in both age groups. Overall, then, these parents were more likely to remain consistent (patterns one and three) and not treat children of these age groupings differently: they either enrolled all their children or didn't enroll any.

Those parents who changed their minds were most likely to decide that younger children should go to school. Breaking out the families in this way biases the sample toward older parents who have children over 15. These parents presumably display attitudes toward education that were formed in a more conservative era, thus explaining the strength of the pattern to keep all children home.

Table I-12 again asks the question "Do parents change their minds?" but without an arbitrarily defined age limit. Again parents appear to disregard age relationship and show consistency in either sending children to school or not sending them.

Table I-12: Is the Youngest Child in a Family More Likely To Go to School Than the Oldest Child?

Pattern	Number of Families*	Percent
1. Oldest child enrolled Youngest child enrolled	136	68
2. Oldest child not enrolled Youngest child not enrolled	40	20
3. Oldest child enrolled Youngest child not enrolled	13	7
4. Oldest child not enrolled Youngest child enrolled	9	5

*The remaining families do not have children of the appropriate age and number.

107

Does it make a difference if the youngest or oldest child is a boy or a girl? Table I-13 summarizes the patterns for the sexes.

Table I-13: Are Boys or Girls More Likely To Go to School If They are Younger or Older?

Pattern	Males No. of Families*	%	Females No. of Families	%
1. Oldest child of this sex enrolled Youngest child of this sex enrolled	92	90	52	57
2. Oldest child of this sex not enrolled Youngest child of this sex not enrolled	8	08	21	23
3. Oldest child of this sex enrolled Youngest child of this sex not enrolled	2	02	3	3
4. Oldest child of this sex not enrolled Youngest child of this sex enrolled	0	0	15	16

*The remaining families do not have children of the appropriate ages or sexes.

Again, parents appear to show consistency with their children, enrolling or not enrolling both older and younger children. Parents are almost twice as likely to enroll all younger and older boys as all girls, however, and almost three times as likely not to enroll all younger and older girls. A small but significant number of families change their minds and after keeping an older daughter home send a younger daughter to school, presumably because of a change in attitude about the appropriateness of education for girls. Only rarely do parents send older but not younger children of a sex to school.[7]

Finally, do parents make different choices when older and younger children are different sexes? Table I-14 summarizes these patterns.

108

Table I-14: Do Parents Make Different Choices About School Sending for Younger/Older Sons and Daughters When Both are Present in the Same Families?

Pattern	Number of Families*	Percent
1. Oldest girl enrolled Youngest boy enrolled	41	36
2. Oldest boy enrolled Youngest girl enrolled	35	31
3. Oldest girl not enrolled Youngest boy enrolled	27	24
4. Oldest boy enrolled Youngest girl not enrolled	7	6
5. Oldest boy not enrolled Youngest girl not enrolled	2	2
6. Oldest boy not enrolled Youngest girl enrolled	2	2

*The remaining families do not have children of the appropriate ages or sexes.

Yet again parents show the strongest tendency toward consistency in decision making. In this case, however, where parents show distinctions between their children it is primarily toward keeping the girls at home regardless of their ages and enrolling boys regardless of theirs.

These tables attempting to discern the basis upon which parents make distinctions concerning the school sending of their children show several important tendencies. First, parents usually make firm decisions to enroll or not to enroll their children in school and in the largest number of cases remain consistent to that decision. When they exhibit different school-sending behavior with successive children it is usually: to have enrolled children who became school age within the last decade, to enroll older children and not younger children, and to enroll younger girls or younger boys when older children of the same or opposite sex are not enrolled. Though some of these changes appear contradictory they may in fact be responses to different priorities: the decision to support one or two promising students in an economically constrained household, a feeling that community norms are changing, to assure that one child stay home and be available to help parents in their old age, or because of a feeling that education has a different relevance for boys and girls.

Family Patterns by Sex and Economic Levels

Table I-15 shows family school-sending patterns for boys in the six villages. Most families send all their eligible-age sons to school.

Table I-15: Family School-Sending Patterns for Boys
(in families with eligible age boys)

Pattern	Number of Families	Percent
1. All boys enrolled	195	92
2. Some boys enrolled	11	5
3. No boys enrolled	6	3
TOTAL	212	100

Table I-16 shows the family school-sending patterns for girls in the six villages. Only about two-thirds of the families send all their girls while a substantial ratio send no girls to school.

Table I-16: Family School-Sending Patterns for Girls
(in families with eligible age-girls)

Pattern	Number of Families	Percent
1. All girls enrolled	116	60
2. Some girls enrolled	24	13
3. No girls enrolled	52	27
TOTAL	192	100

When the family patterns are broken down by economic level, school sending for boys and girls appears as in Table I-17 and I-18. The strongest pattern is for all eligible-age children of a sex to be enrolled. For girls the second most common pattern is for the family to enroll no girls. Thus again, consistency is more common than sending one child of a certain category to school and keeping the other of the same category home.

Table I-17: Family School-Sending Patterns for Boys by Economic Level

	Poor		Below Ave.		Ave.		Above Ave.		Affluent	
	No.	%	No.	%	No.	%	No.	%	No.	%
All boys enrolled	24	77	39	87	75	95	42	100	15	100
Some boys enrolled	4	13	4	9	3	4	0	0	0	0
No boys enrolled	3	10	2	4	1	1	0	0	0	0
TOTAL	31	100	45	100	79	100	42	100	15	100

Table 1-18: Family School-Sending Patterns for Girls by Economic Level

	Poor		Below Ave.		Ave.		Above Ave.		Affluent	
	No.	%	No.	%	No.	%	No.	%	No.	%
All girls enrolled	13	36	20	50	36	60	32	78	15	100
Some girls enrolled	7	19	8	20	6	10	3	07	0	0
No girls enrolled	16	44	12	30	18	30	6	15	0	0
TOTAL	36	99	40	100	60	100	41	100	15	100

Economic level of household affects children by family in the same way that it affects them as individuals: by increasing the chance that all boys or all girls will enroll as economic level rises, and conversely by decreasing the chance that no child of either sex will enroll.

SCHOOL CHARACTERISTICS AND CONSEQUENCES

Of the many factors affecting parental decision making about the educational participation of children, aspects of the school itself and the process of registering and maintaining a child in school have major relevance for some families.

Registration For First Grade

Several months before school opens, newspaper advertisements or some other means of announcement are circulated giving notice that the school is ready to receive a child's papers. Parents present children's birth certificates and school administrators arrange the candidates' records by age (year, month, and date of birth). Regulations require that administrators accept all children from no older than the eighth birthday down to the sixth birthday. Occasionally, in practice children in this category are turned away if the school has no more places. Officials do not consider this an absolute abridgement of the child's educational opportunities because the parents can seek admission in a nearby school, if one exists, or can seek admission the following year with higher priority because the child will be older.

If precedence were followed correctly, only the youngest six-year-olds would find themselves refused for lack of space. It is difficult to assess the impact of such refusals on parents' school-sending decisions. Some parents have said they didn't attempt to enroll their children in other schools or in subsequent years. Other parents said they didn't bother to enroll their children at all because they heard there were no places available in the local school. One teacher commented that when a child waited until age seven to enter school, parents became accustomed to the labor the child could perform and would decide not to enroll him or her in the following year. In such instances, parental determination to persist in enrolling a child can be important. Evidence of differential treatment toward girls suggests that where places are limited, parents would be less likely to exert strong efforts to enroll a girl.

If there are extra places available as sometimes happens in the case of a new school or when schools go to two shifts, the local district educational office in some areas has been determining the extent to which the school takes children below the age of six. This determination, we were told, is made area-wide, at least partially on the basis of Health Department statistics showing the numbers of births in the year appropriate to entering school. A local school may also make its own adjustments if it finds too many or too few students in a given grade level. Classes tend to contain 40 to 60 children.

Because a child enters school according to an age registered on a birth certificate, it is obligatory that the child's birth be registered. Earlier, many children did not have birth certificates, but among our sample this is only rarely a complaint. A child who for some reason has no birth certificate can replace lost records or can obtain a doctor's certificate assessing approximate age. Some parents claim that this procedure is expensive and takes a lot of their time but the system seems to work for many without difficulty. The complaints may simply be a reflection of the difficulty a remote villager has in dealing with any kind of bureaucratic procedure. For example, in the first year of data collection we noticed the abnormally high rate of twins in families from several villages. With closer questioning we found that families sometimes waited until two children were born over a space

112

of a year or two and then registered them together at the same time to avoid the inconvenience of having to go twice to a distant registrar. The school in such a case takes the child by its official birth certificate even though she/he may be older than six.

Law 139 of 1981 says that a parent will pay a fine if he or she does not send a child to school and should continue to pay a fine until the child goes to school. This law is not enforced.

Usually the announcement that a school is ready to accept applications is all that is considered necessary to bring children to school. In our community leader surveys in the intensive sites, however, we have discovered the important part played by key people who make a special effort to encourage village children to attend schools. In Nag Dahi, for example, the village children are far ahead of enrollment figures expected for such a community because an educated villager who is a administrator in a nearby school has encouraged educational participation, a sheikh of the village has generously supported construction efforts with the gift of land, and other shiekhs have supported schooling enthusiastically. In addition, teachers canvas the village to make sure that all children of appropriate school age are enrolled. In another village, Nag il Harif, announcements over a public loudspeaker are used in the village to encourage families to bring children to registration.

In summary, registration procedures are not an obstacle to well-motivated parents who want to send their children to school. However, school administrators and government authorities do not normally use much initiative in trying to register children whose parents withhold their children from school actively or simply as a result of lethargy. Law 139 is a tool that could be used more effectively. The goal of universal education in Egypt could be advanced much more quickly if active steps like those taken in Nag Dahi were implemented as a policy by educational authorities. The intensive study shows initial enrollment to be the key, for, once enrolled, approximately 90 percent of sample males and 80 percent of sample females complete third grade and 70 percent of males and 60 percent of females complete sixth grade.

Crowding

From comments made by parents and administrators in the first year of data collection, we developed a paradigm of the effects of crowding and distance on school childrens' enrollment and persistence.

This year we have summarized that paradigm in simpler form in Table I-19. The villages in parenthesis approximated these conditions before the opening of new schools.

The 1984 field study probed the question of the effects of crowding on enrollment in more depth. We found, however, that it is difficult to develop an objective measure of crowding or for parents to articulate what it is in crowding that might inhibit enrollment (not enough places, too close proximity of male and female students, inconvenient hours for school shifts).

113

Table I-19: Predicted Impact of Crowding and Distance*

			Grade One	Grades Two-Six
Limited Places; distant school (Monshat il Awkaf)	Boys	---	good enrollment	moderate dropout
	Girls	---	low enrollment	high dropout
Limited Places; near school (Roda)	Boys	---	good enrollment	moderate dropout
	Girls	---	moderate enrollment	high or moderate dropout
Available Places; distant school (Nag il Taref)	Boys	---	good enrollment	low dropout
	Girls	---	moderate enrollment	moderate dropout
Available Places; near school (Nag Dahi)	Boys	---	high enrollment	low dropout
	Girls	---	high enrollment	low dropout

*This is an idealized prediction, everything else being equal.

If parents are highly motivated to send children to school and if the children are accepted, physical crowding of classrooms in itself does not appear to be a significant barrier. It is, however, one of a combination of factors that may discourage the less highly motivated from enrolling. One would expect crowding to have an effect on the quality of programs, thereby possibly causing heavier dropout or retention rates when students' levels of achievement are low.

We suspected that crowding in the schools or distance to schools might affect parents' decisions to enroll girls in first grade at a somewhat older age than boys. This was not confirmed in this year's data.

- In the six villages, 90 percent of boys (349) and 88 percent of girls (194) were enrolled in first grade when they were six years old. Another 5 percent (18) boys and 7 percent (15) girls were enrolled when they were still five years old, and a final group of 4 percent (16) boys and 4 percent (8) girls were enrolled at age seven. A small percentage either didn't know at what age they enrolled or enrolled at other than these ages. From these data, it appears that the large majority start school at age six and few start before or after this age level.

- For the few who start school at ages older or younger than six, parents gave the following reasons in the order of their importance: for children who started early, the school had extra places (67 percent); for children who started late no school was available at the time when the child should have enrolled and then a school was built nearby (15 percent); the school refused the child because it was too young by a month or two for the particular school's requirements at the time of registration (7 percent); parents forgot to enroll them at the right time (6 percent); and there was no place in the school at the appropriate time (4 percent).

Type of School and Educational Participation

One possible impact on enrollment and persistence we have considered is the kind of school that is available to children of a particular community. In several communities, parents have a choice between government schools, private schools, and Azhar schools, and occasionally kuttab (mosque-associated schools). Azhar schools have a strong presence in three of our villages: in Roda, Ghaneyem, and Nag il Taref (not surveyed this year).

Table I-20 makes a comparison of the different kinds of schools and the rates of those currently enrolled, never enrolled, and those who drop out where the various types of schools are available. From the table it is clear that by far the main choice of school is the government school with only a few attending private or Azhar schools. No one reported attending the kuttab school in the younger generation, though two mentioned the kuttab school as present in their village when they were of the age to begin school.

Table I-20: Kinds of School Attended or Available in Six Villages

STATUS		KUTTAB #	KUTTAB %	GOV'T #	GOV'T %	PRIVATE #	PRIVATE %	AZHAR #	AZHAR %	TOTAL #
Never Enrolled	M	2	4	51	89	3	5	1	2	57
	F	-		228	98	4	2	1	.4	233
Currently Enrolled	M	-		308	94	6	2	12	4	326
	F	-		187	93	4	2	11	5	202
Dropped out by Grade Nine	M	-		69	86	-		11	14	80
	F	-		55	98	-		1	2	56

115

There appears to be very little relationship between the kind of school available and educational status. Government schools were available for 96 percent of those who never enrolled and for the rest there were other types of schools available. Most of those who never enrolled reported available facilities in about the same proportional representation as those who are currently enrolled. There may be some minor significance in the fact that none of those who dropped out went to private schools (which sometimes require fees and perhaps stronger parental motivation), and slightly higher proportions of the males who dropped out went to Azhar schools, than either their proportions in those schools would warrant or than do girls in those same schools. Children who go or don't go to these types of schools may in some way be self-selected.

Absence Rates

Absence and retention rates are one type of manifestation of the efficiency of the educational system. The household surveys asked parents to estimate the levels of these indicators for their children. Parents' reports of children's absence rates and the reasons for children's absences are probably not very accurate. Nevertheless, they may give some indication of the reasons why children miss school. Next year's intensive study of school-related factors affecting enrollment and persistence should give us a more accurate picture of attendance levels. Table I-21 shows how parents evaluate absence rates.

Table I-21: Absence Rates Among Those Currently Enrolled In Six Villages

STATUS	SEX	RARELY ABSENT (once a month)		SOMETIMES (2-4 times a month)		OFTEN (5-20 times a month)		RARELY IN SCHOOL (over 20 times/mo.		NOT APPL. (no absences)		TOTAL
		#	%	#	%	#	%	#	%	#	%	#
Currently enrolled	M	13	3	9	2	4	1	-		363	93	389
	F	10	4	7	3	1	.4	1	.4	202	91	221
TOTAL		23	4	16	3	5	1	1	.15	565	93	610

Parents report that 93 percent of their children are never absent from school and report little difference between attendance rates of boys and girls. A casual survey of classrooms, however, reveals a number of children absent every day (three or more). Teachers, like parents, report low absence rates.

116

Table I-22 shows the reasons parents give for their children's absences. Illness is reported as the main cause of absence and the distance to the school as the second most important reason. This last reason was reported in Roda and Monshat il Awkaf, where distances to schools may be quite far.

This year, now that primary level classes in the new school of Monshat il Awkaf have opened, reported absences have declined considerably. In the six villages, when second reasons for absences were reported, weather was mentioned in one case and the need for the child's work was cited in two cases. The greatly reduced number of absences reported this year may be due to the fact that new schools have been opened now in all six sites, in three cases during 1984 and in the other three for over a year. Thus, children of most households now have easy access to schools, and weather and distance no longer pose serious problems.

Table I-22: Reasons for Absences Among Those Currently Enrolled In Six Villages

STATUS	SEX	Distance		Illness		Other		Not Applic.		Total
		#	%	#	%	#	%	#	%	#
Currently Enrolled	M	2	1	22	6	2	1	363	93	389
	F	6	3	11	5	2	1	202	91	221
TOTAL		8	1	33	5	4	1	565	93	610

Retention Rates

Again, this year's retention rates seem lower than expected if teachers comments about the number of children repeating school are accurate. The sample showed six percent each of boys and girls who enroll at any time repeating a grade. Figure I-15 shows children's retention rates at different grade levels. The rates are of total persons retained at each grade level and do not add up to 100 percent because some children are retained more than once.

Boys were most likely to repeat grades seven and eight and girls grades four and six. Combined with the data on dropouts below, it appears that boys are more likely to drop out completely rather than repeat a grade at the primary stage, but by the time they reach preparatory level they have a higher stake in trying to continue by repeating a grade. Girls are less likely to reach preparatory level and therefore they are more likely to repeat grades at the primary level. Their rates of repeating, however, are exactly the same as boys once they have entered the educational system.

117

Figure I-15: Student Retention by Grade--
Younger Generation

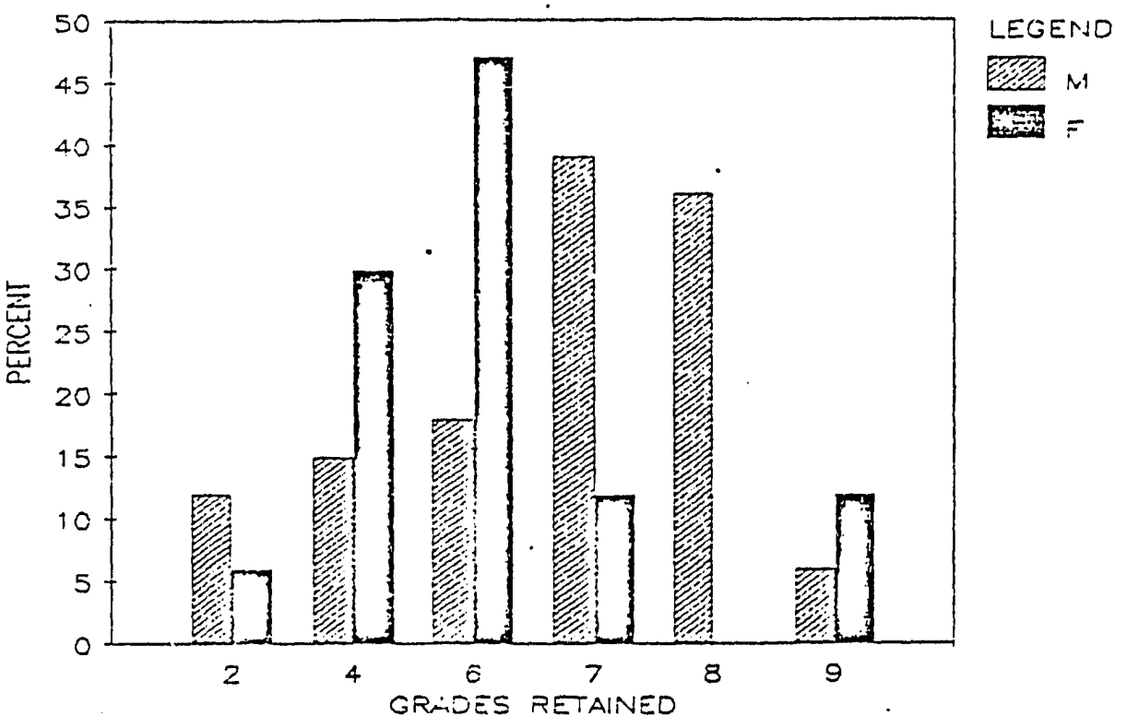
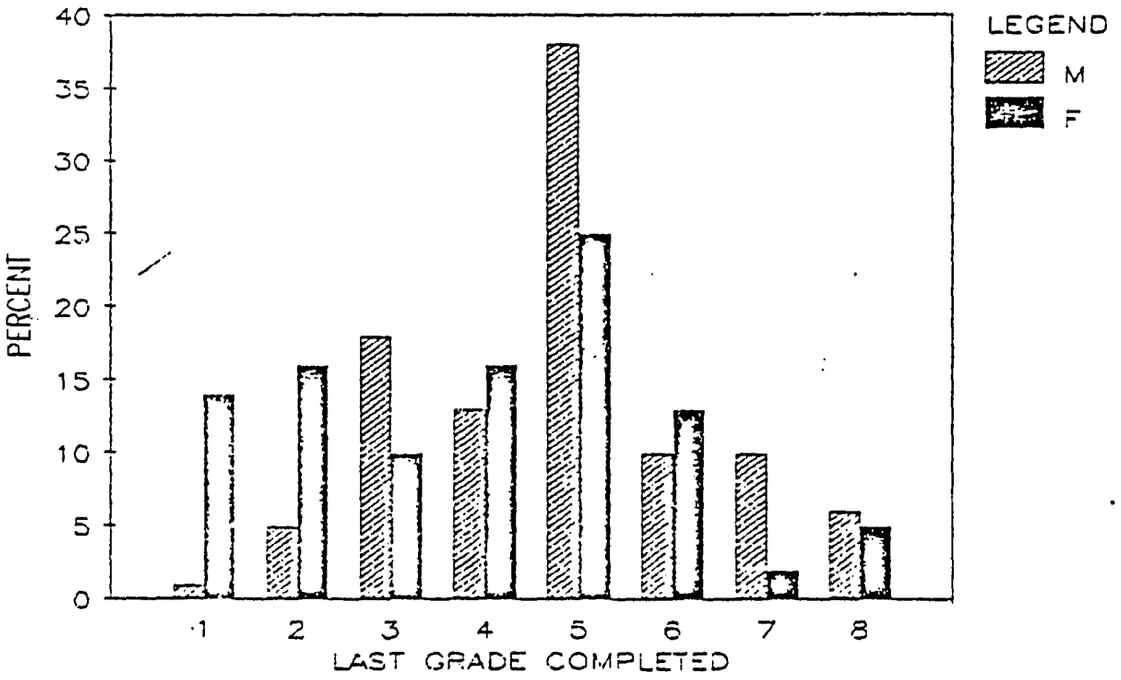


Figure I-16: Dropout by Last Completed Grade--
Younger Generation



118

Dropout

Retention and dropout are alternative consequences of exam failure. In earlier sections of this report, dropout was considered as a consequence of household factors. Here it is examined in relation to grade levels to see if patterns emerge that may result from school-related factors. It is difficult of course to separate completely the extent to which dropout is a consequence of household or school factors. Figure I-16 shows dropout by the last grade level completed.

Girls' rates of drop out are slightly higher than boys. Girls are more likely to drop out after completing grades five, two, and four and boys after completing grades five, three, and four; both sexes, in other words, dropping out at virtually the same levels. The largest group of both sexes drops out after completing grade five and before completing grade six. Since grade six is considered a year of important preparation for the primary-school-leaving exam, it appears that both boys and girls either leave in anticipation of this exam or because they fail the exam and thus don't complete grade six.

PARENTAL ATTITUDES ABOUT EDUCATIONAL PARTICIPATION

Parental attitudes have to be taken with some reservation unless there is behavioral evidence to support their comments. The intensive study relies much more heavily on the behavioral evidence of family educational participation than on expressed attitudes. Nevertheless, we have asked a number of attitudinal questions that are repeated in summary form here. It is perhaps worth noting how significant a discrepancy there is between many articulated attitudes and behavior as it has been expressed up until now. Either we are in a period of rapid transition where behavior has not yet had time to catch up to parents' stated intentions, or parents articulate opinions very different from what their actual behavior shows. There is probably some of both involved in the discrepancy.

SCHOOL DRAWING AND HOLDING POWER

- Do you expect to educate your child to the end of preparatory level or higher? (Asked of parents of all currently enrolled children.) All parents who had sons (326) answered "yes" and 97 percent (196) of those who had daughters answered "yes." The remaining 3 percent (6) with daughters answered "no." If taken seriously, the implication for expansion of space at the preparatory level is significant. We can say that the articulated ideal calls for schooling through the preparatory level even if parents do not always find a way to carry out such ideal behavior.

119

- What is the reason for not continuing your child's education to the end of preparatory or higher? The parents of the three percent of currently enrolled girls who are not expected to continue replied that they would withdraw their girls because the preparatory-level school was too far away (two cases), because social norms opposed older girls going to school (two cases), because of schooling costs (one case), and because the family needed the child's work (one case). The number of cases is too small to be significant.

- Do you expect to educate your pre-school-age child to preparatory level or higher when he/she becomes old enough? Parents of boys (167) all answered "yes" and 97 percent of girls' (186) parents answered "yes." The major reason reported for the remainder not to educate their girls was social custom.

When people were asked about the attitudes of their community they tended to see their neighbors as more conservative than themselves.

- Do people in your community think it is important to educate boys to the end of preparatory level? Ninety-three percent (253) answered "yes," that people thought it was important to educate boys to the end of preparatory level. Another four percent felt people of the community only thought it important to educate boys to the end of the primary level. One percent thought it wasn't important for boys to finish primary level and two percent expressed no opinion.

- Do people in your community think it is important to educate girls to the end of preparatory level? Eighty-four percent (226) answered "yes" that people thought it was important to educate girls to the end of preparatory level. Of the remainder, eleven percent felt people thought it was enough to educate girls to the end of primary level, four percent thought it was not important for them to finish primary school, and one percent expressed no opinion.

- Would more girls go to school if the local primary school were a single-sex girls' school? (In these villages, all schools are mixed.) Parents felt in 96 percent of the total cases (270) that more girls would go to school, in 7 percent of the cases that it would not make a difference, and in 1 percent of the cases that they didn't know if it would make a difference. A majority however were sending their primary age girls to mixed schools.

- Would more girls go to school if a mixed preparatory school were available locally? (Preparatory schools were generally located at a greater distance than primary schools.) Again, parents overwhelmingly (91 percent) responded that this would be the case. Another 8 percent said it would make no difference. This suggests that distance may be more important than sex segregation for teen-aged girls.

- Would more girls go to school if an all-girls preparatory school were located in the village? Most parents (97 percent) said this would be the case while 1 percent said it still would make no difference. While parents generally preferred local, single-sex schools for their girls, they usually recognized that such schools were not affordable in small village attendance areas. Most were quick to add that at the primary level mixed schools would not be a deterrent preventing a parent who wanted to educate a girl from sending her. At the preparatory level, however, they thought some parents might not want to send their girls to a mixed school, and that they probably wouldn't want to send them to a distant preparatory school that was either mixed or single sex.

- Are there enough places in your local school to enroll all appropriate-age children? (Four of the six villages now have USAID-funded new schools open and two have new preparatory schools open.) Altogether 76 percent (205) of the parents responded that there were sufficient places and 17 percent (45) said there were still not enough places; 7 percent (20) didn't know. The two villages that have recently opened new preparatory level schools, Roda and Ghaneyem, were the ones that had the highest percentage of parents claiming not enough places. Thirty percent of parents in each village made this claim compared to less than 10 percent in villages where new primary schools were in place.

- If circumstances had been different would you have educated all your children? (Asked of parents who have not educated some or all of their children.) Ninety-eight percent said they would have educated all their children if circumstances had been different. The remaining two percent said they would have educated their boys but not their girls.

121

- Do more children go to school because there is a food program in the school? (Asked of parents where there is a food program[8].) Thirty-eight percent (47) said that more children go to school because of the food program while 62 percent said that food was not the reason children went to school. In fact, from the way people answered this question, a much higher ratio should probably be included among those who do not feel the food program is a significant factor in bringing children into the school. Some people didn't know that a food program existed and others were afraid to say anything negative about it either because they thought it might be discontinued or because they might offend those who offer the program. Those who replied negatively were often emphatic about people sending their children to school for education and not for food, while those who replied positively usually were responding to a perception of the question as "yes, the children like the food," rather than in terms of food acting as a motivation for enrollment and attendance.

From parents' comments, food programs should be evaluated by other measures than whether they possess drawing or holding power on children in the school system. In a number of instances parents spontaneously reported that their children were provided with food from home and didn't eat the school food, while others said that children didn't like the yellow cheese they were given, preferring to take with them local white cheeses instead.

VILLAGER MODELS AND MOTIVATIONS

Some questions were intended to uncover factors that might motivate parents to send their children to school. These included whether parents had a knowledge of local educated people who might serve as models for the occupational goals of children. In addition they were asked about their perceptions of the benefits of education. The following questions were asked of all parents whether they enrolled children or not.

- Does any woman in your village hold a high (university) degree? Eighty-five percent of the parents answered "no" and 15 percent answered "yes." In all six villages the majority did not know a woman with a high degree.

- Does any man in your village hold a high degree? Sixty-five percent answered "yes," and could name the man and his field of specialization; 23 percent answered "no" and the rest didn't know. In all but one village (Nag Khutaba), the majority knew a male degree holder. Often this person was spoken of with admiration, and the parent occasionally remarked that he/she hoped a male child would follow the same specialization.

122

- What occupation would you like your daughter to follow? The largest number (47 percent) answered that they would like her to become a professional, usually a doctor. This is a recognized parental ideal in Egypt, and usually was said without much sense of realistic intention (often even with some hilarity by onlookers). The next highest number (29 percent) wanted their daughters to become government employees, usually in a teaching capacity. Comments indicated that this occupation was considered appropriate for girls and actually within the limits of possibility for a few. The rest wanted their daughters to be housewives (15 percent) or refused to indicate a choice (8 percent). Three parents indicated a skilled capacity such as seamstress. Most parents answered this as a speculative question of little consequence and few seemed seriously to consider jobs for their daughters outside of homemaking.

- What occupation would you like your son to follow? The majority (69 percent) claimed they wanted their sons to follow the highest status occupations of doctor first and engineer second--again a claim little based in reality. Next came government employment (11 percent), ther officer (8 percent, especially in upper Egypt). Most of the remaining parents refused to commit themselves. As with the girls, the answers to this question largely reflected the idealized view of the occupational structure in Egypt, but it is interesting that this rural view is so similar to what one would find from an urban population. This may reflect the pervasiveness of television and its dramatized serials that promote urban, middle class values.

- What do you perceive as the benefits of educating girls? In order of magnitude, parents said they thought girls should be educated "to ensure their futures" (69 percent), to improve their marriageability (17 percent), to teach the basic literacy and numeracy skills (10 percent), and to prepare them for occupations (9 percent).

- What do you perceive as the benefits of educating boys? Parents[9] answered "to ensure their futures" (67 percent), to prepare them for occupations (17 percent), and to teach basic literacy and numeracy skills (8 percent). The basic difference parents reported in benefits to boys and girls is their belief that education is more vital in preparing boys for their occupations and in improving girls' marriage opportunities. Otherwise education is considered good for the futures of both and for providing both with basic literacy and numeracy skills.

123

THE OCCUPATIONAL CONTEXT FOR SCHOOL-SENDING DECISIONS

Comparisons

Last year we noted that the occupational structure of the villages could not be tied directly to educational participation but that the spectrum of available occupational opportunities was a major feature helping to define the village as "rural," "urban," or "mixed." From parents' answers about the occupational futures of their children, above, it becomes evident that parents' aspirations are not just confined to models available to them from the immediate surroundings. This year we have looked at the occupations of older and younger generations and educated and uneducated workers to see what is within the realm of possibility for rural children.

Table I-23 shows the occupational structure of the older generation. This generation lacks the numbers having some contact with formal education but has the advantage of members with greater job experience. Older generation women are almost all involved in housekeeping activities. The largest group of older generation men are involved in farming but engage in a wide spectrum of other occupations as well.

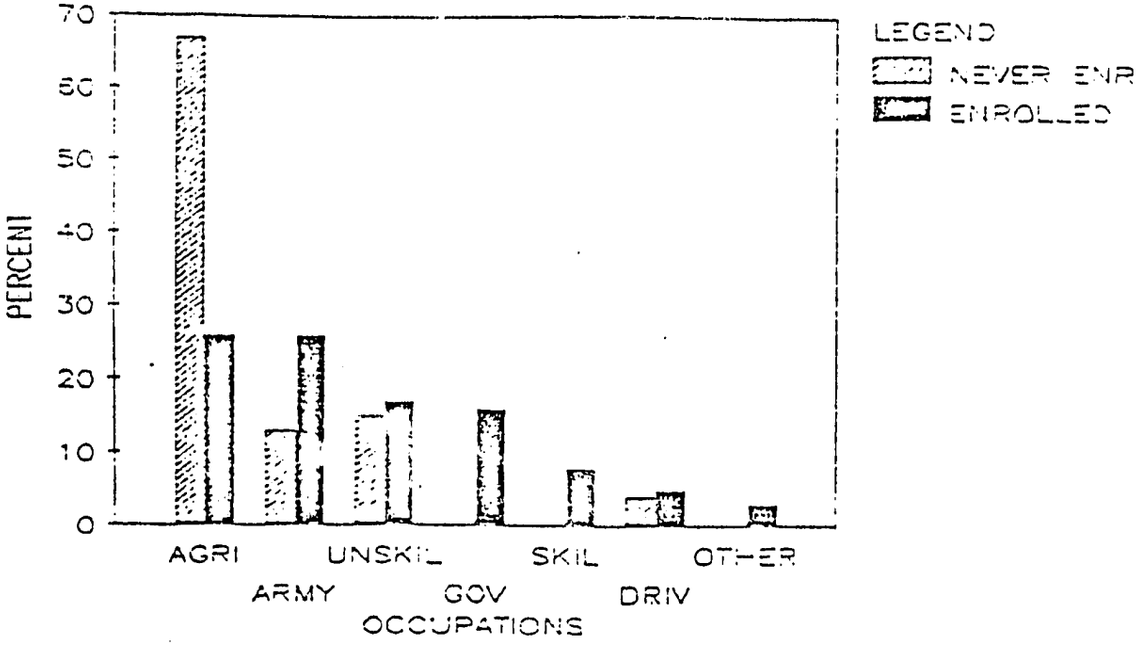
Table 1-23: Occupational Structure of the Older Generation

MALE			FEMALE		
	Number	Percent		Number	Percent
Farming	161	43	Housewives	358	90
Unskilled work	41	11	Farming	13	3
Skilled work	33	9	Skilled work	9	2
Government	31	8	N/A*	20	5
Army	17	4	TOTAL	400	
Commerce	7	2			
Officer	12	3			
Driver	12	3			
Other	6	1			
N/A*	58	15			
TOTAL	378				

*The nonapplicable are either not employed or do not claim an occupation.

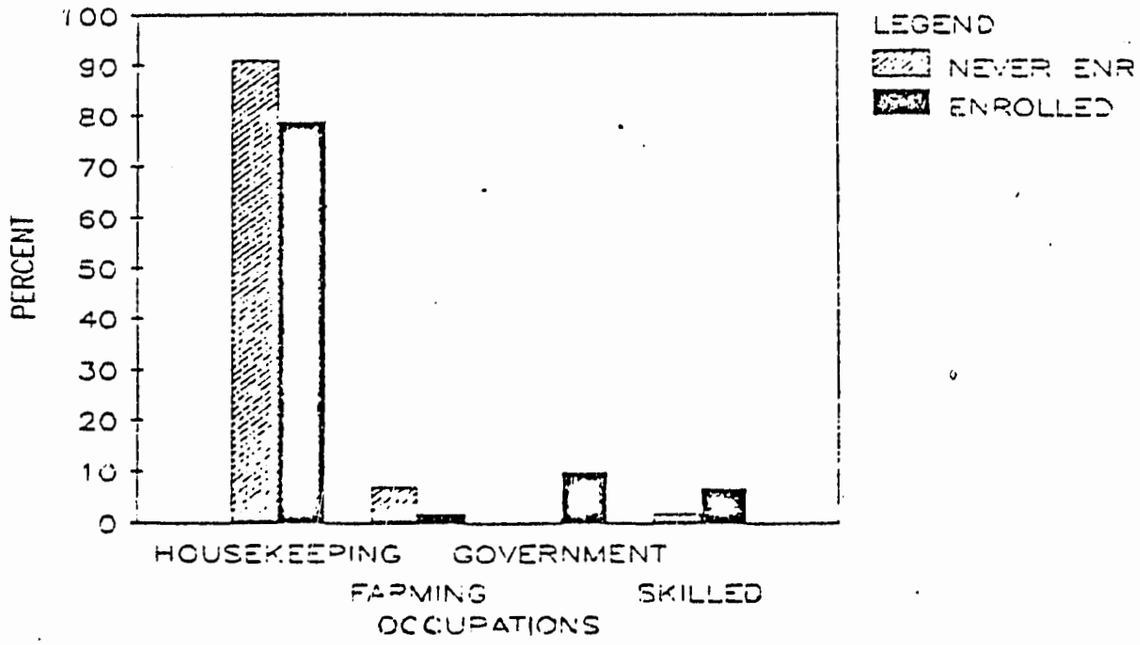
Figure I-17 shows the occupational structure of younger generation males and Figure I-18 the occupational structure of younger. Currently enrolled students are excluded from these numbers and therefore would be expected eventually to raise the numbers of those in certain occupations.

Figure I-17: Occupational Structure by Educational Status--Younger Generation Males



125

Figure I-18: Occupational Structure by Educational Status--Younger Generation Females



When the occupational structure of younger generation members with some education is compared with those who have no education, one is struck by several facts. The educated males report eight categories of work[10] while uneducated males report only four. Thus education, even of a minimal nature, appears to broaden the range of occupations males seek or are competent to perform. Males with some education are considerably less involved in farming and are the only ones of the generation involved in government employment and skilled work. Those who have no education in the younger generation also find themselves confined to fewer occupations than the older generations. Their rate of participation in agriculture is higher and it appears that even in skilled labor fields their educated contemporaries are chosen before them for specialized training. Literacy in the younger generation appears a minimum prerequisite for any kind of skilled work. Not one uneducated male of that generation in the sample reported an occupation requiring specialized training. Parents' claims that education assures their boys' futures and prepares them for an occupation seems therefore to have some basis in fact.

Females in both older and younger uneducated generations show virtually no difference in occupational structure. Females in the younger generation with some education, however, do add a new category of occupation, government employment, in which ten percent engage. This work includes teaching and clerical/administrative work. Thus parental aspiration for their daughters to engage in government work seems to be a realistic goal. One would expect this trend to increase as more girls become educated.

As people demand more variety in the occupational opportunities they feel their educations prepare them for, one would expect to find a greater tendency for people to locate their residences in areas where appropriate work can be found. In our villages we already see this phenomenon happening. There is an exodus of the educated from remote rural villages where opportunities are limited, and an influx of residents into "urban" villages that provide cheap accommodations and easy commuting distances to cities where suitable work is available. Manshiya is an example of the former and Monshat il Awkaf of the latter.

Place of Work

Symptomatic of the educational system is the fact that an educated person who desires appropriate employment usually must seek work in an urban area. In the older generation almost 80 percent of the male respondents worked in the home village and another 9 percent in nearby towns or villages. Only 13 percent went to distant cities or abroad. In the younger generation, however, only about 60 percent work in the home village with another 14 percent in nearby villages and 24 percent in distant areas. Those presently in school presumably will continue to inflate the ranks of those who seek work outside their home villages, raising further the ratio of the younger generation in these categories.

There is still little difference, however, between females of the older and younger generation. Both are expected to remain close to home, occupied either in a job in the village or, in the vast majority of cases, with housework in their own homes. The few (four percent) among the younger generation who work outside the village do so in nearby villages or towns where they can return home every day after work. When we asked parents who claimed they wanted their daughters to complete high degrees if they would permit them to work outside the immediate area, almost all said the daughters should work close to home. Males, however, were usually expected to seek jobs wherever they could find them even if it meant travelling to and living in a distant city.

The need to work close to home further increases the occupational gap between men and women in villages and serves as an additional disincentive to girls to persist long enough in schools to compete for difficult-to-obtain work requiring educational skills.

127

Migration

Male migration has several possible effects on educational participation, which can only be suggested within the limits of this study. First, migration can provide greater income for a household, thereby creating the conditions where enrollment and persistence are more likely to occur. Second, migrants provide positive and negative examples of the kinds of skills that will earn a worker a good income. For example, unskilled migrants who earn good income demonstrate what can be accomplished without an education. Third, migrants as parents may return with a more enlightened view of education's benefits for their children because they have become familiar with environments where extended education is the norm and people are obtaining more desirable jobs.

In the sample of six villages, a significant one-third of the families reported members who had migrated for work to distant areas of Egypt (60 percent) or outside the country altogether (34 percent). Over 80 percent of these families have one migrant and the rest two or three migrants per household. It is difficult to estimate a general economic level for these households, since many go because of poverty but those where members have migrated for some time may have higher than average incomes.

Migration in our sample is a phenomenon found most commonly in the poorer rural villages. The three villages (Roda, Harif, and Nag il Khutaba) where greater than the average member of households claimed migrant workers were distinctly rural in character. The two sites (Monshat il Awkaf and Nag Dahi) where significantly fewer households had migrant members were those designated as "urban" villages. The final "village," Ghaneyem which is actually a town, followed the "rural" pattern with higher levels of migrant household. Ghaneyem's scarcity of land and its recent conflict-ridden history (see vignettes), however, has forced residents to migrate in search of work in much the same way that the dwindling land resources of many rural villages has forced out their inhabitants. Migration appears a result of a combination of factors that include low income levels and a limited range of work opportunities.

As far as educational participation is concerned, migration provides a demonstrated way out of pressing difficulties and a broader choice of options than those available in the local context for males with limited skills. Perhaps more important in the case of the educated migrant is the fact that the effects of education are not easily visible to villagers at home. They know only that the highly educated almost invariably migrate and may or may not want their own childen to do the same. This fact of life points up the problem of education's present lack of relevance to rural needs.

GIRLS' EDUCATIONAL PARTICIPATION

Because girls make up the largest percentage of unenrolled children and have the poorer record for persistence in educational programs, it is worth while to assemble all the pertinent facts concerning their participation in one section. In most cases efforts to create conditions amenable to girls' participation also provide a favorable environment for boys' participation.

REVIEW OF THE FINDINGS (1984 FIELD STUDY OF SIX VILLAGES)

Enrollment and Persistence

- Enrollment. More than 80 percent of older generation females and 44 percent of younger generation females never enrolled in school.

- Persistence. Of the 19 percent of older generation females enrolling in school, 18 percent dropped out before completing grade nine. Of the 56 percent of younger generation females enrolling, 42 percent are currently enrolled, 11 percent dropped out, and three percent completed grade nine. Once girls enroll, approximately 80 percent in the appropriate age range complete grade three, 60 percent grade 6, and 30 percent grade nine.

- Historical changes. Female enrollments in the older generation maintained a fairly constant level over a 40 year period. In the younger generation advances have been rapid up until the last two years when over 90 percent of the appropriate age groups in the sample have enrolled in first grade.

- Comparison with males. Female enrollments are roughly half those of males in the younger generation. As a proportion of those enrolled, however, females' rates of dropout do not differ substantially from those of males overall but they do increase more rapidly as girls' ages rise. About half as many females as males complete grades three and six and less than a third as many complete grade nine. For boys a high percentage of those who complete grade six complete grade nine but this is not true for girls. Girls are absent at the same rates and for the same reasons as boys and are retained at the same rate.

129

Factors Affecting the Educational Participation of Girls

- Parent-identified factors. In the older generation, lack of accessible facilities was the major reason for not enrolling, while the second major reason was social norms. In the younger generation lack of someone to accompany the child and the high cost of schooling were the primary reasons for not enrolling. Girls dropped out in the older generation mainly because of social norms and in the younger generation because the family needed their work.

- Independent variables. Female rates of enrollment and dropout are consistently related to household income level, rising as the household economic level rises, and showing a stronger relationship than for males. Male levels of dropout reverse the girls' trends and decline as income level increases. Female rates of enrollment decline more rapidly as the distance increases between home and school and show again a stronger impact than for males. Distance only weakly affects dropout levels. Crowding tends to affect girls more than boys if parents and authorities give preference to preserving places for boys. Occupational models in villages where 90 percent of women engage in housekeeping do not encourage girls to find education relevant. The accepted pattern in the village of women's workplace being the home causes girls to seek limited goals within what the community offers.

Perceptions and Other Factors Affecting Girls' Participation

- Television programs have demonstrated strong support for girls' education. Most parents now express a belief in the importance of girls' education and increasingly say they want their girls to work toward occupational and educational goals similar to those they expect for their sons. Behavioral evidence, however, does not show that girls have actively sought these goals as yet.

- Having little or no education themselves, the mothers of most girls provide poor examples for the necessity of education, are unable to help children with their homework, and generally lack understanding of the conditions necessary for a girl to do well in school.

- Increasingly as men want educated wives, parents are more likely to encourage girls to extend their time in school. When education is seen as enhancing the marriageability of girls, it will be viewed as more relevant.

- The migration of men for work has broadened some women's roles in household management and income-generating activities and sometimes broadened the males' perceptions about education for girls.

CONDITIONS CONDUCIVE TO THE EDUCATIONAL PARTICIPATION OF GIRLS AND BOYS

From the evidence, new schools will have the greatest influence on children's educational skills if efforts are exerted to improve the following, in priority order:

- girls' initial enrollments: once girls are enrolled the large majority complete levels that would provide them with basic literacy skills;
- girls' and boys' persistence to the end of primary level: grade five is a particularly vulnerable period for both sexes;
- girls' and boys' persistence to the end of preparatory level.

INCREASING GIRLS' PARTICIPATION

The two solutions that have been proposed to alleviate constraints on girls participation are the construction of female-only schools and the expansion of already existing one-to-six schools to schools with nine grades. The belief is that normative constraints on girls' enrollments will be resolved by the first solution and distance limitations will be reduced by the latter. Both solutions are complicated and their results likely to vary in different places. The following sections report the evidence to date of the intensive study on single-sex schools. None of the new schools has expanded to a full nine-year school yet, but some are beginning to include grade seven. Thus, it is not possible now to report the impact of the one-to-nine schools on enrollment levels. We hope to add more information during the next two data collections as it becomes available. The conclusions below are tentative and will also be expanded in the next two years as new information becomes available.

Female-Only Schools

In answer to our interview questions, parents responded that girls' educational participation would be increased if all-girls' schools existed even though, in the majority of cases, the same parents were sending their own daughters to mixed primary schools. Parents usually admitted that the absence of single-sex primary schools would in most cases not deter the enrollment of girls at the primary level. In most small rural communities it is uneconomical to consider separate girls' and boys' schools. This fact is reflected in the much larger number of these schools, increasing every year, that are

131

found in urban areas. In lieu of segregated facilities, administrators in rural schools frequently use measures such as single-sex classrooms or segregating girls and boys in different physical areas of mixed classrooms to cut down on the possibility of close contact between the sexes. Because of the crowded conditions in most classrooms where three, four, or more children often share desks, this avoidance of contact by segregating children in some way is deemed a necessity by most administrators.

Are female-only schools the answer to increasing the ratios of girls' enrollments at the primary level? Unfortunately, the new school in Beni Rafa, which is to be a case history of this phenomenon, has been delayed in opening for two years because of a construction dispute and will not open until the fall of 1985.

Beni Rafa was chosen as one of the two sites for the special study of factors affecting girls' education because of its special combination of characteristics. It is a relatively conservative town with a history of strong resistance to sending girls to school. In the 1983 field study, social norms were cited in the older generation at twice the rate (79 percent) in Beni Rafa as for any other village as the reason why females didn't go to school. In the younger generation only 13 percent cited the same reason, a level of response that in the 1983 field data was found in all villages. Even with this rapid change Beni Rafa parents still express strong reservations about girls' education. Only half of the girls in the younger generation sample enrolled in school and only 20 percent achieved age-appropriate grade level attainment. Girls' rates of enrollments in the six to eleven age group decreased in comparision with the next highest age group (12-14). Indicators that serve as proxies for how well a village's schools are doing show a certain stagnation in Beni Rafa. The girl's ratio of total primary participation stands at a low 22 percent, the first grade ratio at 27 percent (down from 33 percent the year before), and the sixth grade ratio at 14 percent.

Schools in the town are extremely crowded, which may be one factor constraining the growth of enrollments for both boys and girls. Boys' rates of enrollment at 81 percent of the appropriate-age children are the lowest of all the 1983 sites. But otherwise Beni Rafa has many of the conditions that favor high levels of enrollment. Schools are easily accessible, they have existed a long time in the community, school attendance areas are concentrated, and there is a great deal of contact with nearby urban Manfalut. Beni Rafa in itself may be considered a small town. Why then do Beni Rafa's educational indicators more closely resemble the expected levels of rural indicators? The answer is probably partly related to its occupational structure, which is heavily concentrated in farming, with only a small number of government employees. The town has moderately large levels of migration outside the village for work, also a phenomenon more prevalent in economically constrained rural than in urban communities.

Manfalut

Because of our inability to study the impact of the new girls' school in Beni Rafa until it opens in 1985, this year's field trip concentrated on a brief case history of primary schools in nearby Manfalut. Between 1982 and 1984, the authorities in this markaz capital have been transforming several of the mixed-sex primary schools into single-sex schools. In 1982 there were two boys' schools and nine mixed schools. By 1984 there were four boys' schools, three girls' schools, and five mixed schools. During this period the rate of girls attending girls-only schools rose from 0 to 62 percent (1,347 cases).

Over the three-year period, in Manfalut primary schools as a whole, the girls' ratio of total enrollment in first grade, however, dropped from 49 percent to 41 percent and then rose again to 43 percent, reflecting a net negative effect on rates of girls' enrollment compared with boys in the years the schools were changing to single-sex schools. In absolute numbers, girls' first grade enrollments increased by 15 students out of a total of approximately 400 students while boys' enrollments increased by 131 to a total of about 500 students. Thus, in first grade where the potential for impact is greatest, the availability of single-sex schools has not had a substantial effect on girls' enrollment in Manfalut while it has permitted a substantial increase in boys' enrollments. This effect can occur because as girls are withdrawn from mixed schools to schools where appropriate numbers of places are made available to them, they leave behind a number of places in the previously mixed schools to be filled by boys. These places, of course, can only be filled at the first-grade level if an enrollment pool of boys of the appropriate age level is available. The data from the Manfalut schools suggest that some sort of constraint on boys' enrollment was operating in this case, probably as a result of school crowding, that when released by the expansion of numbers of places available, resulted in this major flood of new male applicants.

At the sixth-grade level in the Manfalut primary schools, the change over the three-year period appears to be more positive for girls. Girls' rates of total participation increased from 39 to 46 percent with an increase of 36 students, while the number of boy students decreased by 33. It is possible therefore that single-sex primary schools may have greater holding power in the higher grades for girls. Since the new school in Beni Rafa will open in a smaller community but with some of the same operating factors as Manfalut, of relatively low boys' enrollments and a conservative attitude toward girls' schooling, it will be interesting to observe if the effects will be similar. The new school would be expected to affect the educational picture in two ways: first, to relieve pressure on the crowded system as a whole and consequently to allow boys' enrollments to rise equal to the number of places girls leave free; and, second, to assure a certain number of spaces for girls. It is difficult to predict whether girls' enrollments will increase substantially.

Female-Only Schools (Preparatory Level)

Do female-only schools increase enrollments and persistence at the preparatory level? Parents overwhelmingly believe this to be true, but again in some cases they are willing to send girls to mixed preparatory schools when these are available locally. Distance to the school appears to be a significant factor at this age level as the following case study will demonstrate.

Ghaneyem

Similar to Manfalut at the primary level, Ghaneyem township experienced a three-year period when preparatory schools were transformed from mixed to single-sex schools. In 1982-83 there were two mixed preparatory schools, in 1983-84 there were two boys' schools and one girls' school, and in 1984-85, a new mixed preparatory school was added in the nearby village of Azaiza. In 1982, girls made up 17 percent of total enrollment and by 1983 when the preparatory school became single sex, girls made up 18 percent of total enrollments.[11] In those two years, the girls' ratios of seventh grade enrollment (where the greatest impact is expected to be felt) dropped slightly from 18 to 17 percent while ninth grade rates rose from 14 to 18 percent. Thus, the impact of changing to single-sex schools on initial and overall ratios of enrollment is negligible. In absolute numbers, only 7 girls were added to the seventh grade over the previous year's 84 students, which in turn had been an increase of 12 students from the year before. The boys' numbers increased in the same period by 81 students added to a total of 467 students enrolled in the previous year, which had been an increase of 43 students over the year before. Thus the absolute number of girls added to enrollments decreased from the previous year while the boys' numbers almost doubled.

At first inspection this evidence appears to show the weak impact of single-sex preparatory schools in holding and attracting more girls at this educational level. Certainly this effect can not be denied although again, as at primary level, in the highest grade there are encouraging signs that a greater number of girls may have persisted in the single-sex school over previous years.

If we look at other figures, however, we see that at the moment, because of the few girls who complete grade six, there is really little capacity to raise grade seven girls' enrollments. The figures are subject to a number of influences and are therefore only approximate but still give a general impression of conditions in Ghaneyem. In 1982-83, a year before the new girls' preparatory school opened, 96 girls and 508 boys were enrolled in the sixth-grade classes feeding Ghaneyem prep schools. By 1983-84, 84 (88 percent) of the girls and 467 (92 percent) of the boys (assuming no retentions in seventh grade or other sources of admission) went on to preparatory level. In sixth grade girls made up 16 percent of enrollment while in seventh grade they made up 17 percent.

In 1983-84, a year before the nearby Azaiza mixed preparatory school opened, 128 boys and 43 girls were enrolled in the sixth-grade classes that would feed that school. In the fall of 1984-85 when the mixed preparatory

school opened, 26 (60 percent) of the girls and 115 (90 percent) of the boys continued into the new school. Thus girls made up 25 percent of enrollments in grade six and a year later 18 percent of grade seven. Azaiza mixed preparatory school that first year had 18 empty classrooms but the primary level schools are extremely crowded with two shifts and eventually will probably support such a large preparatory school locally situated.

The mixed preparatory in Azaiza and the single-sex preparatory school in Ghaneyem both seem to have attracted approximately the same percentage of girls as a proportion of total grade seven enrollments. If we look, however, at the size of the sixth-grade applicant pool we see that there is a difference. The single-sex girls' school attracted a much higher proportion of the available pool than the mixed-sex school. One would have to say then, at the preparatory level in this particular township of Egypt, that single-sex girls' schools do attract a larger proportion of eligible girls to the seventh grade.

When the Azaiza mixed school opened about 60 girls from the new single-sex preparatory school in Ghaneyem transferred into grades eight and nine. Parents explained that to them the long distance the girls had to go to Ghaneyem, requiring paid transportation, was more of a disadvantage than attending a mixed school at this level.

The conclusion to be drawn from this section is that single-sex schools do not always have the positive effect on girls' enrollments anticipated. The effects probably differ for primary and preparatory levels and they seem to be more conducive to holding girls in higher grades than attracting them in early years. We will continue to seek evidence in subsequent field trips for the impact of single-sex schools on educational participation.

THE CONTEXT OF IMPACT

The purpose of this section is to develop indices for the context of educational participation so the qualitative impact of the new schools can be evaluated with greater accuracy. The addition of a specified number of students to a first grade class in one location, for example, may have a qualitatively different effect from the addition of the same number of students in another.

From the community sample, we now know that boys' levels of enrollment in the first grades of primary schools are reaching close to 90 percent or more, or close to the saturation point of total-age group. Residual male children are difficult and costly to bring into the school system, for their resistance is usually due to economic, health, or other hard-to-remedy factors. Boys' levels of enrollments, therefore, can be considered an optimum level against which to measure the success of program impact on the major unenrolled population of girls.

In selecting indicators, we have chosen ones that are readily available to anyone attempting to locate school facilities in rural areas of Egypt. The community study has shown that they generally reflect the level of educational participation and the rapidity with which rates of participation change.

INDICATORS

To assess the qualitative impact of new school facilities, it is useful to know:

- whether the village may be classified as urban, rural, or mixed (see First Annual Report or appendices to this chapter for details on the relevent factors in these environments and how they affect educational participation);
- the trends in girls' ratios of total enrollment in comparison schools over time; and
- girls' ratios of enrollments in first and sixth grades in comparison schools over time.

The first measure gives a rough indicator of whether conditions in a village have been generally favorable to educational participation. The second and third define expected levels of participation and show the trends in force before the advent of the new USAID-funded school.

In the case illustrations below, the comparison schools selected are of two kinds: a big city school system (usually in the markaz capital) that shows the optimum[12] levels of educational participation that can be found in the region and a comparison school that is located nearby in similar socioeconomic surroundings to the new school. The local comparison school provides a rough baseline from which to assess the magnitude of USAID-funded schools' impacts on educational participation in a specific locale. It would be very unusual for a new school to achieve the ratios of girls' enrollment that the big city school shows and much more likely to demonstrate similar levels to the comparison schools.

The big city school and the local comparison school delimit the range within which first grade enrollments of the new school should fall if there is to be a positive impact. However, if a new-school village has experienced difficulty in access to schools in the past, it may continue to show lower levels of sixth-grade enrollment than the comparison schools for some years to come. First-grade enrollments are, therefore, most sensitive to current parent-sending strategies, and sixth-grade enrollments[13] to those strategies that were prevalent before the new facilities existed.

For convenience, girls' rates of educational participation in the 40 percent range will be considered high, in the 30 percent range moderate, and anything less than 30 low. The brief analysis below will give examples of villages in different participatory modes and begin to show, where that is possible, whether initial student enrollments in the new school are greater or less than would be expected in a given environment. From the community study data we will also point out particular features of the village context that may have accelerated or impeded the increase in educational participation.

Figures I-19 through I-28 chart the village patterns for the ten villages. Manshiya, Khutaba, and Beni Rafa comparison schools demonstrate typical rural patterns where there is a large difference in the rates of participation at all grades between local schools and city schools. Kafr Nekla has the strongest urban[14] pattern with girls' rates of participation high in all grades. Nag Dahi and Monshat il Awkaf show mixed patterns where recent rapid increases in girls participation are only now reaching levels that are distinctly similar to city schools. Nag il Harif and Nag il Taref demonstrate mixed patterns also but the increase in girls rates of participation as yet have not reached urban levels (see explanatory notes below). The site contexts, therefore, may be considered as steps on a progressive scale toward universal enrollments with rural sites the lowest; next, a mixed-no-longer-rural category; third, a mixed-almost-urban group; and finally, at rates approaching city schools, an urban category of village. Roda and Ghaneyem sites with preparatory-level new schools are considered separately.

Assessment of the new schools' impact so early, when schools have been opened only a year or less, is risky for several reasons. First, there may be a "honeymoon" effect that creates larger enrollments in the first year. Girls' enrollments may be abnormally high because, knowing of the advent of the new school, parents may have held off registering their daughters for a year until they were able to attend the local new school. In the first year, enrollments may not yet have stabilized as school districts are reshuffled to allow students to transfer into the new school. Finally, parents with children already attending distant primary schools may register girls in the new local school and let boys continue in the well-established school until they are certain of the quality of the program in the new school. All these possibilities would tend to elevate girls' ratios of enrollment. The following comments are tentative and preliminary, therefore, and will be updated in succeeding reports. Table I-24 summarizes the differences between girls' ratios of enrollments in new-school sites and comparison schools. Below are narrative comments and specific data for the individual sites.

Table 1-24: Summary Table for Girls' Ratios of Enrollments in Ten New-School Sites

SITE	NEW SCHOOLS' RATIOS IN RELATION TO COMPARISON SCHOOLS		
	Grade 1 or 7	Grade 6 or 9	Total Enrollment
Manshiya	higher	lower	higher
Kafr Nekla	lower	lower	lower
Monshat il Awkaf	same	higher	higher
Roda (Prep.)	higher	lower	lower
Nag il Khutaba	higher	lower	higher
Nag il Harif	higher	lower	lower
Nag il Taref	school not opened		
Nag Dahi	lower	higher	lower
Ghaneyem*			
new girls' prep	slightly lower	higher	same
new mixed prep	same	higher	slightly higher
Beni Rafa	school not opened		

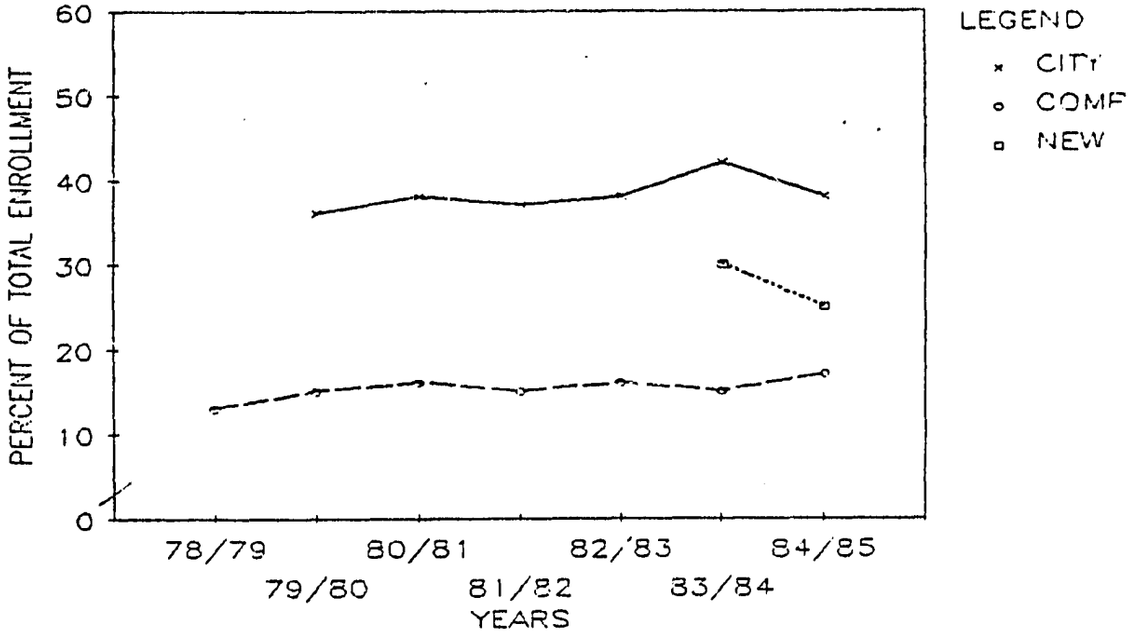
*Ghaneyem prep schools are evaluated against the trend since the new school is a single-sex school and therefore has to be considered in the context of all Ghaneyem prep schools.

CASE ILLUSTRATIONS

Lower Egypt

Manshiya (rural pattern). In a remote rural area of the Delta, with schools distant until the establishment of the new school, Manshiya's girls' rates of enrollment in the past have been exceedingly low. The comparison school shows that there has been little change in the ratio of girls' share of total enrollment for as long as data have been collected. Against this background of less than 20 percent girls' enrollments, the new school's grade one enrollments of 25 and 30 percent (almost double those of the comparison school) in the first two years of its existence are very encouraging. The sixth grade enrollment of 14 percent girls shows the Manshiya children's rates to be not unlike those of the comparison school, further supporting the assessment that grade one enrollments are high for the area. Full utilization of the new school will take time until enough children have stayed sufficient periods in the system to fill the higher grades. (See Figures I-19, I-19a, and I-19b.)

Figure I-19: Comparison Schools: Girls' Rates of Participation--Manshiya



139

Figure I-19a
Grade One

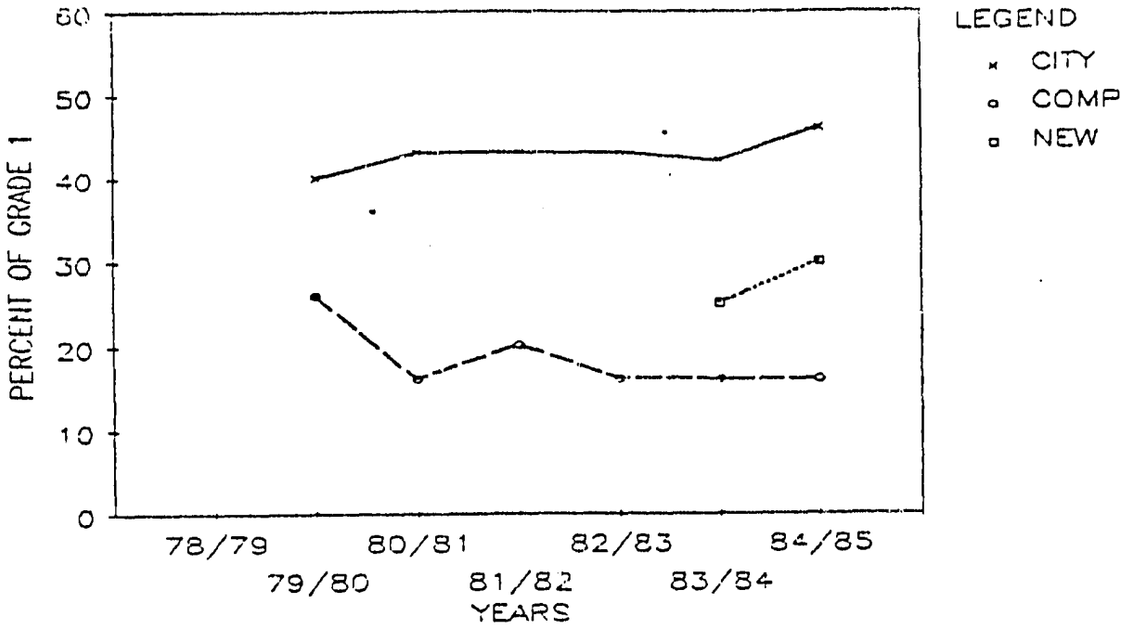
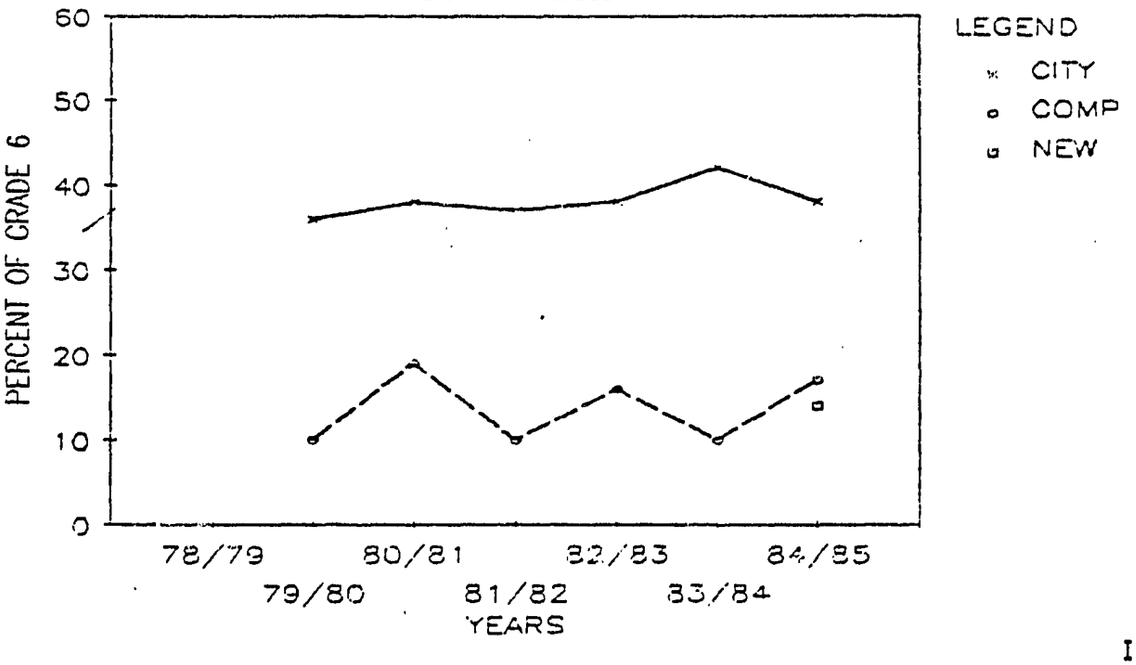


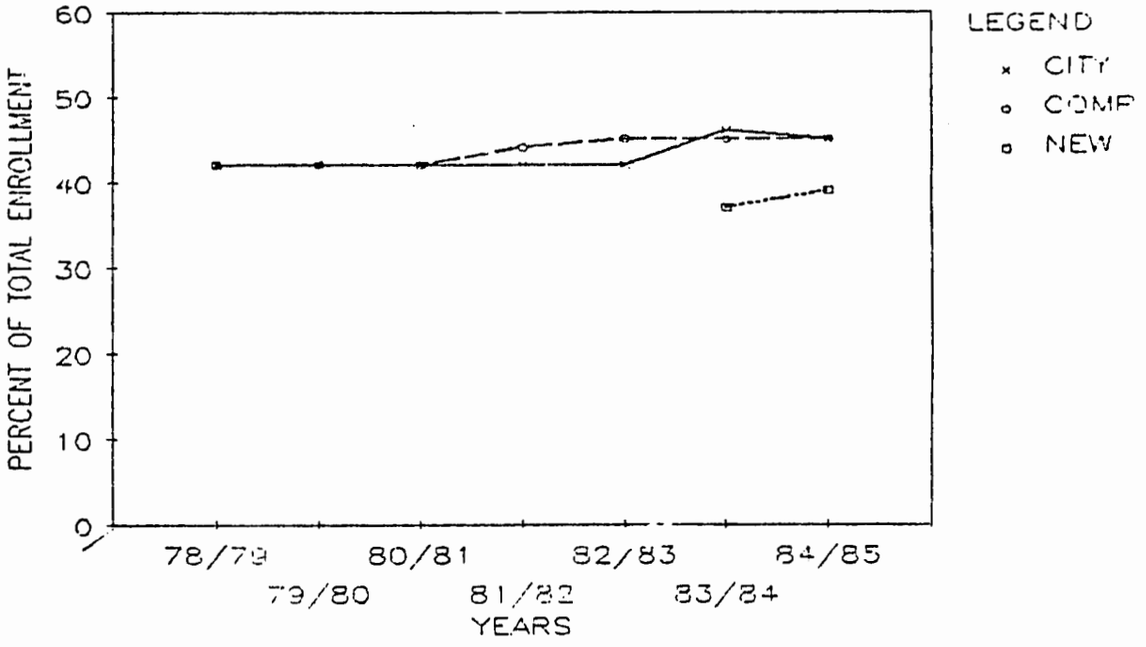
Figure I-19b
Grade Six



140

Kafr Nekla (urban pattern). This village stands about two kilometers from the urban area of Mahmudiya, along a dirt road that quickly turns to impossible mud in the rainy season. Schools, however, are generally available and high levels of the sample's younger generation have attended school. The city schools (considered as a whole here) and one urban comparison school (the closest to Kafr Nekla) have high rates of girls' participation. Because of its long-time access to nearby schools, one would expect in Kafr Nekla that the new school would attract only the residual children for whom the moderate distance to the older schools was too far. In fact, in the first two years of the new school, overall rates of girls' participation already have approached the city-school levels and grade one levels are as high as many of the urban schools. The grade six rates in the new school show the effects of distance and other factors on persistence previous to the opening of the school. One would expect, therefore, the new school's greatest impact to be on persistence in the school, so that girls' rates of enrollment in grade six would increase significantly in subsequent years. (See Figures I-20, I-20a, and I-20b.)

Figure I-20: Comparison Schools:
Girls' Rates of Participation--Kafr Nekla



141

Figure I-20a
Grade One

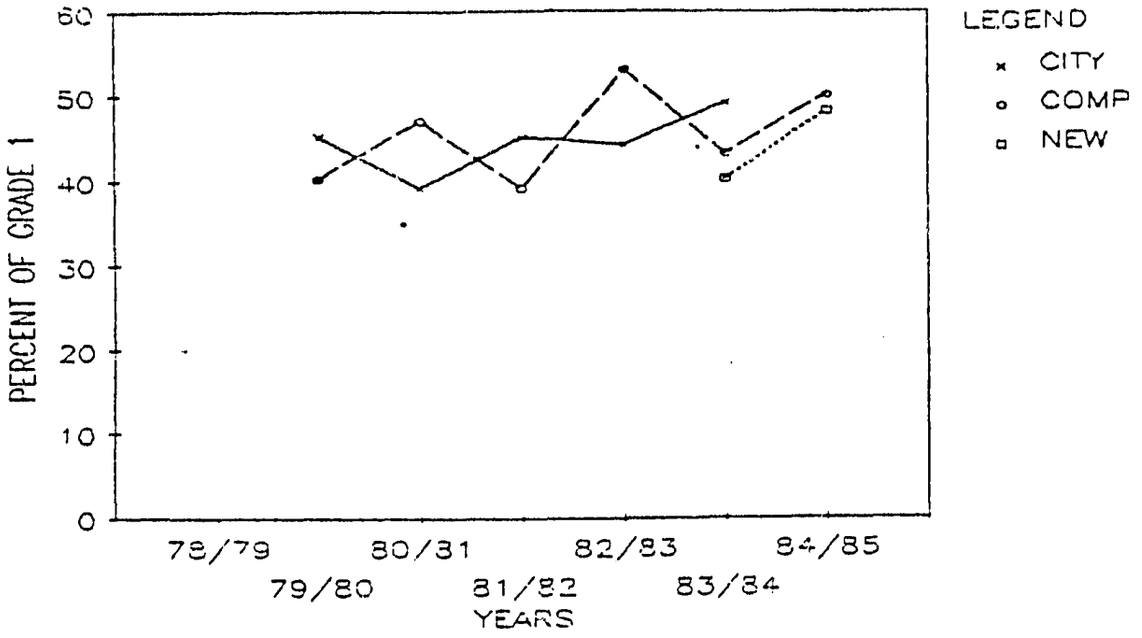
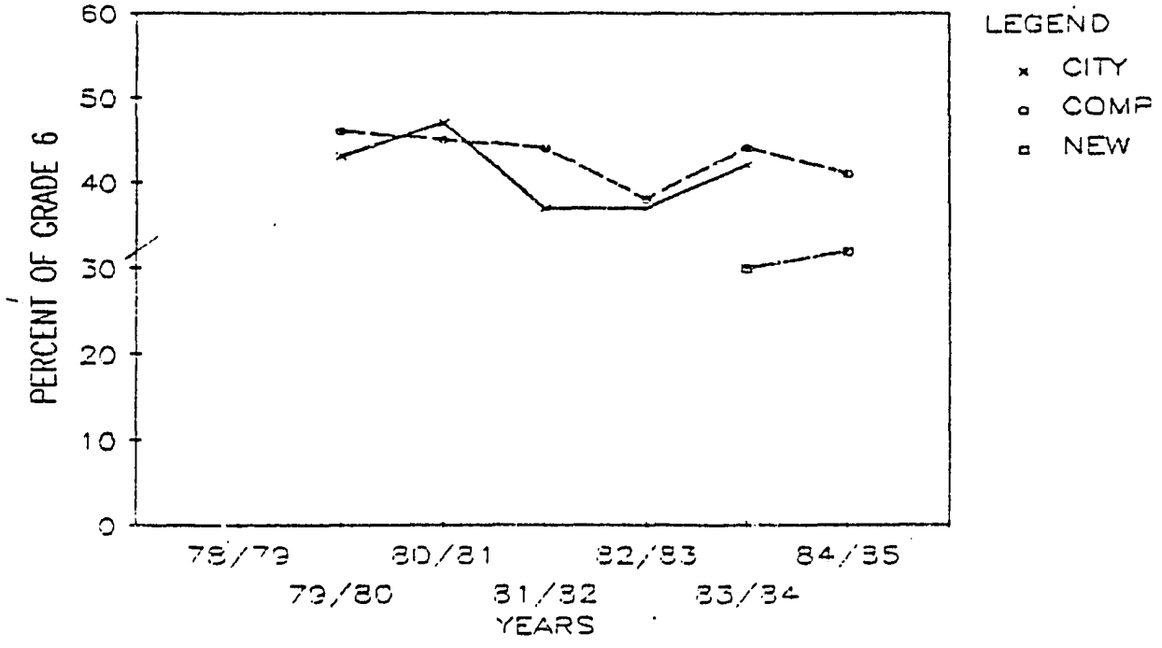


Figure I-20b
Grade Six



142

Monshat il Awkaf (mixed-almost-urban pattern). Near a city with high levels of girls' participation, Monshat il Awkaf overall has shown only moderate levels of girls' participation in the past because of the distance of primary schools from the village. In recent years, however, the girls' rates have been increasing rapidly. The high rate of grade one girls' enrollment, higher than for boys, confirms the backlog of girls waiting to enter school. The moderate showing in grade six indicates a need for the school to hold girls longer in the system, as well. Overall the new school in its first year has shown levels of grade one enrollment equal to the comparison school and surpassing that school at the grade six level. Future prospects are best for raising the rates of girls' persistence. Because of industrial opportunities nearby, boys' rates of persistence have also been low. The new school's accessibility is likely to result in boys broadening their occupational goals and staying in school longer. The new school has contributed to reducing crowding in neighboring schools, one of which has been reduced from double to a single shift. (See Figures I-21, I-21a, and I-21b.)

Figure I-21: Comparison Schools:
Girls' Rates of Participation--Monshat il Awkaf

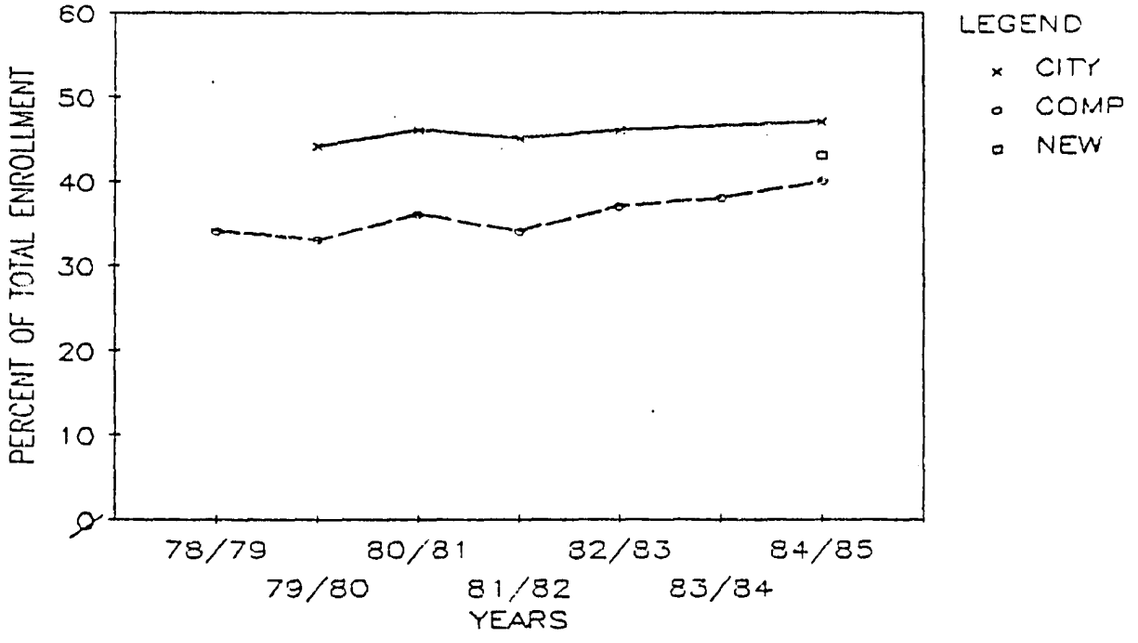


Figure I-21a
Grade One

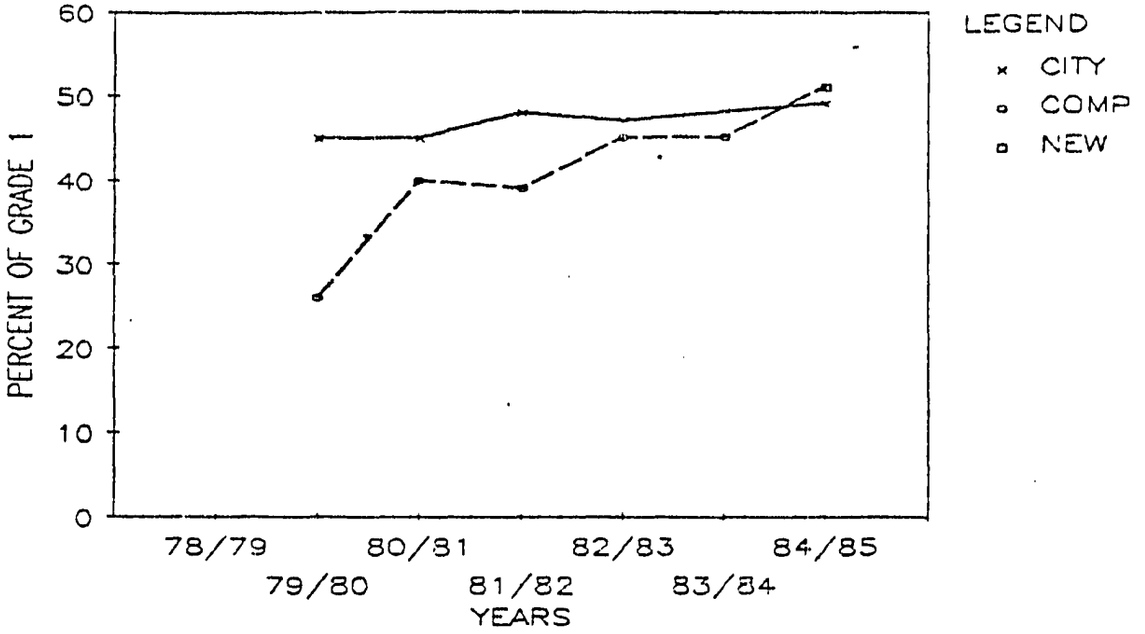
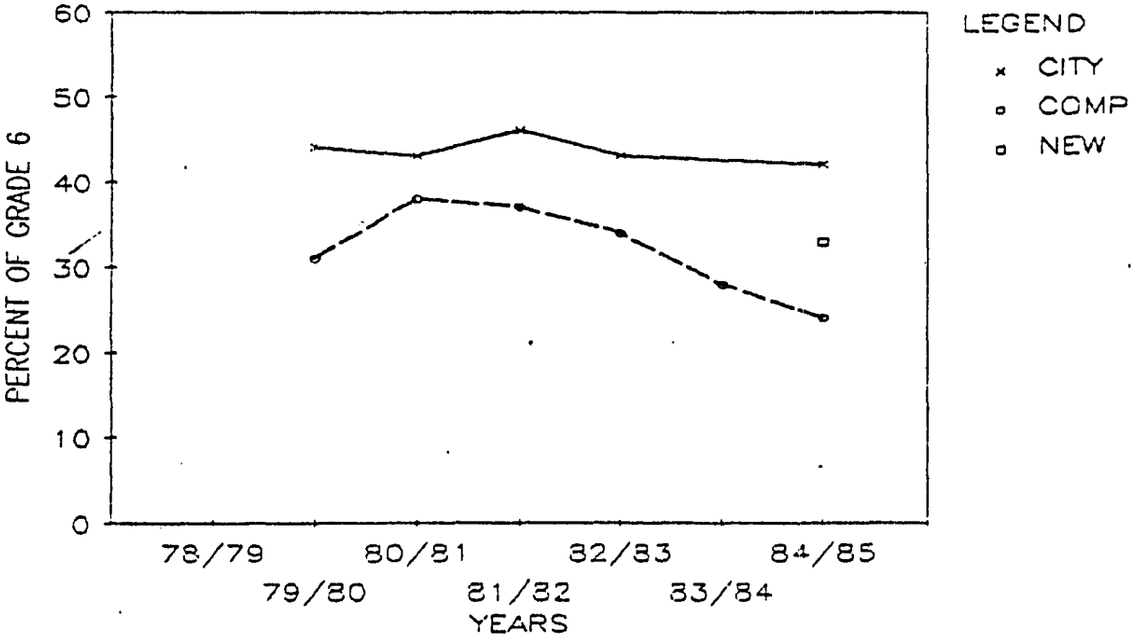


Figure I-21b
Grade Six



Roda (preparatory-level mixed school). In a remote reclaimed land area, Roda should be expected to have strictly rural patterns of enrollment and persistence were it not for the highly-educated settlers who came to homestead the original land parcels and who, since then, have encouraged educational programs in the area. At the primary level, Roda's local school and a nearby comparison school have shown moderate levels of girls' participation overall that, given the remoteness of the area and the dispersed nature of the school population, suggest good motivation of those who enter school to persist. In its first year, the new preparatory school exceeds the rate of grade seven girls' participation in the comparison school but falls well behind in grade nine registrations, suggesting Roda girls' participation has been constrained in the past by the lack of accessible facilities[15], rather than from lack of motivation to continue. The initial enrollments in grade seven are therefore impressive, given the previous difficulties in attending the preparatory level and lead us to expect to see grade eight and nine enrollments rise rapidly in the next few years. (See Figures I-22, I-22a, and I-22b).

Figure I-22: Comparison Schools: Girls' Rates of Participation--Roda

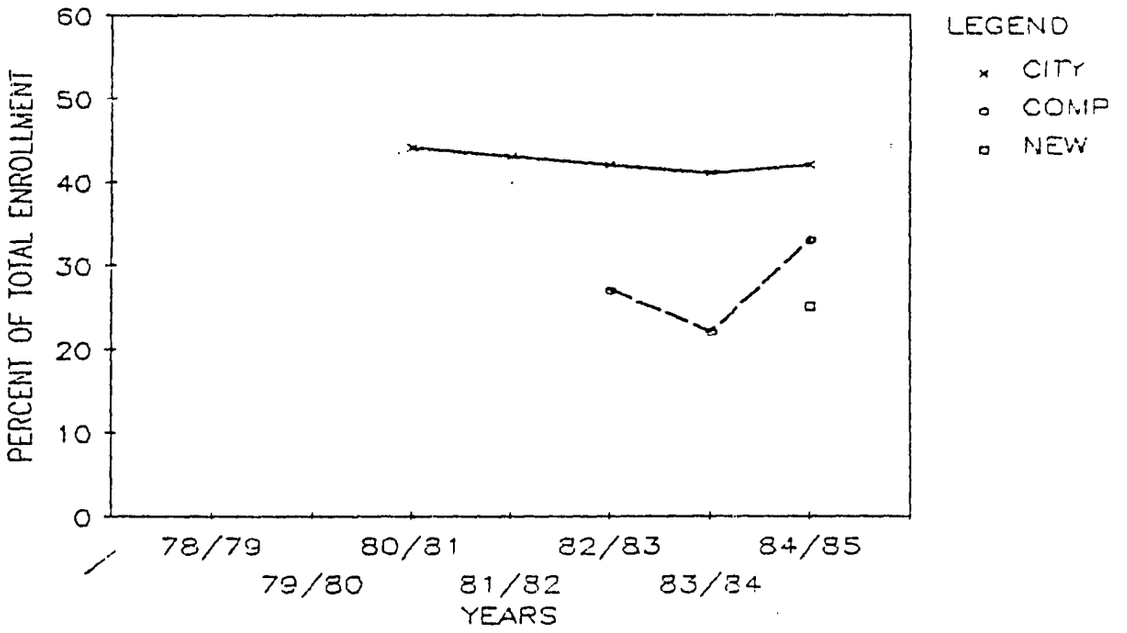


Figure I-22a
Grade Seven

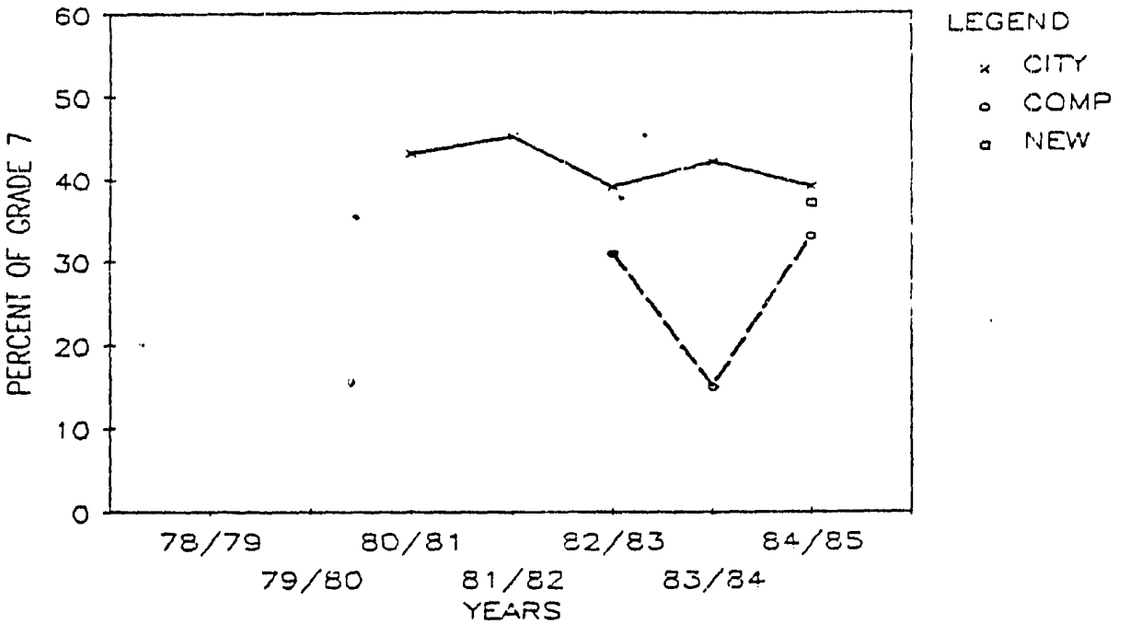
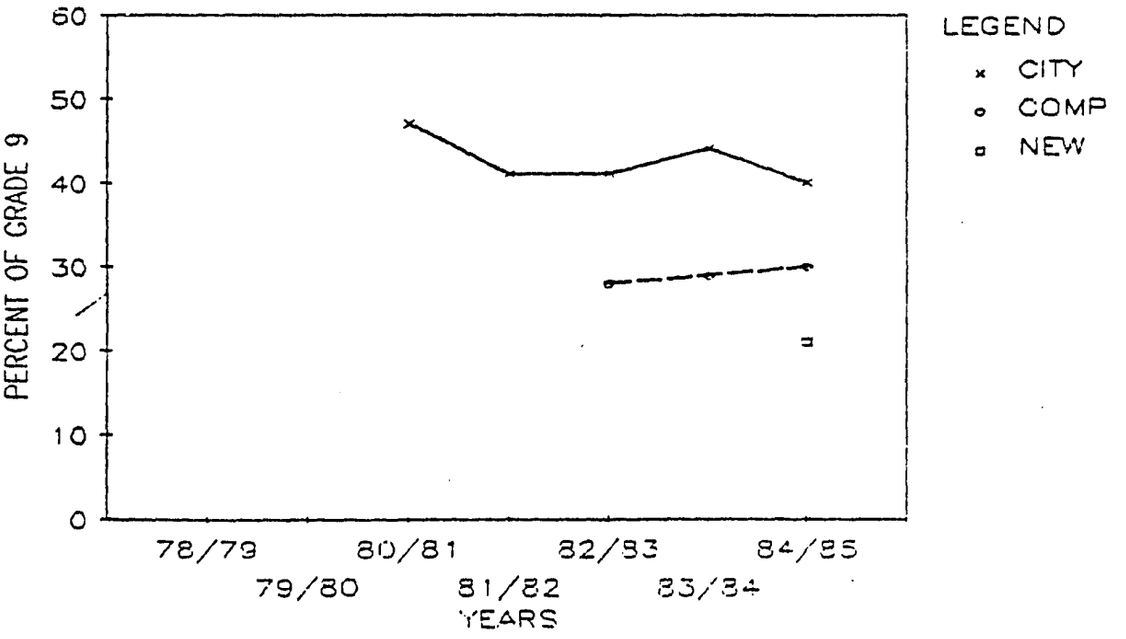


Figure I-22b
Grade Nine

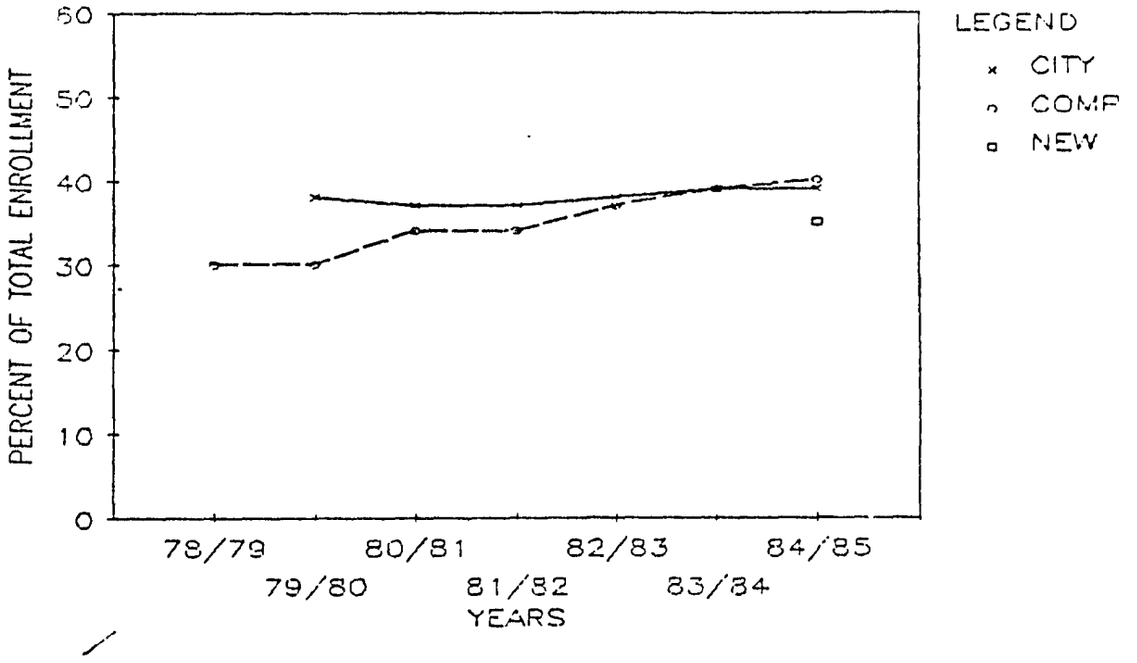


146

Upper Egypt

Nag il Harif (mixed-no-longer-rural pattern). Another rural village with moderately distant but accessible facilities in the past, Nag il Harif has had generally high levels of educational participation of males (93 percent of six-to-sixteen-year-olds) and relatively low levels of females (45 percent) with only moderate increases for the latter over the last two decades. This difference in the girls' rates is reflected in the rates of girls' participation in grade six which are lower than a nearby comparison school. The very high levels of girls' enrollments in grade one, however, show encouraging signs of change if they are maintained. (See Figures I-23, I-23a, and I-23b.)

Figure I-23: Comparison Schools: Girls' Rates of Participation--Nag il Harif



147

Figure I-23a
Grade One

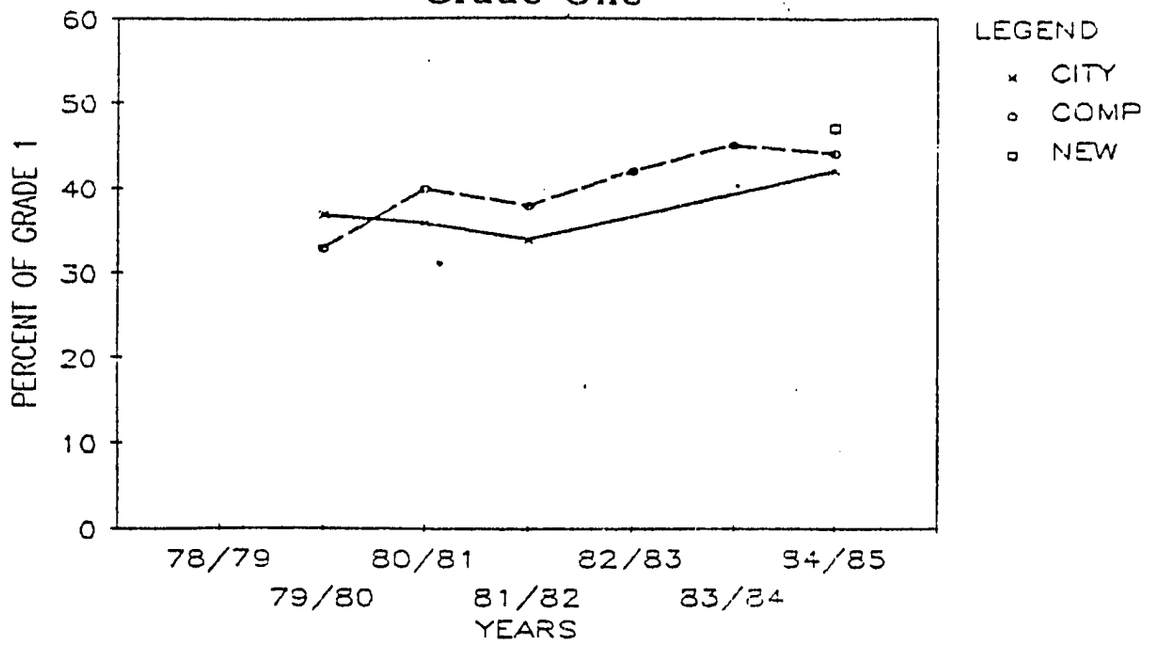
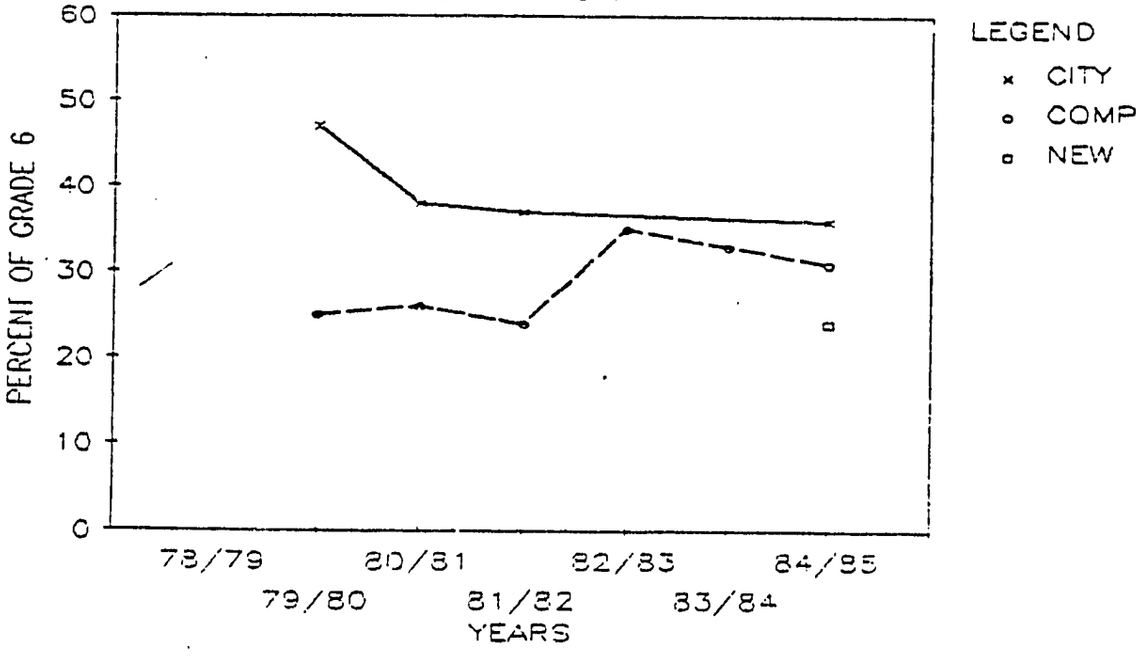


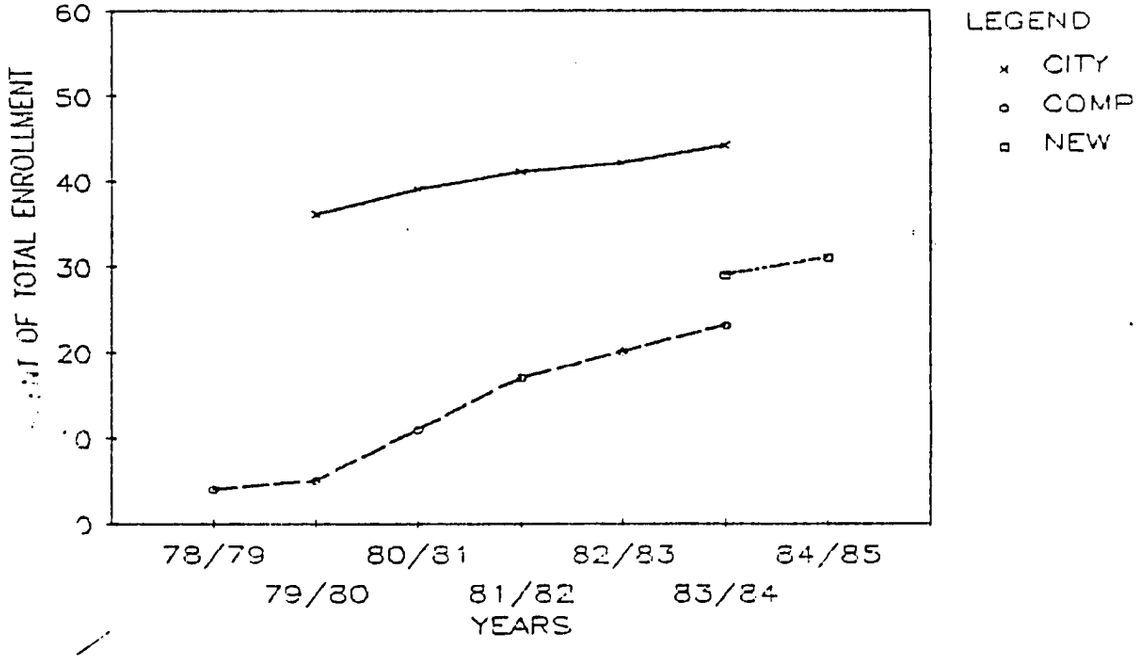
Figure I-23b
Grade Six



148

Nag il Khutaba (rural pattern). A remote rural area feeling the educational incentives of land fragmentation and recently enthusiastic backers of educational programs, Nag il Khutaba in the past has had low rates of girls' enrollments. This year's data show it to have the most rapid rate of increasing girls' enrollments at present of all the sites[16]. The new school in its first two years has shown an extremely good ratio of girls' enrollments, but in grade six, the rates still reflect the earlier disadvantaged position of the village. Note that the rate of increase parallels that of the comparison school, though at a higher level. (See Figures I-24, I-24a, I-24b.)

Figure I-24: Comparison Schools: Girls' Rates of Participation--Khutaba



149

Figure I-24a
Grade One

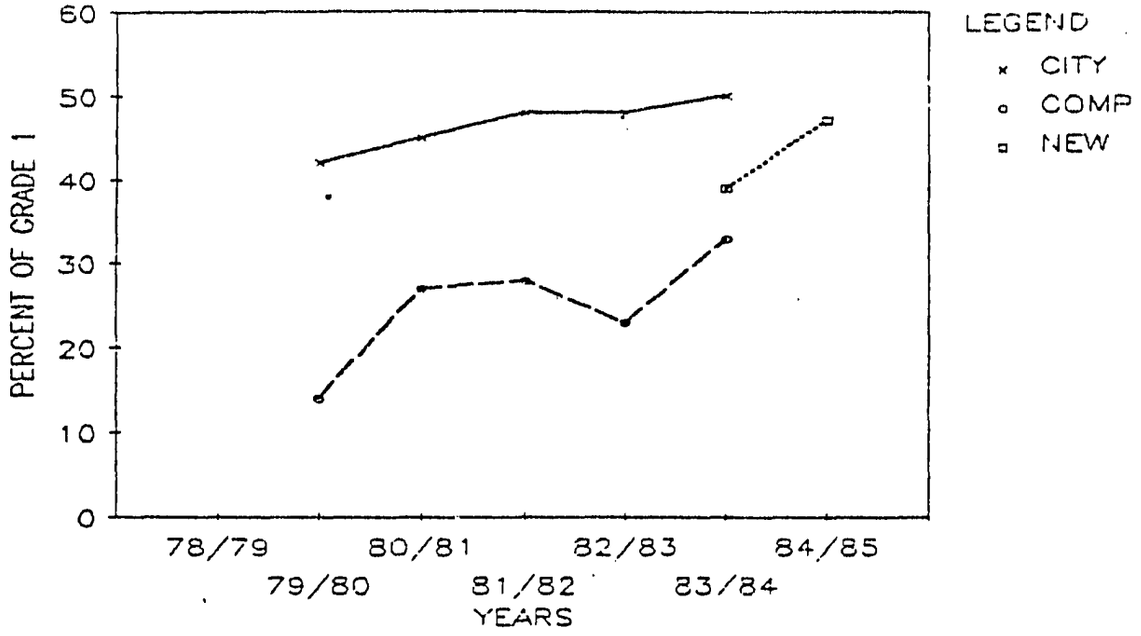
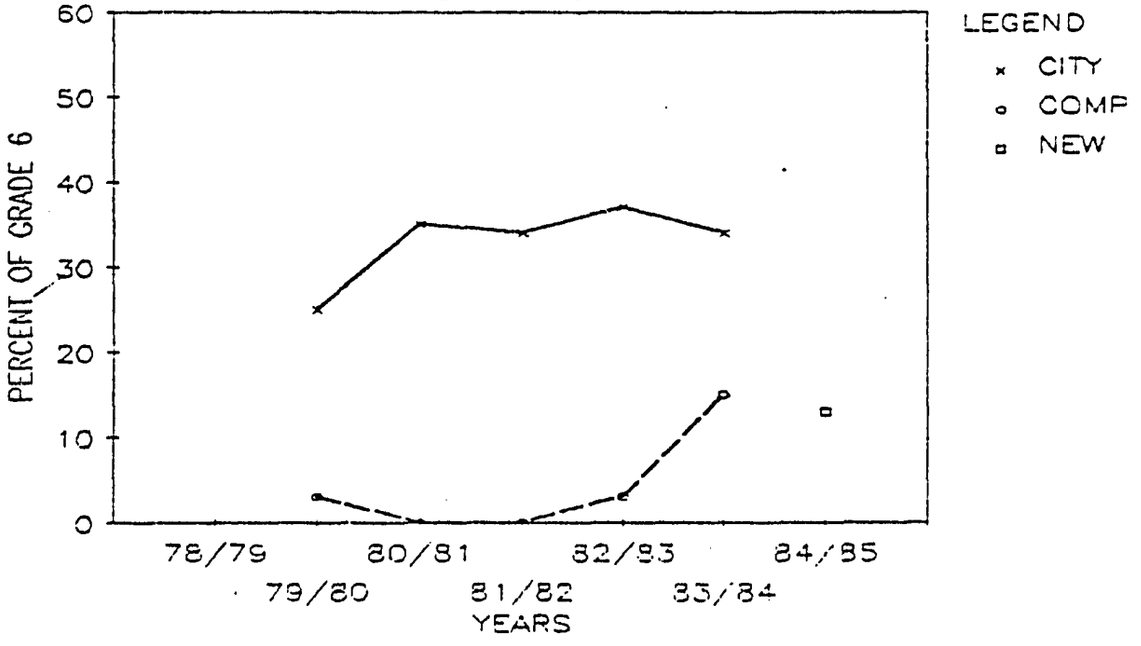


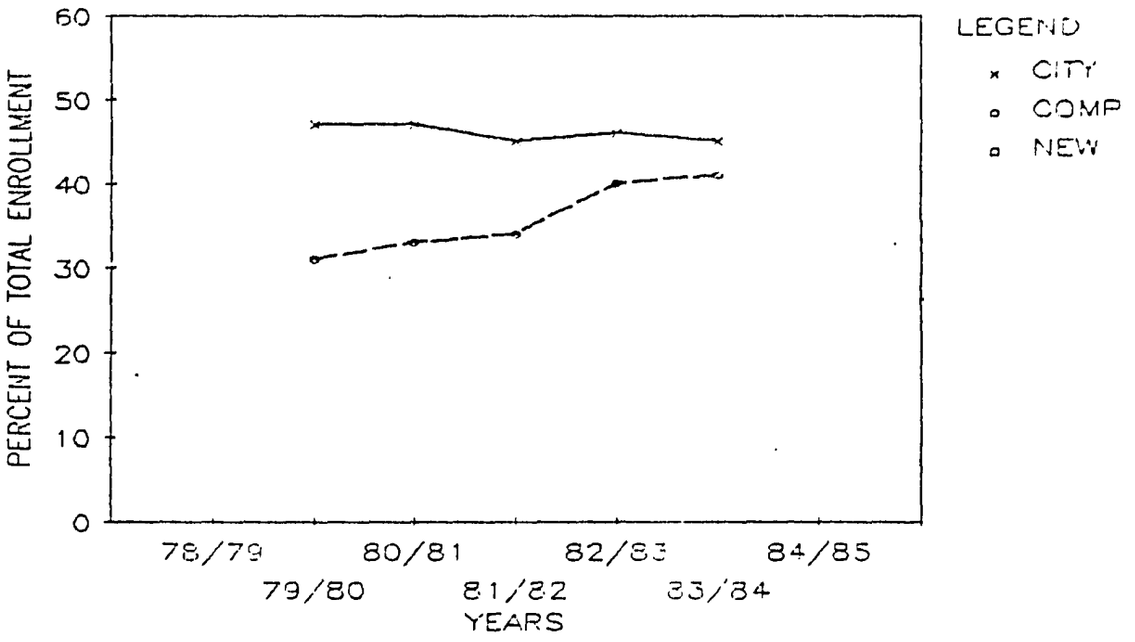
Figure I-24b
Grade Six



13

Nag il Taref (mixed-no-longer-rural pattern). Schools of the area show high levels of grade one enrollments for girls that appear to be a recent phenomenon from the low-to-moderate levels of grade six enrollment. The new school is not yet open but should be expected to continue the high rates of girls' grade one enrollment. From household evidence it is possible that the new school might also have a significant impact on girls' persistence in school if expanded quickly to the preparatory levels. The nearest preparatory school is in Luxor, about six kilometers away and requires commuting by car and boat. Few girls in this conservative area go on to preparatory level. (See Figures I-25, I-25a, I-25b.)

Figure I-25: Comparison Schools:
Girls' Rates of Participation--Nag il Taref



151

Figure I-25a
Grade One

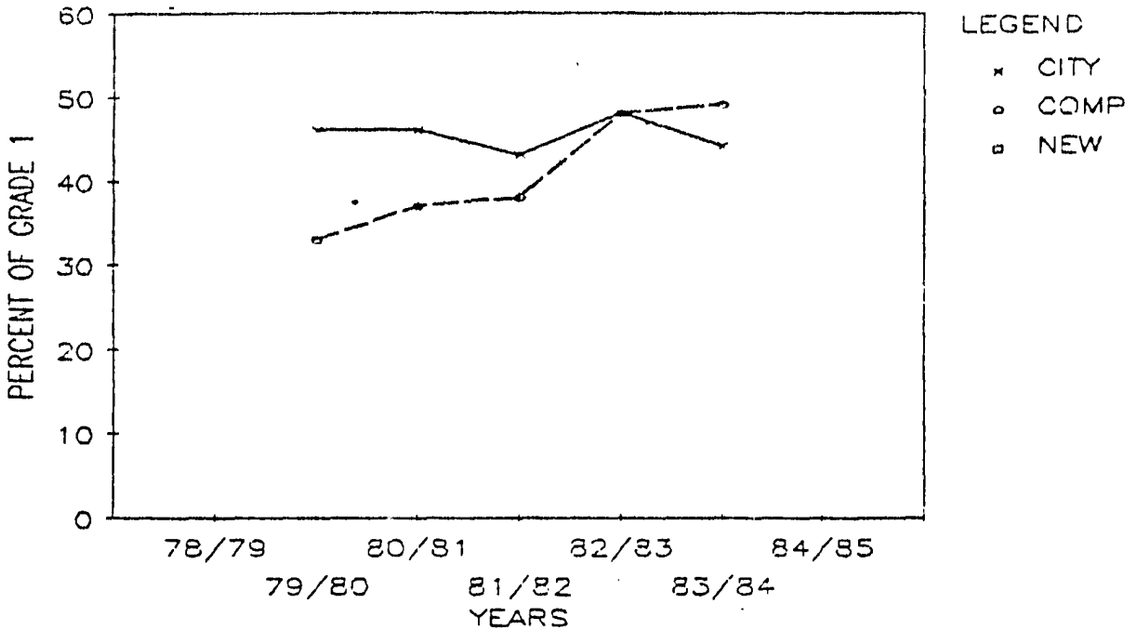
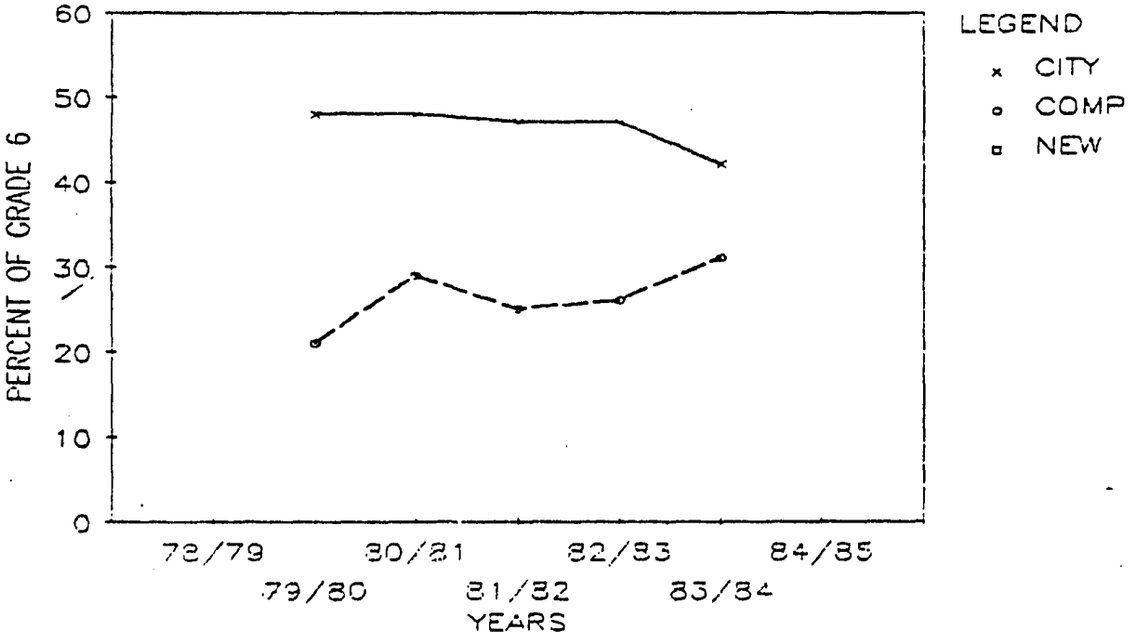


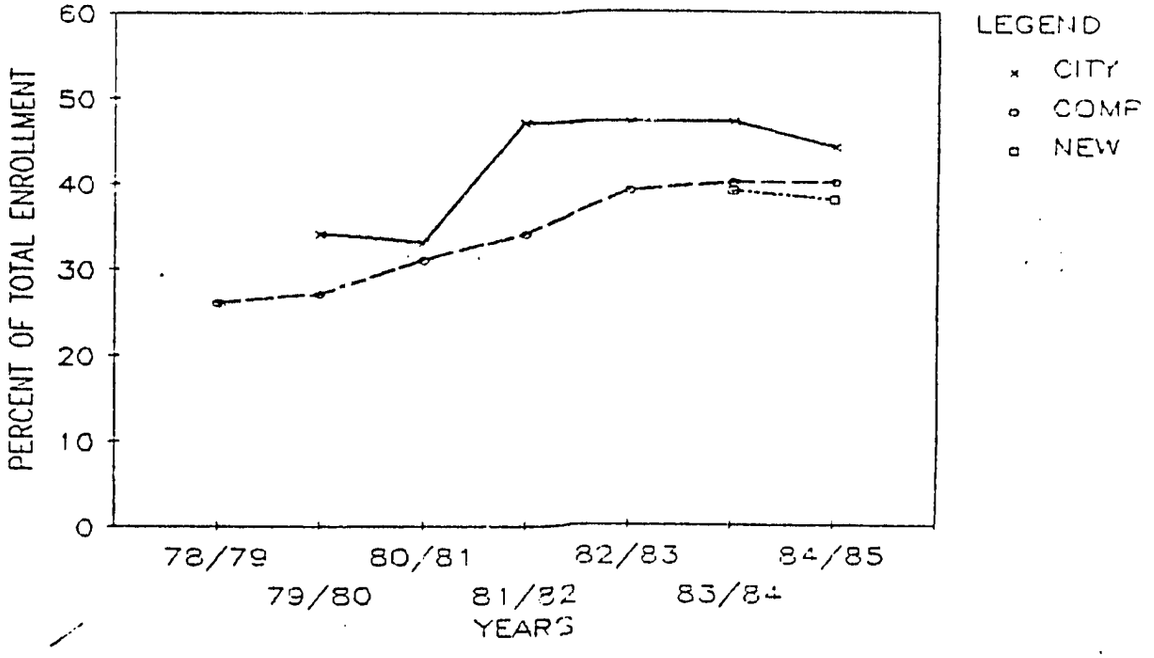
Figure I-25b
Grade Six



152

Nag Dahi (mixed-almost-urban pattern). Nag Dahi has had a record of fairly high girls' enrollments for some time, and in comparison with other sites has shown only moderate increases in their rates of participation in the last several years. Grade one rates of girls' enrollment in the new school were lower than the comparison school while grade six rates were higher. If these trends continue we would conclude that the Nag Dahi enrollments have peaked and the rates of girls' participation are stabilizing at a level of less than universal enrollment, perhaps because of the conservative attitudes toward girls found in the area. Again household data suggest that expansion of the new school to preparatory levels would significantly raise the levels of girls' persistence in school. Few girls at present go on to preparatory schools in neighboring villages even though as we have seen increasing ratios of girls persist to grade six levels. (See Figures I-26, I-26a, I-26b.)

Figure I-26: Comparison Schools: Girls' Rates of Participation--Nag Dahi



153

Figure I-26a
Grade One

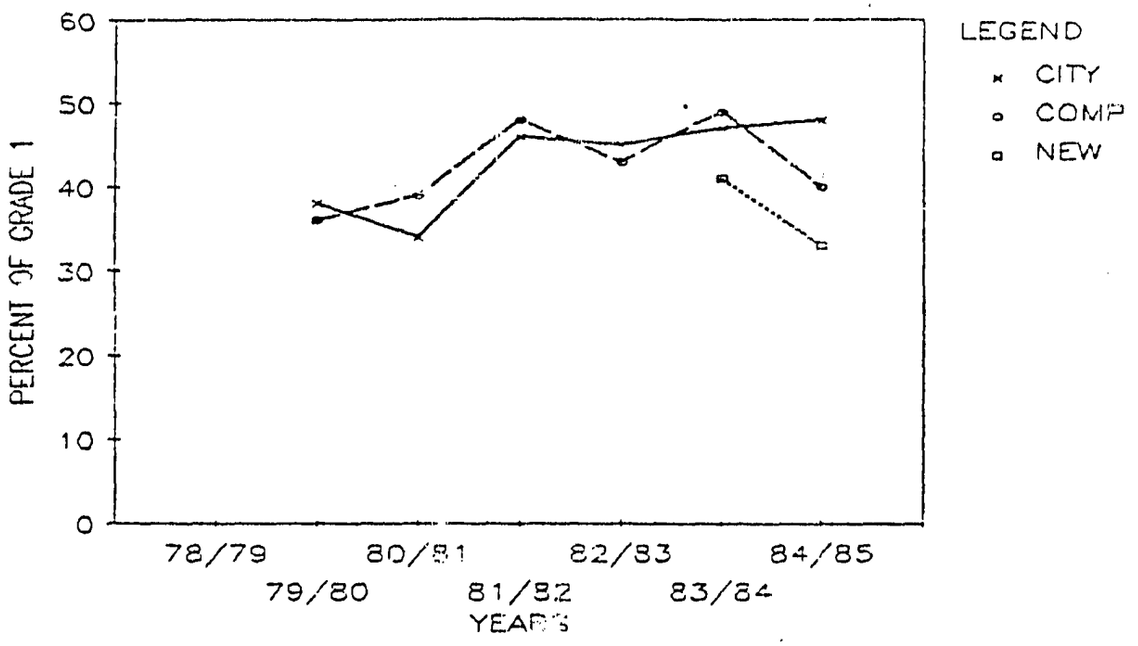
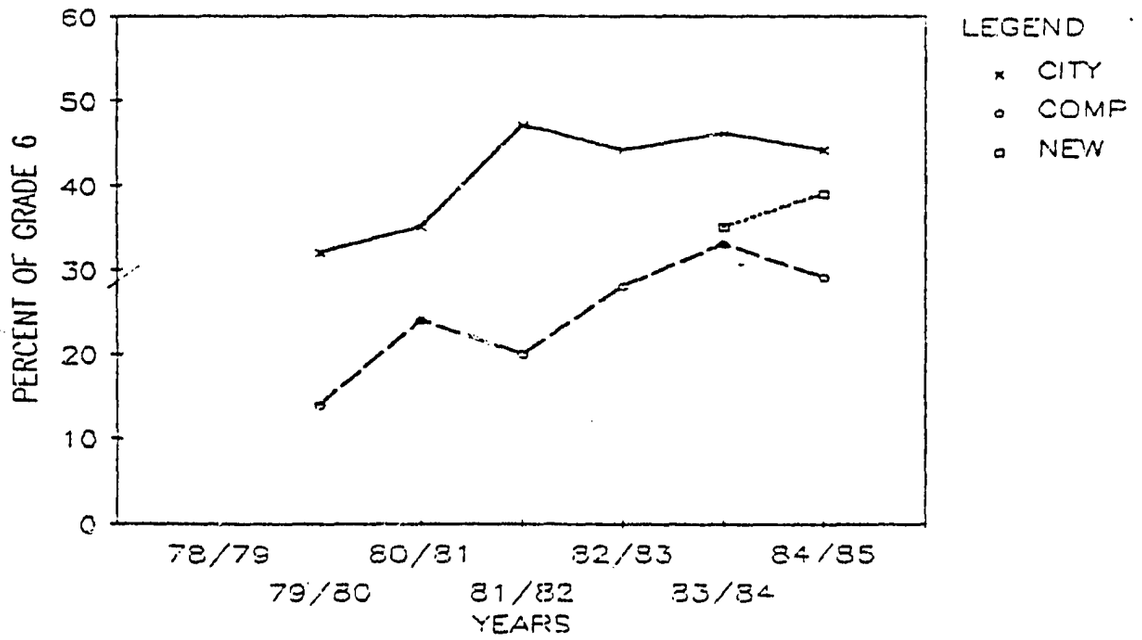


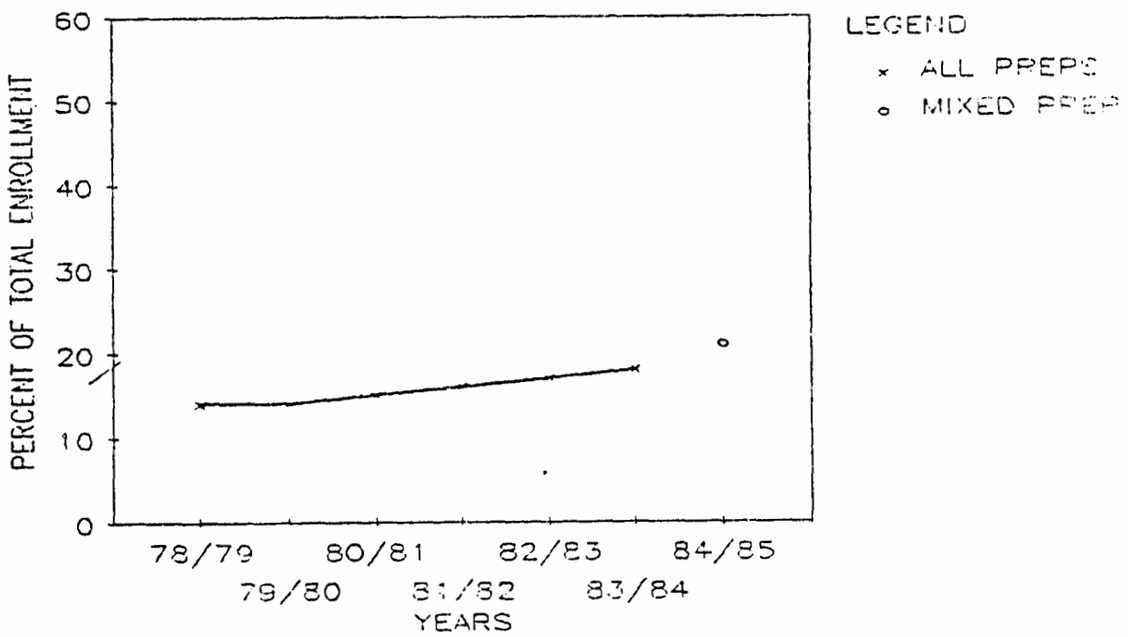
Figure I-26b
Grade Six



Ghaneyem (preparatory level all-girls' school). At the primary level, Ghaneyem schools have had moderate rates of enrollments for girls over the last decade without dramatic increases. The much lower rates of girls in grade six compared with grade one show the high dropout rates (grade six rates, however, do not differ substantially from girls' rates of participation at preparatory level). Figures I-27 through I-27b show girls' ratios of participation in Ghaneyem city preparatory schools as a whole.

A newly opened mixed preparatory in nearby Azaiza is used for comparison. Note that in 1983-84 when the new preparatory school for girls opened in Ghaneyem, there was no perceptible change in girls' rates of total preparatory enrollment. There was, however, a decrease in the rate of grade seven enrollment, an indicator like grade one enrollments, that often shows the greatest immediate effect of a new school. Grade nine girls' rates of enrollment were higher after the new school opened suggesting that the new school has had a greater impact on persistence in the preparatory system than on entry into that level. Authorities are considering opening a primary section in the school--which may be a good idea given the apparent lack of persistence of Ghaneyem's girls to the end of primary level. Grade seven enrollments have a capacity to expand that is in part dependent on the size of the pool of grade six graduates. (See the case illustration under the section on girls' participation.)

Figure I-27: Comparison Schools:
Girls' Rates of Participation--Ghaneyem



155

Figure I-27a
Grade Seven

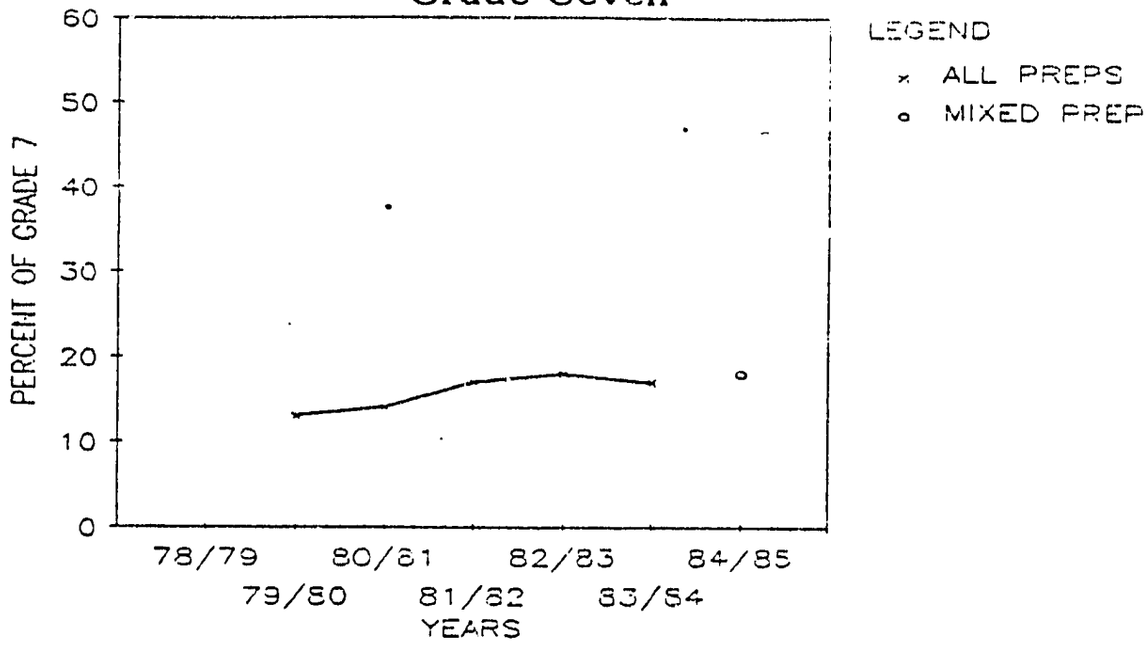
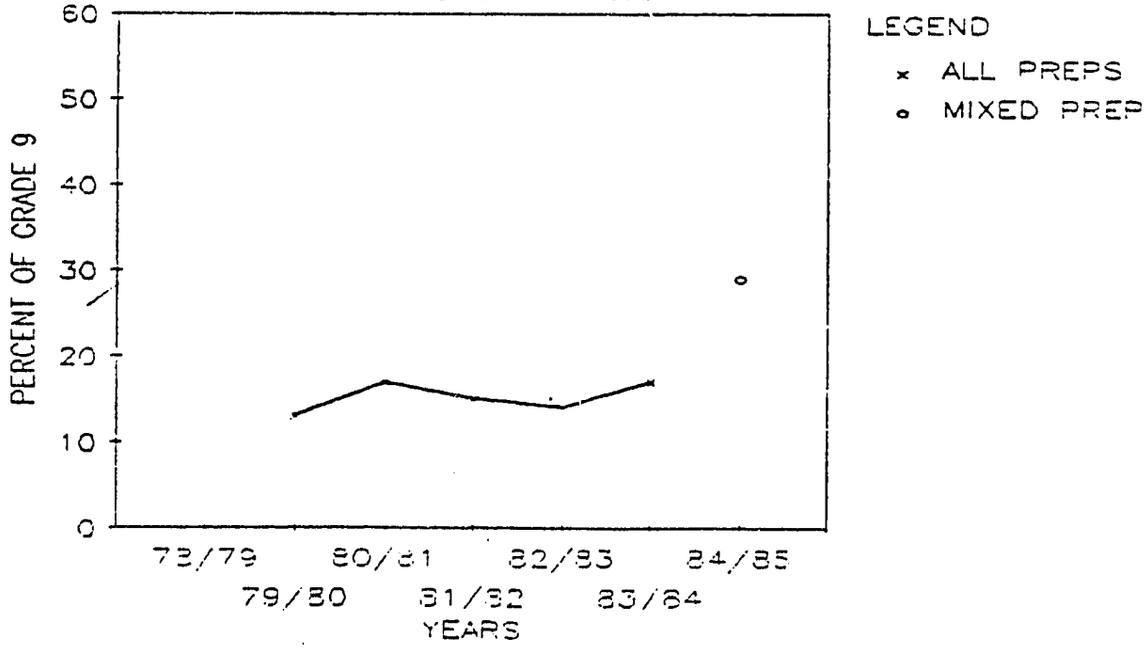


Figure I-27b
Grade Nine



150

Beni Rafa (rural pattern). Mixed-sex primary schools have been easily accessible to girls for some time in conservative, mostly agricultural Beni Rafa, yet girls' rates of enrollment have been consistently low in all grades and at both levels of Basic Education. People believe the new single-sex Basic Education school that will open in 1985 will change this situation. (See Figures I-28, I-28a, I-28b and the case illustration under the section on girls' participation.)

Figure I-28: Comparison Schools: Girls' Rates of Participation--Beni Rafa

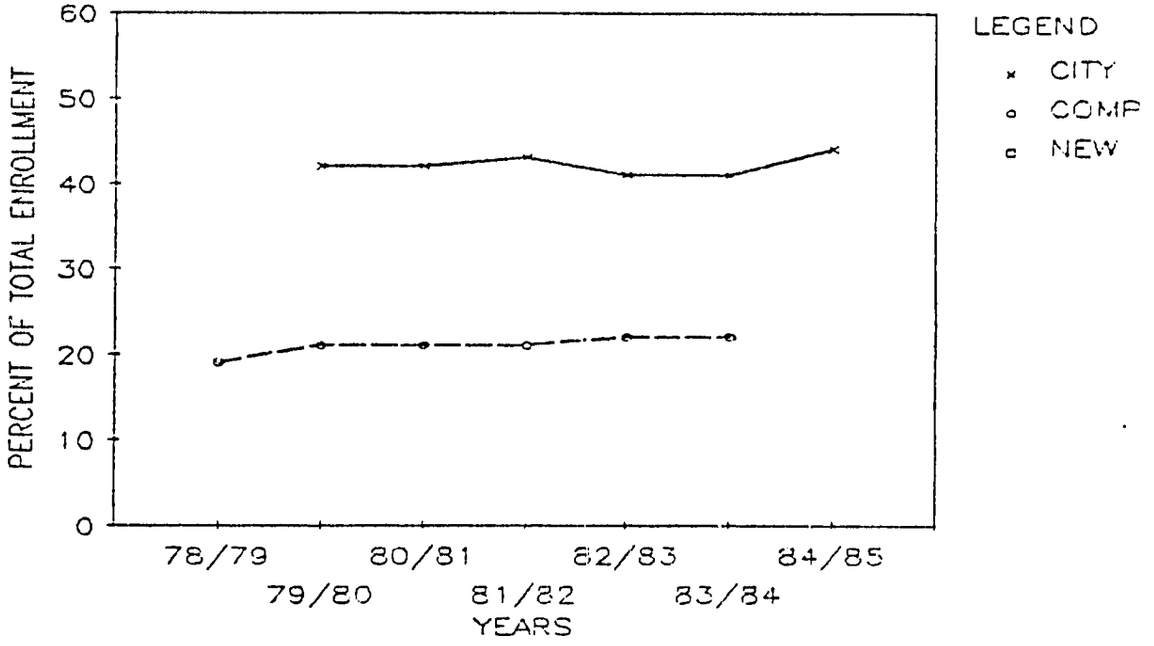


Figure I-28a
Grade One

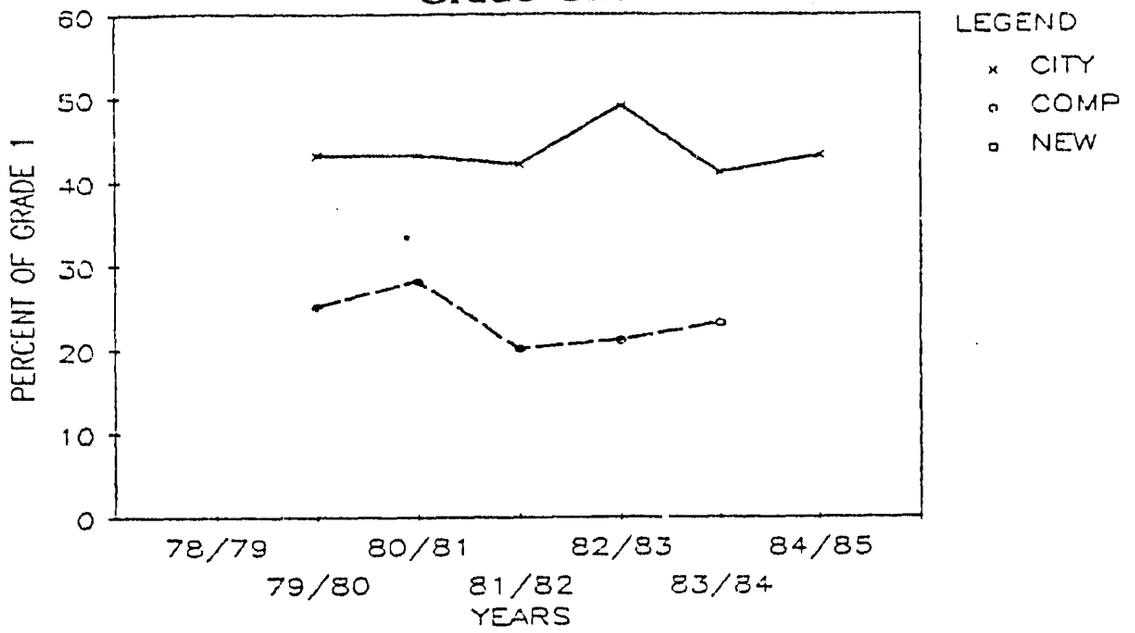
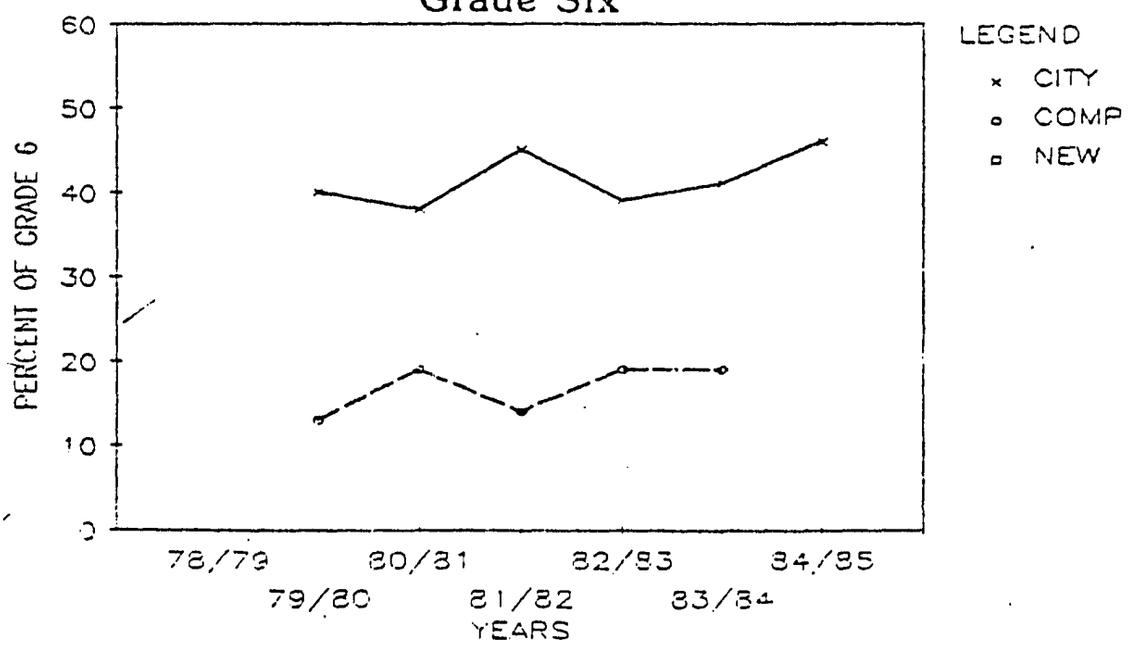


Figure I-28b
Grade Six



158

This section has described a range of enrollment patterns found for girls in rural Egypt. Boys' rates of enrollment in all the sample sites have reached close to universal levels making them a convenient benchmark against which to measure participation. We have used the terms "rural" and "urban" patterns as a convenience to describe the trends we see even though these trends do not always directly coincide with the urban and rural classifications by which we selected sites. A classic urban pattern found in almost all major cities of Egypt is for girls' rates of total enrollments to approximate those of boys; a classic rural pattern is one where there is a significant difference between them. This section has shown the pattern of the nearest city school system and a local comparison school to assess where the region stands along this urban-rural continuum.

THE NEW SCHOOLS' ABSOLUTE IMPACT ON SAMPLE ENROLLMENT

Table 1-25 shows the actual numbers of age-appropriate children in the sample who enrolled before and after the opening of the new school. Data are presented here only for the four primary new-school sites visited in 1984.

In the three years previous to the opening of new primary schools in four of the villages studied this year, 49 percent of the six-year-old girls and 89 percent of six-year-old boys in the sample enrolled in grade one. In the years since the new schools opened, 95 percent of the girls and 100 percent of the boys have enrolled. In addition since the new schools opened, six older and one younger boy enrolled and six older girls enrolled. If the same rates of pre-new-school enrollment had persisted, one would have expected only 18 girls and 32 boys to have enrolled instead of the 35 and 36, respectively, that did. Thus, in the four villages, the net number out of a total of 73 six-year-olds who enrolled above the expected number is 21. It is also possible that the 12 children over age six who enrolled might not have gone to school if the new facility had not existed.

159

Table I-25: Absolute Impact of New Schools on Sample Enrollment

SITE	SEX	TOTAL ENROLLMENT IN THREE YEARS BEFORE SCHOOL OPENED			TOTAL ENROLLMENT IN YEARS SINCE SCHOOL OPENED			
		Number of 6-year-olds	Number Enrolled	Percent	Number of 6 year olds	Number Enrolled	Percent	Enrolled over 6 yrs. or under 6 yrs.
MONSHAT IL AWKAF (1984)[1]	M	16	15	.94	7	7	100	1
	F	21	11	.52	11	11	100	1
NAG IL HARIF (1984)	M	14	13	.93	9	9	100	1
	F	10	5	.50	7	7	100	1
NAG IL KHUTABA (1983)	M	12	10	.83	9	9	100	2
	F	16	7	.44	10	9	.90	1
NAG DAHI (1983)	M	22	19	.86	11	11	100	3
	F	10	5	.50	9	8	.89	3
TOTAL	M	64	57	.89	36	36	100	7
	F	57	28	.49	37	35	.95	6

[1] The numbers in parentheses are the dates of new school openings.

RECOMMENDATIONS

GIRLS' ENROLLMENTS

Girls' initial enrollments in first grade should be considered the major priority of the education authorities since girls constitute the largest group of unenrolled children. Creating the conditions favorable to their enrollments--closer schools, less crowded classrooms, and official cajoling of parents to enter their children in school--are all measures that would encourage the participation of children of both sexes.

DISTANCE

Preliminary evidence suggests that the distance threshold before girls' enrollments start to drop may be as low as one-half kilometer. After one kilometer both boys' and girls' enrollments drop precipitously. In special cases where the size of the school population and the insufficiency of classroom space warrants school construction at closer intervals, such construction should be considered without adhering strictly to a two kilometer guideline since the benefits in terms of increased enrollment and persistence may be significant.

SINGLE-SEX SCHOOLS

Limited evidence from this year's field trip leads us to suggest that authorities look carefully at instances where single-sex primary schools are requested as a way of increasing girls' enrollments. It is far easier to change to a segregated system than back to a mixed system. One result of single-sex systems is that boys' enrollments may increase as a result of the large number of places that open up when girls move out of a mixed school. At the same time, a new school that opens for girls only and is planned for specified numbers of girls may make difficult the expansion of places for girls in subsequent years. The authorities' willingness to expand girls' facilities in the future needs to be considered when schools are segregated. Also important is the question of whether the educational program provided girls in a segregated system is equivalent to that provided boys.

At the preparatory level, there is some evidence that segregated schools are more attractive to girls than mixed schools. Where the single-sex school is much farther away from the girls' homes, however, a mixed school may be considered a more satisfactory substitute. In both cases of single-sex primary and preparatory school there seems, in our limited examples, to be modestly greater persistence of girls to the higher grades of these levels than there may be in mixed schools. Thus the issue of single-sex schools is a complicated one that does not provide an automatic solution to the question of how to increase girls' enrollments and persistence. There is enough negative evidence to suggest that where resources are limited, mixed schools are a satisfactory alternative.

PREPARATORY LEVEL

It seems apparent that in the next decade there will be enormous pressure on preparatory-level facilities. We recommend that concentrated effort be exerted toward expanding facilities at this level. We are encouraged by the flexibility with which this problem is being addressed at present by the MOE, through construction programs to provide more grades seven-to-nine schools and through the expansion of grades one-to-six schools to provide all nine grades. However, we suggest that some study be made of the educational programs in grades seven-to-nine and grades one-to-nine schools to ensure that they are not significantly different. Care should be taken that children in grades one-to-nine schools do not receive an inferior education because of lack of appropriate facilities or trained staff. In the last resort, however, if distance becomes an essential factor, it is better for a child to attend an inferior program than no program at all.

MODELS AND ADMINISTRATORS

Parents' responses and our observations of school activities lead us to believe that, in general, local teachers and administrators are more conscientious and responsive to the needs of local communities. Female teachers from the community provide an incomparable model and encouragement to local girls to enroll and continue at length in the system. Boarding facilities at urban teacher-training facilities are having an impressive impact on the numbers of local teachers that we find in rural communities. This effort should be applauded and continued, even expanded if possible. Study should also be considered of ways to use paraprofessional teacher aides in communities where local students are not fully qualified to enter teacher-training institutes. This might help to resolve the problems of teacher absences and administrators' lack of accountability in areas where these issuses are significant.

SCHOOL-SENDING READINESS

It appears feasible to develop convenient and inexpensive indices of the school-sending readiness of rural communities--indices that could be used for planning future facilities for grades one through nine. These indices, our preliminary findings show, relate to such factors as crowding of existing schools, enrollment trends of boys and girls, indicators of village economic levels, pre-existing formal and informal facilities, and attitudes of community leaders.

POLICY-RELATED ISSUES AND RECOMMENDATIONS

A number of minor policy changes appear to be warranted. We feel they would contribute significantly toward accomplishing the goals of AID and the MOE for the school construction and equipment funding programs.

- In some school districts, children experience difficulty in transferring easily to new USAID-funded schools because of arbitrarily determined district boundaries. This obviates the advantages of constructing a school closer to the children's homes. We recommend that regulations related to enrollment in all new school be reviewed prior to opening to avoid underutilization of the new facilities.

- Guidelines should be developed requiring schools, especially those in rural areas, to actively seek out parents who do not enroll their children in grade one. Schooling has become so critical to a child's welfare that this opportunity, open only for two years between the ages of six and eight, should not be thrown away on the whim of a parent. In small communities teachers could canvas neighborhoods or work from lists provided by the Department of Health.

- Consideration should be given to the question of what practical courses are most appropriate for children of a given rural area. Agriculture should not be the automatic choice since in some areas, where land fragmentation is requiring the younger generation to seek other occupational opportunities, beginning industrial and commercial skills may be more useful.

- In siting schools, follow a mixed strategy of placing some schools in communities that are "ripe" for enrollment increases and others in communities where a new school might not immediately fill, but where it might itself stimulate change in chronic low levels of enrollment. This way the effect of new school facilities can be both immediate and long-term. In the long run, a mixed strategy might meet MOE goals of universal education more rapidly than a policy of building schools primarily where immediate need is apparent because of crowded classrooms.

PLANS FOR THE 1985 DATA COLLECTION TRIP

Several natural experiments are developing in our intensive sites that will help to shed light on some of the issues raised in the two previous field trips. For the 1985 field trip we plan:

- to complete the basic data on the four remaining villages;
- to begin follow-up on enrollment and persistence in villages where new schools have opened;
- to focus special attention on the new single-sex school of Beni Rafa and the effects on male enrollments in surrounding schools;
- to note the effects of the new schools in Roda and Nag il Taref on educational participation in schools other than those in the government system;
- to compare the effects of Kutuba's new school expansion to the preparatory level with a new USAID preparatory school opening in a related village;
- to collect enrollment data in Ghaneyem district of a new USAID-funded school to open in one of the most disadvantaged related sites we have seen--the purpose is to see the extent of initial impact on poor rural children who have until now had only very distant schools available;
- to update enrollment data on urban and comparison schools whose figures give us a context within which to assess the impact of the new schools.

NOTES

[1]In the early years that boys enrolled, the nearest schools were several kilometers away.

[2]Our permission to do the field study stipulated that we no ask direct questions about economic level.

[3]We used new researchers this year and hope to use the same ones again next year to complete the last four villages.

[4]Next year's report will complete the data in the final four villages.

[5]Two of the six schools, however, are preparatory level, but these preparatory-level schools are located in areas where primary schools are locally available.

[6]This fact has led us this year to track persistence by age group, rather than by attendance ratio. The attendance ratio assumes under normal circumstances that children of specified ages will have completed certain grade levels. This has not proved to be the case. Thus an attendance ratio shows the efficiency of the education system while ratios of those at each age completing certain educational levels give a better measure of persistence.

[7]We have heard of cases where this happened to assure that the younger child would be available for helping on the farm when he grew up.

[8]There was confusion in most villages over whether a food program existed in the local school. The program was delayed in starting in the 1984-85 school year and so some parents responded on the basis of earlier years and others merely said no program existed. Overall 94 claimed a program existed, 145 said one did not, and 31 had no child in school of the appropriate age.

[9]Spontaneous answers were solicited and then coded. If more than one answer was given, it was recorded in as many categories as required. Categories that contained three percent or fewer responses are not reported here.

[10]The variety is actually greater since unskilled and skilled categories each combined several specific jobs.

[11]Different sets of enrollment figures, one from the school and one from the governorate office, give two different set of impacts. This is the more "positive" set showing a one percent increase in girls' ratio rather than a three percent decline.

[12]Optimum means here the highest levels that can be expected in this region. It is rare to find girls' ratios of less than 40 percent of total enrollment in city school systems.

[13]A cautionary note should be mentioned concerning grade six enrollment levels. It is not possible to differentiate students who are retained at this grade level from those who are enrolled for the first time. This indicator therefore assumes that retention rates are the same for boys and girls, or at the very least, that they do not change dramatically from year to year.

[14]Village "urban" patterns should not be confused with city patterns that show almost identical ratios for boys and girls. (See the Appendices for definitions of urban and rural in the village context.)

[15]Most children at this level were attending a preparatory school 18 kilometers away in Motobus, commuting by train.

[16]It has also had the furthest to go from earlier very low levels of participation.

CHAPTER II

EXTENSIVE STUDY OF THE IMPACT

TABLE OF CONTENTS

	Page
Introduction	II-1
Summary of Findings from the First Annual Report	II-1
Overview of Activities during the Second Year	II-2
Impact of the 1983 New Schools on Enrollment	II-3
Method	II-3
Impact of 1983 New Schools in School Year 1983-84	II-10
Control Sites Compared to 1984 New-School Sites in School Year 1983-84	II-15
Impact of 1983 New Schools in School Year 1984-85	II-15
Impact of 1983 New Schools on Proportions of Girls' Enrollment	II-19
Correlates of New School Impact	II-23
Independent Variables	II-24
Correlates of New-School Impact on Boys	II-26
Correlates of New-School Impact on Girls	II-28
Impact of 1983 New Schools on Literacy and Numeracy	II-30
Method	II-31
Findings	II-31
Summary and Discussion	II-34

LIST OF TABLES

II-1	List of 1983 New School Sites	II-5
II-2	Time Series Data from the Site of Manshiya	II-6
II-3	List of Control Sites	II-8
II-4	List of 1984 New School Sites	II-9
II-5	Descriptive Statistics: Observed and Expected Enrollments at 1983 New-School Sites in School Year 1983-84	I-10

168

LIST OF TABLES
(Continued)

		Page
II-6	Descriptive Statistics: Observed and Expected Enrollments at Comparison-Control Sites in School Year 1983-84	II-11
II-7	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grade One, School Year 1983-84	II-12
II-8	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grade One, School Year 1983-84	II-13
II-9	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grades Two through Six, School Year 1983-84	II-13
II-10	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grades Two through Six, School Year 1983-84	II-14
II-11	Descriptive Statistics: Observed and Expected Enrollments at 1983 New-School Sites in School Year 1984-85	II-16
II-12	Descriptive Statistics: Observed and Expected Enrollments at 1983 Comparison-Control Sites in School Year 1984-85	II-16
II-13	Test of the Difference Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grade One, School Year 1984-85	II-17
II-14	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grade One, School Year 1984-85	II-17
II-15	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grades Two through Six, School Year 1984-85	II-18
II-16	Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grades Two through Six, School Year 1984-85	II-18
II-17	Schools Chosen from Paired Comparison in 1983 New-School Sites	II-20

169

LIST OF TABLES
(Continued)

		Page
II-18	Descriptive Statistics: Percentages of Girls' Enrollments in Matched Pairs of Schools, 1983 New-School Sites, School Year 1983-84	II-21
II-19	Test of the Difference Between Proportions of Girls Enrolled in 1983 New-Schools and Proportions Enrolled in Matched Comparison Schools, Grade One, School Year 1983-84	II-22
II-20	Descriptive Statistics: Variables Used to Predict Impacts of 1983 New Schools in School Year 1983-84	II-23
II-21	Correlations of Selected Variables with 1983 New-School Impacts on Boys in Grade One, School Year 1983-84	II-27
II-22	Correlations of Selected Variables with 1983 New-School Impacts on Girls in Grade One, School Year 1983-84	II-27
II-23	Correlations of Proportions of Girls' Enrollment with 1983 New School Impacts in Grade One, School Year 1983-84	II-29
II-24	Descriptive Statistics: Proportions of Students Passing End-of-Year Examinations (Out of Those Enrolled in School) in 1983 New Schools and Paired-Comparison Schools, School Year 1983-84	II-32
II-25	Descriptive Statistics: Proportions of Students Passing End-of-Year Examinations (Out of Those Attending the Examinations) in 1983 New Schools and Paired-Comparison Schools, School Year 1983-84	II-32

LIST OF FIGURES

II-1	Diagram of a Typical New-School Site	II-3
II-2	Enrollment Trends in Grade 1, Site of Manshiya, Governorate of Beheira	II-7
II-3	Enrollment Trends in Grades 2-6, Site of Manshiya, Governorate of Beheira	II-7

170

INTRODUCTION

The objective of the Extensive Study of the Impact of New Schools is to assess the overall impact of the new schools on enrollment, literacy, and numeracy. In the first year of the study sites were selected, data collection procedures and methods of analysis were perfected, and a preliminary report was submitted on the impact of new schools constructed in 1983 on enrollment. This Second Annual Report includes a re-analysis of the first year impact of these 1983 new schools based on more complete data and utilizing a more thorough statistical treatment. It also includes an analysis of the second year impact of the 1983 new schools. These results confirm and extend the findings of the First Annual Report.

The Second Annual Report also includes an assessment of the impact of the 1983 new schools based on an analysis of the proportions of girls enrolled in the new schools as compared to proportions of girls enrolled in pre-existing schools at the same sites. This analysis is followed by a study of variables that may be used to predict the impact of a new school based on differences found among the 1983 new schools. Finally, the report concludes with a preliminary analysis of the impact of 1983 new schools on children's literacy and numeracy.

The Second Annual Report continues to concentrate on the impact of the 1983 new-school sites. The impact of the 1984 new-school sites will be analyzed in next year's Third Annual Report. This chapter begins with a brief summary of the results reported in the First Annual Report and then turns to a review of present methods and procedures, omitting reference to discarded techniques of data analysis. A description of results to date follows.

SUMMARY OF FINDINGS FROM THE FIRST ANNUAL REPORT

The First Annual Report presented data on school enrollment from 18 sites in four governorates where new schools, constructed with USAID financial assistance, were opened in 1983. These were compared with data from 14 similar sites in the same governorates where no new schools were constructed.

Graphical procedures were used to project trends in enrollment at each of the sites for boys and for girls in grade one and for grades two through six combined from 1978-79 to 1982-83. Enrollment increased substantially in most sites during this period of time although there were pronounced differences among the sites and between enrollment trends for boys and for girls.

Straight lines were fitted to the trends in enrollment and used to estimate expected enrollments for the 1983-84 school year. These expected enrollments (in the absence of the new school) were compared with observed enrollments (including the new school) to estimate the impact of each new school. To estimate the magnitude, and test the significance, of the overall impact of all the new schools, the differences between the observed and

expected enrollments at the 1983 new-school sites were compared with the differences between observed and expected enrollments at the comparison-control sites where no new schools were constructed. These differences were found to be significant at approximately the .05 level for girls, but not boys, in grade one, and for both boys and girls in grades two through six. On the average, the net impact of a new school that opened in 1983 was to add to the school population at that site:

- seven boys in grade one;
- fourteen girls in grade one;
- fifty boys in grades two through six; and
- twenty-three girls in grades two through six.

Preliminary analysis of sites where particularly high impacts were found suggested that it might be possible to predict impacts on the basis of site characteristics. This possibility has been further investigated during the second year of the study.

OVERVIEW OF ACTIVITIES DURING THE YEAR

The following activities have been carried out and are reported below:

- a re-analysis of the first-year impact of the 1983 new schools, utilizing more complete data and supplementing the previous graphical analysis with a standard mathematical method of curve fitting;
- an analysis of the second year impact of the 1983 new schools;
- an analysis of the effects of the 1983 new schools on proportions of girls' enrollment;
- an analysis of variables that might be used to predict the size of the impact of a new school on enrollments for boys and girls in grade one, based on variability in the impacts observed at the 1983 new-school sites;
- a preliminary analysis of the impact of the 1983 new schools on literacy and numeracy as indexed by the proportions of youngsters passing examinations.

Data from the new schools that opened in 1984-85 were not collected in time to be included in this report. The impact of the 1984 new-school sites will be analyzed in the Third Annual Report.

172

IMPACT OF THE 1983 NEW SCHOOLS ON ENROLLMENT

METHOD

Selection of New-School and Comparison-Control Sites

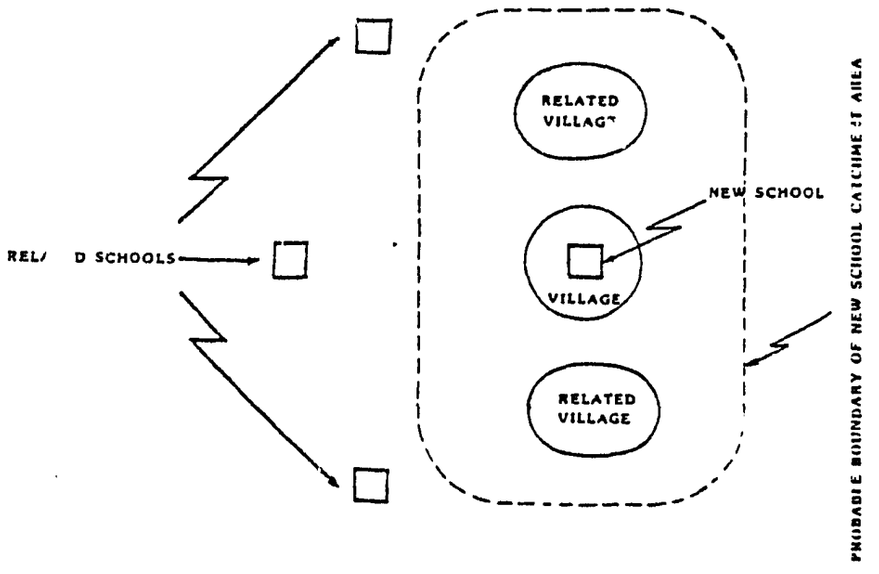
From the lists of 1983 new-school sites in each governorate (Assiut, Beheira, Kafr il Sheikh, Qena, and Sohag), the research team chose four sites at random, a total of twenty sites. This was done by choosing every "nth" site in order from each governorate's list, starting with a site chosen at random from among the first n. The value of n was chosen so as to obtain four schools from each list. This procedure was designed to select a quasi-random group of 1983 new-school sites totaling twenty schools, four from each of the five governorates. Twenty 1984 new-school sites were chosen in the same way.

With the assistance of Mr. Mahmoud Gamal el Din, the USAID official responsible for approving the sites of new schools, the research team reviewed the site maps for each governorate and identified additional sites that fulfilled MOE and USAID criteria for new schools, but where new schools were not likely to be opened before the fall of 1986. A total of twenty such sites were identified, four in each of the above-listed governorates. These formed a sample against which to compare the impacts of the new schools.

Elements of a New-School Site

Figure II-1 shows a schematic diagram of a typical site, consisting of a village where the new school was located, related villages from which other children might come to the new school, and related schools to which children from the new-school site might have gone in the past. To understand the study design, it is essential to keep these elements of a typical site clearly in mind.

Figure II-1:
Diagram of Typical New-School Site



173

Identification of Related Schools

As shown in Figure II-1, "related schools" were those schools near the new-school site to which some youngsters might already have been going. In order to assess the net impact of a new school, one has to know how the enrollment in its related schools changed when the new school opened. Some children who were expecting to go to first grade in a related school might change their minds and attend the nearby new school. Therefore their enrollment in the new school would be compensated by a lower-than-anticipated enrollment in the related school. This would be more convenient for the students, but it would not result in a net increase in enrollment at the site. Similarly, students in later grades who would have attended a related school, but who switched to the new school instead, would not contribute to a net increase. However, children who had decided to drop out because of the distance, but who stayed in because the new school was near, would represent a net increase.

Although children who stopped going to a related school, and came instead to the new school, would not contribute to a net increase in enrollment, their moving would, in fact, make a net increase possible if their places in the related schools were taken by others who might have dropped out because of crowding. All these are reasons why it was important to identify, as accurately as possible, all the related schools surrounding each new-school site.

The first step in identifying related schools was to determine the location of each selected new school on the map. The second step was to examine the map together with governorate officials and ask the officials to identify all possible schools to which children who might later attend the new school might presently be going. The research team depended on local governorate officials to identify the related schools for each site.

Research Strategy

In order to assess the impact of a new school, one needs to estimate what the total enrollment of the related schools would have been in the absence of the new school. One can then compare expected total enrollment with the observed total enrollment when the new school is included. The difference is the new school's net effect.

To estimate the expected enrollment in the absence of the new school, a time-series analysis was used. Records of enrollment in all the related schools for each site were examined for five years from 1978-79 to 1982-83. From the trends in these records, projections of enrollment for 1983-84 could be made. Then the actual enrollments, including those in the school, could be compared with the projections.

One might expect the main impact of a new school to be on initial enrollments in grade one. A net increase in grade one enrollment would represent entirely new children coming into the school system. However, a new school might also have an impact on enrollment in grades two through six. A net increase in these grades would represent increased holding power--children

who remained in school because the new school was close, rather than dropping out because the related school was far away. These reflect different policy concerns and may be influenced by different factors; consequently, separate analyses were made of:

- boys' enrollment in grade one;
- girls' enrollment in grade one;
- boys' enrollment in grades two through six;
- girls' enrollment in grades two through six.

Table II-1 shows the list of new-school sites included in this report. All five governorates where new schools were constructed in 1983 were represented. The total number of new-school sites was 23.

Table II-1: List of 1983 New-School Sites
N = 23

GOVERNORATE	MARKAZ	SITE	SCHOOL	FILE NAME	NO. OF RELATED SCHOOLS
ASSIUT	Ghaneyem	Ghaneyem*	Talla II Asasi	Ganey	2
	Abu Tig	Abu Kab	Nazlat Abu Kab	Aboka	6
	Badary	Surur	Asbet Surur II Gedida	Serur	8
BEHEIRA	Mahmudiya	Kafr Nekla*	Kafr Nekla II Gedida	Knekl	4
	Hosh Isa	Menshiya*	Menshiya II Gedida	Mensh	5
	Edko	Asbet Sitta	Kariyet Sitta	Esett	1
	Itai II Barud	Ibrahimiya	Ibrahimiya II	Ibrah	1
	Shubra Khelt	Komy	Komy II Gedida	Ilkom	5
	Shubra Khelt	Senadidi	Senadidi II Ibt	Senad	2
KAFR EL SHEIKH	Beiyala	Alsebnebon	Alsebnubon II Ibt	Alseb	4
	Hamol	Magaz II Sharki	Magaz II Sharki II Ibt	Ilmag	2
	Kafr II Shekh	Mostafa Kamel	Mostafa Kamel II Ibt	Mosta	4
	Sedi Salem	Abd II Wahed Id	Abd il Wahed Id II Ibt	Alwan	4
QENA	Nag Hamadi	Nag Dahi*	Kehi Abudahi II Ibt	Ndahi	2
	Naqada	Khutaba*	Nag Id Khutaba	Nkhut	2
	Abu Tisht	Moaisera	Moaisera II Ibt	Moysa	2
	Armant	Nag II Bekala	Nag II Bekala	Nbaka	4
	Kus	Hamed Ahmed Ramadan	Nag Hamed Ahamed Ramadan	Haram	4
	Qena	Gebel	Gebel Ibt Mostaraka	NGEBE	2
SOHAG	Akhmim	Nag Ahmed Ismail	Ahmed Ismail Bel Sawama Sharq	NAESM	3
	Sohag	Nag II Araya	Nag II Araya II Moshtaraka	Naray	2
	Sohag	Nag Matrud	Nag Matrud II Moshtaraka	Nmatr	4
	Tanta	Nag Shenodi	Nag Shenodi	Nshan	3

*Intensive Study Sites

175

Table II-2 shows typical time series data from the site of Manshiya, Markaz of Hosh Isa, in the Governorate of Beheira. Year one is the school year 1978-79, year two is the school year 1979-80, and so on. Year six is the school year 1983-84 when the new school opened. Figures in the table show the total enrollment from all five related schools at the site of Manshiya. The figures for year six include the enrollment of the new school as well. Column one shows the enrollments for boys in grade one. Column two shows the enrollment for boys in grades two through six. Column three shows the enrollment for girls in grade one, and column four shows the enrollment for girls in grades two through six.

Table II-2:

Time Series Data from the Site of Manshiya

File name: MANSH

	YEARS	1 BOYS	2-6 BOYS	1 GIRL	2-6 GIRL
1	1	117	314	37	34
2	2	146	343	74	99
3	3	139	416	63	164
4	4	110	460	60	200
5	5	162	550	99	263
6	6	192	606	120	320

A table like Table II-2 was made for each site. Straight lines were then fitted to the data for every table for years one through five for each of the four groups shown in the table. (Appendix A to this chapter gives an example from the site of Manshiya showing how the straight lines were fitted to the data.) After these lines were fitted they could be used to project expected enrollments for year six, which could then be compared to the actual enrollments shown in year six of the table. Figures II-2 and II-3 show this comparison of expected and observed enrollments in graphical form. Notice that the observed enrollments for boys and girls in grade one (Figure II-2) both fall substantially above the expected projection. The observed enrollment for boys in grades two through six (Figure II-3) falls slightly below the projection while the observed enrollment for girls in grades two through six falls exactly on the projection.

Figure II-2: Enrollment Trends in Grade 1, Site of Manshiya, Governorate of Beheira

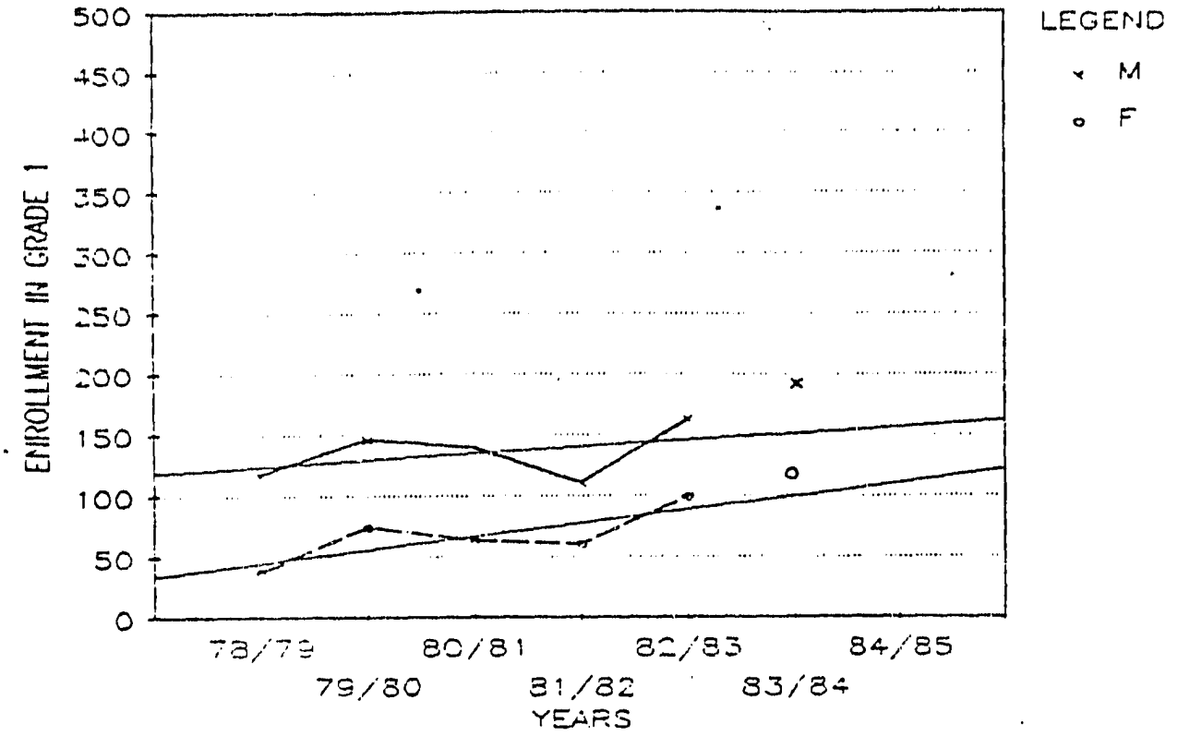
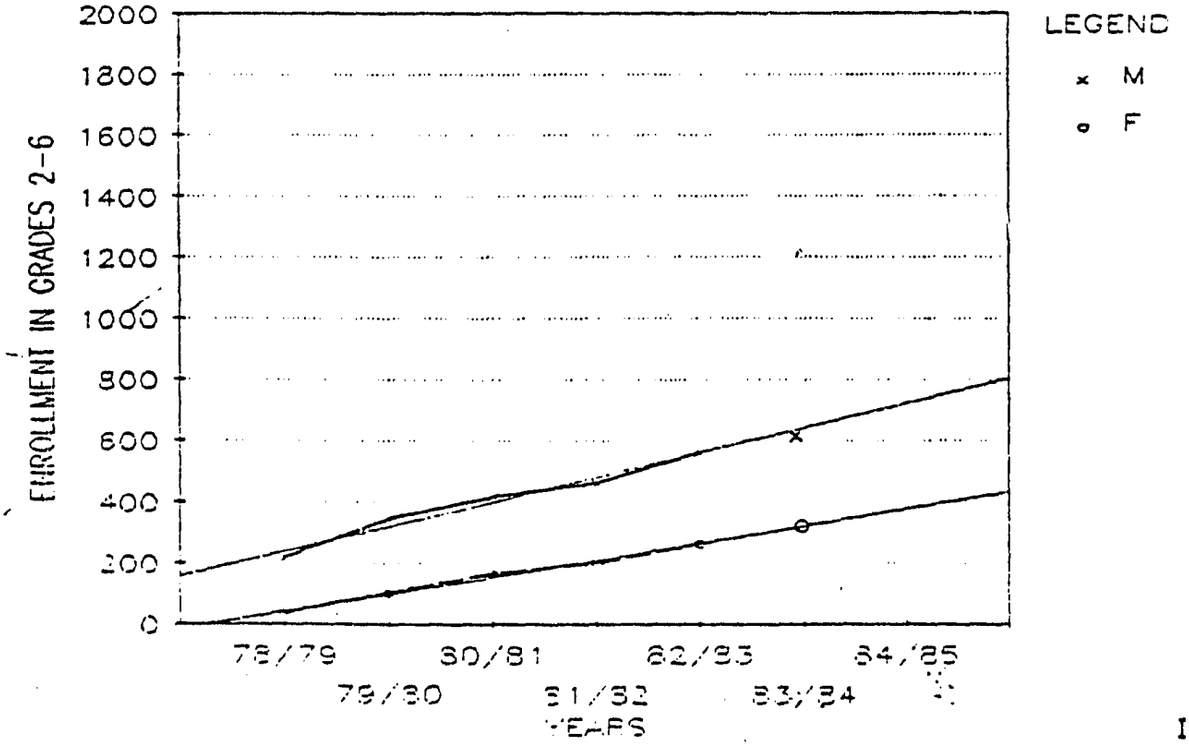


Figure II-3: Enrollment Trends in Grades 2-6, Site of Manshiya, Governorate of Beheira



177

Appendix B contains the summary table of the results of these curve fitting procedures: observed and expected values, and differences, for each site in each of the groups used in the 1983 new-school study. Tables II-3 and II-4 list the sites that were used in these comparisons. How the comparisons were made, and what the results were, will be described below.

Table II-3: List of Control Sites

N = 17

GOVERNORATE	MARKAZ	SITE	FILE NAME	NUMBER OF RELATED SCHOOLS
ASSIUT	Abu Tig	Nazlet Bakor	Nbako	4
	Bdari	Asbet Amer	Eamer	4
	Manfalut	Hawatka	Ihawa	4
BEHEIRA	Mahmudiya	Asbet Il Sheikh Ali	Elsal	2
	Hosh Isa	Asbet Elwani	Eelwa	1
	Itay Il Barod	Asbet Abu Il Fadl	Ealfa	3
KAFR IL SHEIKH	Beyala	Asbet Ibrahim Mostafa	Eebra	3
	Desok	Asbet Framond	Efram	1
	Hamol	Kariyet Ashara	Kasha	1
QENA	Kelin	Monshat Sogra	Imons	2
	Abu Tisht	Nag Il Tod	Nitod	2
	Kus	Nag Abu Hommos	Nabch	2
	Nag Hamady	Zelten	Zelte	4
	Qena	Nag Abu Zed	Nazed	1
SOHAG	Schag	Nag Edfa	Nedfa	4
	Sonag	Nag Il Arab	Niara	4
	Akhmim	Nag Il Sahel	Nisah	1

178

Table II-4: List of 1984 New-School Sites

N = 17

GOVERNORATE	MARKAZ	SITE	FILE NAME	NUMBER OF RELATED SCHOOLS
ASSIUT	Manfalut	Bani Rafa*	Banir	3
	Abu Tig	Hager Dekran	Hager	2
	Dayrot	Kodyet Islam	Kodie	8
	Sahel Selim	Il Shamiya	Isham	3
	Sahel Selim	Asbet Sabet Basta	Esabe	1
	Koseya	Reskt Il Der	Reskt	3
BEHEIRA	Kafr Il Dawar	Monshat Il Awkar*	Monsh	5
	Kafr Il Dawar	Matok	Matok	2
	Abu Homos	Byrgal	Byrga	2
	Rahmaniya	Masri	Imasr	3
KAFR IL SHEIKH	Beyala	Naserlya	Inase	4
	Desok	Bayada	Ibaya	1
	Hamol	Zidan	Zidan	3
	Fewa	Saika	Isaik	6
	Kellm	Monshat Il Kobra	Imiko	4
QENA	Abu Tisht	Der Il Nawahed	Dinaw	2
	Esna	Dokkera	Idokk	1
	Farshot	Nag Kharka	Nkhar	2
	Kus	Nag Il Awari	Niawa	1

*Intensive Study Site

179

IMPACT OF 1983 NEW SCHOOLS IN SCHOOL YEAR 1983-84

Table II-5 shows the descriptive statistics for observed and expected enrollments in the new-school sites. Twenty-three sites are represented. The mean of the observed boys' enrollment for grade one (IBO) was 174.048. The lowest enrollment in any site was 66 and the highest was 360, based on available data from 21 sites. The mean of the expected boys' enrollment in grade one (IBE) was 154.727. The lowest expected value was 27 and the highest 372. The mean difference between the observed and expected values from boys in grade 1 (IBDIF) was 24.952 with a minimum difference of -70 and a maximum difference of 77. The rest of the figures in table II-5, showing girls' enrollments in grade one, and boys' and girls' enrollments in grades two through six, may be read in the same way.

Table II-5: Descriptive Statistics: Observed and Expected Enrollments at 1983 New-School Sites in School Year 1983-84

Descriptive statistics File name: ENROL 83 SITE ENROLLMENT IN 83-84

Records read: 59
Record selection: - (8383)

Variable	n	sum	mean	s.d.	median	min	max	md
SITE	23	0.000	0.000	0.000	0.00	0.00	0.00	1
1BO	21	3655.000	174.048	85.759	149.00	66.00	360.00	2
1BE	22	3404.000	154.727	94.545	127.50	27.00	372.00	1
1BDIF	21	524.000	24.952	75.616	21.00	-70.00	77.00	2
1GO	21	2344.000	111.619	48.798	103.00	50.00	211.00	2
1GE	22	2023.000	91.955	54.613	87.50	16.00	208.00	1
1GDIF	21	529.000	25.190	21.514	19.00	-8.00	78.00	2
2-6BO	19	13241.000	696.895	440.825	595.00	195.00	1798.00	4
2-6BE	20	13583.000	679.150	429.217	594.50	141.00	1777.00	3
2-6BDIF	19	774.000	40.737	78.454	19.00	-48.00	246.00	4
2-6GO	19	6004.000	316.000	190.049	243.00	90.00	713.00	4
2-6GE	20	6141.000	307.050	216.317	277.00	44.00	901.00	3
2-6GDIF	19	664.000	34.947	33.159	29.00	-4.00	123.00	4

130

Table II-6 shows similar descriptive statistics for observed and expected enrollments in the control sites. Note that the mean differences between observed and expected enrollments for boys (1BDIF) and girls (1GDIF) in grade one were small but positive. The mean difference for boys in grades two through six (6BDIF) was negative but the mean difference for girls in grades two through six (6GDIF) was again small but positive. In the comparison-control group, where there was no impact of a new school, one would expect the means of all these differences to be zero. The fact that they tended to be positive numbers, although small, suggests that the straight-line curve-fitting procedure slightly underestimated the expected values. In other words, on the average, enrollments across the five years from 1978-79 to 1982-83 at these sample sites accelerated at a rate slightly greater than a linear function. This is why having a comparison-control group is so important. Since the curve-fitting procedure is the same for both the 1983 new-school group and the comparison-control group, net impacts estimated by comparing the groups are more valid estimates of the true impacts of the new schools than a raw comparison of the new-school observed values to their own expected values.

Table II-6: Descriptive Statistics: Observed and Expected Enrollments at Comparison-Control Sites in School Year 1983-84

Descriptive statistics File name: ENROL CONT. SITE ENROLLMENT IN 83-84

Records read: 59
Record selection: - (CONS3)

Variable	n	sum	mean	s.d.	median	min	max	m
SITE	17	0.000	0.000	0.000	0.00	0.00	0.00	0
1B0	17	1787.000	105.118	52.024	97.00	47.00	253.00	[illegible]
1BE	17	1679.000	98.824	56.427	94.00	24.00	257.00	[illegible]
1BDIF	17	117.000	6.882	10.725	1.00	-24.00	28.00	[illegible]
1G0	17	1188.000	69.882	30.243	59.00	18.00	135.00	[illegible]
1GE	17	1082.000	63.647	28.609	61.00	26.00	123.00	[illegible]
1GDIF	17	106.000	6.235	10.476	7.00	-15.00	21.00	0
6B0	17	8979.000	528.176	402.333	355.00	115.00	1607.00	0
6BE	17	9019.000	530.529	403.159	349.00	127.00	1542.00	0
6BDIF	17	-40.000	-2.353	33.292	-5.00	-89.00	59.00	0
6G0	17	4424.000	260.235	175.603	204.00	70.00	631.00	0
6GE	17	4276.000	251.529	169.389	198.00	49.00	589.00	0
6GDIF	17	148.000	8.706	25.678	9.00	-70.00	51.00	0

Tables II-7 through II-10 show the results of comparing the impacts in the 1983 new-school group to the non-existent "impacts" in the comparison-control group. For boys in grade one, the contrast was significant at the .045 level with a mean difference between the new-school and the control group of approximately 18 students. For girls in grade one the contrast was significant at the .001 level with a mean difference of approximately 19 students. For boys in grades two through six the comparison was significant at the .025 level with a mean difference of approximately 43 students. For girls in grades two through six, the comparison was significant at the .011 level with a mean difference of approximately 26 students.

These results confirm the preliminary findings from last year and increase their significance. On the average, the net impact of a new school that opened in 1983 is now estimated to add to the population at that site:

- 18 boys in grade one;
- 19 girls in grade one;
- 46 boys in grades two through six; and
- 26 girls in grades two through six.

These are quite respectable overall impacts for new schools in their first year of operation.

Table II-7: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grade One, School Year 1983-84

t - Independent Samples File: ENROL 8383 VS. CON83 BOYS GR 1

Records read: 59
Missing data: 2

Groups defined by: 1983 (8383) CONTROL (CON83)
Dependent variable: 1GDIF

	1983	CONTROL
n	21	17
mean	24.952	6.882
s.d.	35.610	18.725

hypothesized difference: 0 obtained difference: 18.070

t(36) = 2.050 p = .045 standard error = 8.814

	1983	CONTROL
1	-36.00	-4.00
2	25.00	1.00
3	9.00	38.00
4	44.00	-10.00
5	32.00	-5.00
6	62.00	12.00
7	41.00	38.00
8	5.00	11.00
9	5.00	8.00
10	8.00	-12.00
11	-70.00	1.00
12	25.00	8.00
13	75.00	-34.00
14	18.00	13.00
15	21.00	27.00
16	13.00	-3.00
17	5.00	28.00
18	77.00	
19	55.00	
20	73.00	
21	36.00	

Table II-8: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grade One, School Year 1983-84

t - Independent Samples File: ENROL 8383 VS.CON83 GIRLS GR 1

Records read: 59
Missing data: 2

Groups defined by: 1983 (8383) CONTROL (CON83)
Dependent variable: 1GDIF

	1983	CONTROL
n	21	17
mean	25.190	6.235
s.d.	21.514	10.479

hypothesized difference: 0 obtained difference: 18.955

t(36) = 3.652 p = .001 standard error = 5.190

	1983	CONTROL
1	-8.00	12.00
2	34.00	12.00
3	13.00	-6.00
4	29.00	-15.00
5	46.00	6.00
6	32.00	9.00
7	20.00	12.00
8	12.00	-12.00
9	-6.00	7.00
10	19.00	-13.00
11	2.00	1.00
12	10.00	7.00
13	42.00	-5.00
14	15.00	21.00
15	31.00	12.00
16	11.00	19.00
17	10.00	15.00
18	78.00	
19	36.00	
20	39.00	
21	64.00	

Table II-9: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grades Two through Six, School Year 1983-84

t - Independent Samples File: ENROL 83B3 VS. CON83 BOYS GR 2-6

Records read: 59
Missing data: 4

Groups defined by: 1983 (83B3) CONTROL (CON83)
Dependent variable: SGDIF

	1983	CONTROL
n	19	17
mean	10.737	-2.353
s.d.	78.454	33.292

hypothesized difference: 0 obtained difference: 13.090

t(34) = 2.314 p = .025 standard error = 18.624

	1983	CONTROL
1	97.00	59.00
2	21.00	-63.00
3	96.00	-69.00
4	-49.00	6.00
5	19.00	-3.00
6	89.00	11.00
7	-35.00	-20.00
8	47.00	-11.00
9	-42.00	-5.00
10	-14.00	2.00
11	40.00	39.00
12	197.00	-8.00
13	-15.00	12.00
14	8.00	5.00
15	-41.00	46.00
16	244.00	-18.00
17	43.00	-14.00
18	18.00	
19	41.00	

Table II-10: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grades Two through Six, School Year 1983-84

t - Independent Samples File: ENROL 83B3 VS. CON83 GIRLS GR 2-6

Records read: 59
Missing data: 4

Groups defined by: 1983 (83B3) CONTROL (CON83)
Dependent variable: SGDIF

	1983	CONTROL
n	19	17
mean	34.947	8.706
s.d.	33.159	25.670

hypothesized difference: 0 obtained difference: 26.241

t(34) = 2.676 p = .011 standard error = 9.806

	1983	CONTROL
1	72.00	51.00
2	71.00	11.00
3	14.00	26.00
4	30.00	2.00
5	49.00	10.00
6	46.00	25.00
7	0.00	4.00
8	-4.00	-22.00
9	6.00	-3.00
10	-4.00	7.00
11	46.00	20.00
12	71.00	22.00
13	0.00	-70.00
14	13.00	24.00
15	31.00	26.00
16	123.00	6.00
17	23.00	9.00
18	29.00	
19	48.00	

Control Sites Compared to 1984 N s in School Year 1983-84

Before the new schools open he 1984 new-school sites may be considered to be a second contr e 1983 new-school sites. We may strengthen the logic of our dat comparing the control sites with the 1984 new-school sites for r 1983-84, expecting to find no systematic differences between since no schools had yet been built in either set of sites. cal to the ones just previously described were carried out to two groups, and we found no systematic, significant differ them (see Appendix C). The fact that no differences were fo ese two groups strengthens our confidence in the orderliness from the Extensive Study of the Impact of New Schools as a the validity of the obtained differences between the 1983 ne and the control sites.

IMPACT OF 1983 NEW SCHOOLS IN S -85

In the school year 1984-8 ools in the 1983 sites were in their second year of existenc on enrollment during the second year may be seen in Tables . Expected enrollments for the school year 1984-85 (the seven series) were calculated from the linear projections obtained fr ve years. The mean differences between observed and expected very similar to those found in school year 1983-84 for the sites (compare Table II-11 with Table II-6). The means and s ons were very similar. However, for the control group the va eased substantially in all four subgroups (compare Table le II-6). Consequently, the significances of the comparis new-school and control groups in school year 1984-85 decrease found in 1983-84. Tables II-13 through II-16 show the result s. None reached significance at the .05 level. The magnitu differences for grade one were similar to those found in the s: a net impact of 21 boys and 15 girls. The mean differen o through six were smaller: 27 for boys and 25 for girls.

185

Table II-11: Descriptive Statistics:
Observed and Expected Enrollments
at 1983 New-School Sites in School Year 1984-85

Descriptive statistics File name: ENROL 83 SITE ENROLLMENT IN 84-85

Records read: 99
Record selection: - (S3S4)

Variable	n	sum	mean	s.d.	median	min	max	md
SITE	23	0.000	0.000	0.000	0.00	0.00	0.00	0
1BO	19	3533.000	185.167	91.391	175.50	33.00	389.00	5
1BE	20	3125.000	156.250	90.436	143.50	34.00	337.00	1
1BDIF	19	457.000	25.789	56.272	27.00	-76.00	159.00	1
1GO	19	2172.000	120.667	60.419	106.00	44.00	274.00	5
1GE	20	2037.000	101.850	57.761	99.50	15.00	215.00	1
1GDIF	19	348.000	19.333	41.098	9.50	-76.00	130.00	1
2-6BO	19	11752.000	652.889	345.272	622.00	148.00	1590.00	5
2-6BE	20	12134.000	606.700	356.585	596.00	126.00	1475.00	1
2-6BDIF	19	620.000	34.444	95.112	26.50	-102.00	298.00	5
2-6GO	19	6614.000	367.444	212.170	280.00	134.00	852.00	5
2-6GE	20	6467.000	323.350	221.621	261.00	51.00	774.00	3
2-6GDIF	19	900.000	50.000	53.667	32.50	-17.00	191.00	5

Table II-12: Descriptive Statistics: Observed and Expected Enrollments
at 1983 Comparison-Control Sites in School Year 1984-85

Descriptive statistics File name: ENROL CONT. SITE ENROLLMENT IN 84-85

Records read: 99
Record selection: - (CONS4)

Variable	n	sum	mean	s.d.	median	min	max	md
SITE	17	0.000	0.000	0.000	0.00	0.00	0.00	0
1BO	15	1640.000	109.333	58.894	84.00	30.00	264.00	2
1BE	16	1665.000	104.063	58.904	99.00	24.00	267.00	1
1BDIF	15	53.000	3.867	39.775	1.00	-45.00	81.00	2
1GO	15	1127.000	75.133	47.474	57.00	19.00	172.00	1
1GE	16	1127.000	70.437	39.550	75.00	30.00	129.00	1
1GDIF	15	63.000	4.200	33.495	-3.00	-28.00	60.00	2
2-6BO	15	8833.000	588.200	444.492	417.00	143.00	1720.00	2
2-6BE	16	9046.000	565.375	421.912	428.00	178.00	1580.00	1
2-6BDIF	15	109.000	7.267	68.848	-7.00	-107.00	150.00	2
2-6GO	15	4369.000	291.267	191.001	199.00	65.00	705.00	2
2-6GE	16	4252.000	265.750	194.387	222.00	52.00	644.00	1
2-6GDIF	15	370.000	24.667	36.744	17.00	-36.00	102.00	2

Best Available Document

Table II-13: Test of the Difference Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grade One, School Year 1984-85

t - Independent Samples File: ENROL 8384 VS CON84 BOYS GR 1

Records read: 99
Missing data: 9

Groups defined by: 1983 (8384) CONTROL (CON84)
Dependent variable: 1BDIF

	1983	CONTROL
n	18	15
mean	25.389	3.867
s.d.	56.232	29.325

hypothesized difference: 0 obtained difference: 21.522

t(31) = 1.445 p = .155 standard error = 14.895

	1983	CONTROL
1	2.00	1.00
2	34.00	16.00
3	39.00	63.00
4	-67.00	-19.00
5	62.00	18.00
6	20.00	35.00
7	5.00	36.00
8	-11.00	-41.00
9	-76.00	8.00
10	-22.00	-21.00
11	44.00	-45.00
12	5.00	-12.00
13	-5.00	26.00
14	47.00	-7.00
15	108.00	6.00
16	57.00	
17	54.00	
18	159.00	

Table II-14: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grade One, School Year 1984-85

t - Independent Samples File: ENROL 8384 VS CON84 GGIRLS GR 1

Records read: 99
Missing data: 9

Groups defined by: 1983 (8384) CONTROL (CON84)
Dependent variable: 1GDIF

	1983	CONTROL
n	18	15
mean	19.333	4.200
s.d.	41.098	23.495

hypothesized difference: 0 obtained difference: 15.133

t(31) = 1.346 p = .185 standard error = 11.244

	1983	CONTROL
1	17.00	43.00
2	3.00	-13.00
3	29.00	14.00
4	-11.00	-19.00
5	-13.00	60.00
6	-1.00	18.00
7	8.00	13.00
8	-15.00	-28.00
9	-36.00	-1.00
10	-9.00	-3.00
11	53.00	-5.00
12	29.00	-3.00
13	23.00	-17.00
14	11.00	12.00
15	96.00	-8.00
16	43.00	
17	-9.00	
18	130.00	

Table II-15: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Boys in Grades Two through Six, School Year 1984-85

t - Independent Samples File: ENROL 8304 VS CON84 BOYS GR 2-6

Records read: 99
Missing data: 11

Groups defined by: 1983 (8304) CONTROL (CON84)
Dependent variable: SGDIF

	1983	CONTROL
n	19	15
mean	34.444	7.267
s.d.	95.112	60.040

hypothesized difference: 0 obtained difference: 27.178

t(31) = 0.952 standard error = 28.542

	1983	CONTROL
1	115.00	150.00
2	152.00	-107.00
3	87.00	-49.00
4	9.00	5.00
5	-102.00	25.00
6	24.00	-40.00
7	-45.00	-7.00
8	-64.00	-4.00
9	0.00	99.00
10	60.00	-8.00
11	86.00	-23.00
12	-7.00	22.00
13	49.00	112.00
14	-29.00	-71.00
15	298.00	5.00
16	47.00	
17	-89.00	
18	29.00	

Table II-16: Test of the Differences Between Impacts in 1983 New-School Sites and Comparison-Control Sites for Girls in Grades Two through Six, School Year 1984-85

t - Independent Samples File: ENROL 8304 VS CON84 GIRLS GR 2-6

Records read: 99
Missing data: 11

Groups defined by: 1983 (8304) CONTROL (CON84)
Dependent variable: SGDIF

	1983	CONTROL
n	18	15
mean	50.000	24.667
s.d.	53.867	36.744

hypothesized difference: 0 obtained difference: 25.333

t(31) = 1.610 p = .114 standard error = 15.738

	1983	CONTROL
1	105.00	102.00
2	75.00	5.00
3	30.00	-36.00
4	78.00	-11.00
5	-17.00	55.00
6	-6.00	0.00
7	11.00	17.00
8	11.00	-11.00
9	4.00	44.00
10	27.00	49.00
11	74.00	33.00
12	26.00	58.00
13	57.00	55.00
14	79.00	-16.00
15	193.00	26.00
16	75.00	
17	-4.00	
18	122.00	

The results of the comparison between 1983 new-school and control sites in the school year 1984-85 do not indicate a lessening of the impact of the new school in the second year but rather a problem with the time series technique. Variability among sites within the 1983 new-school group and particularly within the comparison-control group increased in the second year because the differences between obtained and expected scores were based on more extended projections. The increased within-group variability decreased the significance of the comparisons, but the magnitudes of the net mean impacts appear to be about the same in the second year as in the first year.

IMPACT OF 1983 NEW SCHOOLS ON PROPORTIONS OF GIRLS' ENROLLMENT

In the Intensive Study of New-School Communities (Chapter I), a technique was developed to determine the impact of a new school on girls' enrollment relative to prevailing levels of girls' enrollment in the local area. The procedure compares the proportion of girls' enrollment in the new school to the proportion of girls' enrollment in a nearby related school chosen to be as similar as possible in size and location to the new school. In the following analysis the same basic procedure is extended to all of the 1983 new-school sites to test the generality of the findings from the Intensive Study.

In the Intensive Study some new schools (e.g., the school in the site of Manshiya) were found to have attracted a larger proportion of girls, as a proportion of total enrollment in grade one, than was to be found in a nearby comparison school. The following study was carried out to see if this was a generalizable impact of the new schools. Although the analysis is basically an extension of that used in the Intensive Study, the statistics are slightly different. Rather than using the proportion of girls to total enrollemnt, we used the proportion of girls to boys, a mathematically equivalent index. Also, rather than comparing enrollments in grade six, we compared enrollments in grades two through six combined--an index that has been consistently used throughout the Extensive Study of the Impact of New Schools.

Table II-17 lists the 1983 new schools and their matched pairs of related schools. Twenty-two matched pairs were identified, and from the enrollment records for the school year 1983-84, the ratio of girls to boys was calculated for each school, both in grade one and in grades two through six combined. The resulting data table may be found in Appendix D to this chapter and the descriptive statistics in Table II-18.

Table II-17: Schools Chosen for Paired Comparison In 1983 New-School Sites

SITE	NEW SCHOOL	FILE NAME	RELATED SCHOOL	FILE NAME
ABU KAB	Nazlet Abu Kab	Aboka	Nazlet Dwena II Moshtaraka	Dwena
SERUR	Asbet Surur II Gadida	Serur	Asbet Akel II IBT	Eakel
ASBET SITTA	Karlyet Sitta	Karle	Asbet Sitta	Esett
IBRAHIMIYA	II Ibrahimiya II Gadida	Ibrah	Saft II Horiya	Saft
KOMY	Komy II Gadida	Ilkom	Kafr Kasash	Kkasa
SANADIDI	Sanadidi II IBT	Sanad	Asbet Yusef Kamel	Eyuse
MOAISARA	Moisara II IBT	Moyis	Bahary Samhod II IBT	Ibaha
NAG IL BEKALA	Nag II Bekala	Nibek	Hager II Merayes	Hager
HAMED AHMED RAMADAN	Nag Hamed Ramadan	Nahme	Gezira Motera II Haditha	Gezih
GEBEL	Gebel II IBT Moshtaraka	Ngebe	Dan Darawi	Idan
NAG AHMED ISMAEL	Ahmed Ismail Bel Sawama Sharq	Ahmed	Nag II Dera	Idera
NAG IL ARAYA	Nag II Araya II Moshtaraka	Niara	Zalo II Sbahia	Izalo
NAG MATRUD	Nag Matrup II Moshtaraka	Nmatr	Nil IBT	Inil
NAG SHANODI	Nag Shanodi	Nshan	Kom Badr IBT	Komba
ALSEBNABOH	Alsebnaboh II IBT	Alseb	Sereyoh II IBT	Serey
MAGAZ IL SHARKI	Magaz II Sharki II IBT	Magaz	Helmiya II IBT	Ihelm
MOSTAFA KAMEL	Mostafa Kamel II IBT	Mosta	Belshana II IBT	Belsh
ABD IL WAHID ID	ABD II Wahid Id II IBT	Abtiw	Said II Balas II IBT	Isaid
KAFR NEKLA	Kafr Nekla II Gadida	Knekl	Kafr II Ramaniya	Kiram
MANSHIYA	Manshiya II Gadida	Mansh	Abkayin	Abkal
NAG DAHI	Abu Dahi IBT	Ndahi	Sahel Bel Sharki Bahgora	Sahel
KHUTABA	Nag II Khutaba	Khuta	Hager Danfiq II IBT Moshtaraka	Hager

190

Table II-18: Descriptive Statistics: Percentages of Girls' Enrollments in Matched Pairs of Schools, 1983 New-School Sites, School Year 1983-84

Descriptive statistics File name: SC83 SIZES OF BOYS ENROLLMENT

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
N1B	22	671.000	30.500	15.033	27.00	13.00	73.00	0
2-6B	19	2183.000	114.895	62.934	86.00	37.00	255.00	3
R1B	21	875.000	41.667	27.249	27.00	20.00	132.00	1
R2-6B	21	3145.000	149.762	96.458	121.00	33.00	419.00	1

Descriptive statistics File name: SC83 PERCENTAGES OF GIRLS

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
N1%	22	18.821	0.856	0.443	0.73	0.33	2.00	0
2-6%	19	7.888	0.415	0.156	0.40	0.18	0.71	3
R1%	21	13.000	0.619	0.262	0.51	0.19	1.13	1
R2-6%	21	9.119	0.434	0.211	0.34	0.19	0.95	1

Taking boys' enrollment as an indicator of the size of the school, one can see from Table II-18 that the related schools were slightly larger than the new schools. The mean number of boys enrolled in first grade in the related schools (RIB) was 41.667 while the mean number of boys enrolled in first grade in the new school (NIB) was 30.5. The mean number of boys enrolled in grades two through six in the related schools (R2-6B) was 149.762 while in the new schools the mean (2-6B) was 114.895. We would expect the enrollments in the related, comparison schools to be somewhat larger than those in the new schools, since the pre-existing related schools tend to be in larger communities.

The percentages of girls are shown in the lower part of Table II-18. The percentages of girls enrolled in grades two through six in the new schools (mean = 0.415) were approximately the same for the new schools as for the related schools (mean = 0.434). However, the percentage of girls in grade one

in the new schools (mean = 0.856) was considerably higher than the percentage of girls enrolled in grade one in the related schools (mean = 0.619). On the average, for every ten boys enrolled in the grade one classrooms of the new schools, there were approximately nine girls enrolled, while for every ten boys enrolled in the grade one classrooms of the related comparison schools, there were only six girls enrolled. This difference in percentages of girls enrolled was tested by a non-parametric test and found to be significant at the .026 level (see Table II-19). This finding supports and extends the hypotheses arising from the Intensive Study of New-School Communities where in general it is argued that the new schools should (and are) having the hoped for differential effect on girls' enrollment in grade one.

Table II-19: Test of the Difference Between Proportions of Girls Enrolled in 1983 New-Schools and Proportions Enrolled in Matched Comparison Schools, Grade One, School Year 1983-84

Wilcoxon Signed Ranks Test File: SCSI GRADE 1 %GIRLS NEW VS EXISTING

Records read: 22
Missing data: 1

Record selection: none
Data fields: N1% R1%

T = 52.00 n = 21

z = -2.207 p = .026

	N1%	R1%	diff	rank
1	0.42	0.42	-0.00	-1.0
2	1.25	0.32	0.93	19.0
3	0.89	0.41	0.48	16.0
4	0.85	0.88	-0.02	-3.0
5	1.81	0.80	1.01	21.0
6	1.00	0.44	0.56	17.0
7	1.05	0.32	0.73	18.0
8	1.08	0.70	0.38	15.0
9	0.73	0.55	0.18	9.0
10	0.39	0.51	-0.12	-7.0
11	0.35	0.70	-0.35	-14.0
12	0.64	0.73	-0.09	-5.0
13	1.31	1.13	0.18	10.0
14	0.33	0.44	-0.11	-6.0
15	0.96	1.00	-0.04	-4.0
16	0.71	0.91	-0.20	-12.0
17	2.00	1.05	0.95	20.0
18	0.61	0.60	0.01	2.0
19	0.33	0.19	0.14	8.0
20	0.70	0.41	0.29	13.0
21	0.67	0.48	0.19	11.0

192

CORRELATES OF NEW-SCHOOL IMPACT

Although, as has been shown, the 1983 new schools had a significant overall impact on enrollment, particularly of girls, there were large differences in the sizes of the impacts from one site to another, within the group. When considering a potential site for a new school, it would be useful to have information that might help in predicting the schools' impact. Some of this information might be drawn from current or historical data on enrollment in the related schools surrounding the potential site. We turn now to an analysis of possible correlates that would help to explain the differences in impact among the schools in the 1983 new-school sites. In the Intensive Study of New-School Commumities (Chapter I), a set of hypotheses were developed about the characteristics of sites that might affect the size of a new school's impact. The following study was designed to shed additional light on those hypotheses.

In the following analysis we will concentrate on the impacts of new schools on enrollments in grade one. Different factors may predict impacts on grades two through six, and these will be the focus of a subsequent study. Appendix E to this chapter contains the data used to estimate correlates of new-school impacts on grade one enrollment in the 1983 sites. Table II-20 contains representative descriptive statistics. The rows identified as BI and GI in Table II-20 show the descriptive statistics on the impacts of the 1983 new school as measured by the differences between their observed and expected enrollments in the school year 1983-84. The average impact on boys was 24.952 while the average impact for girls was 25.190. However, the ranges were very large, ranging from -70 (an unexplained negative impact) to +77 for the boys and -8 to +78 for the girls. The standard deviations of the impacts were 35.610 and 21.514 respectively. There is plenty of variability to explain. (Note that these impacts are larger than the net impacts estimated by comparing the new-school group with the comparison-control groups, since they do not compensate for the systematic underestimation of the expected enrollments by the linear, time-series projection. For correlational purposes that does not matter.)

Table II-20: Descriptive Statistics: Variables Used to Predict Impacts of 1983 New Schools in School Year 1983-84

Descriptive statistics File name: vari83 G1 ENR 83 SITES 7879 TO 8384

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	mi
BL	22	2799.300	127.241	70.491	113.60	23.90	283.90	[illegible]
GL	22	1166.300	53.014	43.258	36.35	-0.50	157.70	[illegible]
BI	21	524.000	24.952	35.610	21.00	-70.00	77.00	
GI	21	529.000	25.190	21.514	19.00	-8.00	78.00	.
3	22	3402.900	154.677	94.591	137.05	27.00	372.10	0
4	22	2021.900	91.905	54.675	87.20	16.30	208.30	[illegible]
5	22	8.744	0.397	0.212	0.36	-0.01	0.82	0
6	22	13.557	0.616	0.206	0.62	0.25	1.21	[illegible]
7	22	4.843	0.220	0.318	0.28	-0.39	0.83	0
8	21	24.747	1.178	1.307	0.75	-0.32	4.76	1

197

Enrollment in the related schools at the new-school sites changed in important ways during the five years preceeding the construction of the new schools. The rows identified as BL and GL in Table II-20 show the enrollments in grade one of the related schools (all schools added together) in the school year 1978-79 as estimated from the straight lines of best fit for the trends in enrollment from 78-79 to 83-84. Rows three and four in the table show the estimated enrollments for the year 1983-84, in the absence of the new school, based on those same straight lines of fit. One can see that, during the six-year period, average boys' enrollment grew from 127.241 to 154.667 while the average girls' enrollment grew from 53.014 to 91.905. The smallest boys' enrollment at any site in 1978-79 was estimated to be 23.9 youngsters, while the largest was estimated to be 283.9. The smallest girls' enrollment in 1978-79 was zero (showing in the Table as -0.5) and the largest as 163.3. In 1983-84 the smallest boys' enrollment was 27 and the largest was 372.1. The smallest girls' enrollment was 16.3 and the largest 208.3.

Line seven in Table II-20 shows the distribution of changes in boys' enrollment from 1978-79 to 1983-84 as a percentage of the enrollment in 1978-79. Line eight shows the same figures for girls. On the average, boys' enrollments in the 1983 new-school sites, prior to the construction to the new school, increased by 22 percent with a range from 39 to 83 percent. At the same time, girls' enrollments increased on the average at a rate of 117.8 percent with a range from 32 to 476 percent. There have been great differences among the sites in their rates of change in enrollment.

Line five in Table II-20 shows the ratio of girls' to boys' enrollment in 1978-79. Line six shows the ratio of expected girls' to boys' enrollment in 1983-84 in the absence of the new school. One can see that the average ratio of girls to boys has increased from .397 in 1978-79 to .616 in 1983-84, but here again the ranges are extreme. One site in 1978-79 had essentially no girls enrolled while another had a ratio of .82 (eight girls for every ten boys). In 1983 84 one site had a ratio of .25 (three girls for every ten boys) while another had a ratio of 1.21 (twelve girls to every ten boys). We turn now to an analysis of the intercorrelations of the foregoing variables guided by the hypotheses suggested from the Intensive Study of New-School Communities (Chapter I).

Independent Variables

Levels and Changes in Boys' Enrollment

The level of boys' enrollment is our best indicator of the overall size of the school population in a particular site. Relatively small enrollments indicate that the site is isolated and distant from towns where there are several schools. Relatively large enrollments indicate that the site is close to an area where there are several schools, although there are no schools in the immediate village. In general, low total numbers of boys indicate relatively "rural" sites as defined in the Intensive Study while relatively large enrollments indicate relatively "urban" sites.

We know from the Intensive Study that the levels of boys' and girls' enrollments tend to be higher in "urban" village sites than in "rural" sites. Generally speaking, therefore, the potential pool of candidates for first grade enrollment is higher in rural areas simply because fewer children are already going to school. All other factors being equal, one might expect to find a correlation between the level of boys' enrollment in 1978-79 and the rate at which boys' enrollment has changed between 1978-79 and 1983-84. This would mean that the ratio of boys' enrollment in the relatively rural sites might be increasing more rapidly than boys' enrollment in the relatively urban sites if in the urban sites most boys had already enrolled by 1978-79. This relationship was not supported by the data, however, indicating probably that the lack of nearby facilities in both urban and rural sites acted equally to constrain enrollment in both contexts. The correlation between the percentage change in boys' enrollment and the size of boys' enrollment in 1978-79 was negative, as would be expected, but it was very small (-.0267). One would expect the negative relationship to become more pronounced as time elapsed permitting the rural sites' increasing rates of enrollment not to be overshadowed by the "catch-up" process in the until-now advantaged urban sites. We will continue to monitor these events in the final two years of data collection.

We might expect changes in girls' enrollments also to be related to the relatively rural or urban characteristics of the site for the reasons outlined above. Again, however, the results in the first years of initial enrollment in grade one may be mixed. Though urban sites have higher ratios of girls' enrollments than rural sites, as yet they do not reach the high levels of city schools. Further, because of more favorable conditions historically, parents in urban sites are more supportive of education and are waiting only for favorable conditions to send girls to school. At first, therefore one would expect to see a "catch-up" process occurring in urban sites and then increasingly a rising ratio of girls' enrollment in rural sites. We found the correlation between percent change in girls' enrollment and boys' level of enrollment to be negative as expected and small (-.0973). Again one would expect this negative relationship to become more pronounced as urban sites brought girls' levels of enrollment to the saturation point.

There was also little correlation between the changes in the proportions of girls' enrollments and the sizes of school populations. Under circumstances where school facilities were easily accessible, one would have expected the ratio of girls' to boys' enrollments to have increased more rapidly in urban rather than rural sites in the past six years. The fact that they did not again confirms the disadvantaged nature of the sites where new schools have been located. The correlation between changes in the percentages of girls' enrollment and the level of boys' enrollment in 1978-79 was only (+.0186).

Thus rates of change of boys' and girls' enrollments and the rate of change of the ratio of girls to boys over the period from 1978-79 to 1983-84 were not related to the size of the related school population as indexed by the total boys' grade one enrollment. Since these are independent of one another, they may all be taken into consideration as predictors of impact.

Correlates of New-School Impact on Boys

From the evidence in Chapter I, we would expect the greatest potential for impact of a new school to be on enrollment of boys in grade one in isolated, rural sites where boys' enrollment has not already reached its maximum. Perhaps, in these sites, boys' enrollments might have been gradually increasing over the past six years as parents continued to overcome the obstacles of extreme isolation. On the other hand, in these isolated sites there may have been little recent change. It is interesting, therefore, to see whether there is a correlation between the size of total boys' enrollment in grade one in 1978-79 (an indicator of the relative isolation of the site) and the new-school impact. The correlation should be negative--the smaller the population the larger the impact. We might also look for a positive correlation between the rate of change in boys' enrollment over the past six years and impact.

Table II-21 shows the results of a multiple correlation of these variables. Variable "BL" is the size of the boys' grade one, related-school population in 1978-79. The variable "B%CHG" represents the change in that total enrollment from 1978-79 to 1983-84 expressed as a percent of the 1978-79 enrollment. The variable "BI" is the impact of the new school. One can see that there was a mild negative correlation, between BL and BI (-.3759); that is, in the relatively rural sites there is slightly higher impact than in relatively urban sites. There was no correlation between the percent change and impact.

The variable "BE" represents the expected, total first-grade boys' enrollment in the school year 1983-84 in the absence of the new school. This variable seems to supply an equally good indicator of the relative isolation of the site, since it correlates with impact somewhat better than BL (the smaller the expected enrollment the greater the impact of the new school).

The multiple correlation of all three predictor variables with impact was .4260. The best combination of two predictor variables was expected enrollment in 1983-84 and percent change from 1978-79 to 1983-84, a correlation of .4133. A correlation of .4 explains about 20 percent of the variance so, roughly speaking and generalizing from these data, one might increase boys' enrollment in first grade by about 20 percent by concentrating on the most isolated rural sites, where boys' enrollment in the closest schools has been increasing over the last six years. These findings support the evidence from the Intensive Study.

Table II-21: Correlations of Selected Variables with 1983 New-School Impacts on Boys in Grade One, School Year 1983-84

Multiple Correlation File: var103 CORRELATNS W BOYS IMPACT

Records read: 22
Missing data: 1

Record selection: none
Data fields: BL 3 7 BI

	BL	BE	B%CHG	BI
mean	123.776	149.623	0.213	24.952
s.d.	70.186	93.054	0.224	35.610

n= 21	BE	B%CHG	BI
BL	.9738	.0520-	.3759-
BE		.3892	.3857-
B%CHG			.0133-

CORRELATNS W BOYS IMPACT

1 BL . 2 BE 3 B%CHG 4 BI

R4.123 = .4260

R4.12 = .3939

R4.23 = .4133

R4.13 = .3773

R4.2 = .3857

Table II-22: Correlations of Selected Variables with 1983 New-School Impacts on Girls in Grade One, School Year 1983-84

Multiple Correlation File: var103 CORRELATIONS GIRLS IMPACT

Records read: 22
Missing data: 2

Record selection: none
Data fields: BL GL 3 4 7 8 GI

	BL	GL	BE	GE	B%CHG	G%CHG	GI
mean	127.305	50.175	155.135	89.805	0.243	1.224	24.850
s.d.	69.500	35.621	91.059	47.905	0.302	1.325	22.015

n= 20	GL	BE	GE	B%CHG	G%CHG	GI
BL	.6971	.8627	.8320	.1840-	.0629-	.3586-
GL		.3910	.6987	.4511-	.4857-	.1581-
BE			.6762	.3045	.1543	.3310-
GE				.1596-	.1361	.2286-
B%CHG					.3936	.1272
G%CHG						.1436-

CORRELATIONS GIRLS IMPACT

1 BL 2 GL 3 BE 4 GE 5 B%CHG 6 G%CHG 7 GI

R7.15 = .3640

R7.16 = .3955

R7.35 = .4084

R7.36 = .3440

R7.26 = .2977

R7.25 = .1701

R7.46 = .2553

R7.45 = .2464

Correlates of New School Impact on Girls

Since girls' enrollments in grade one have lagged behind boys' enrollments in rural sites even more drastically than in urban sites, we might expect to find a negative correlation between the size of new-school impact and the size of the related school population, similar to that expected for boys and for the same reasons. This is, in fact, what was found; the potentially larger pool of rural girls was indeed being drawn upon at a rate that was proportionately larger than the increase in urban-site girls' enrollments. Again, as for the boys, we would expect this negative correlation to become more pronounced.

The correlations shown in Table II-22 show that the impact of the new schools on girls' enrollment was negatively related to the size of the boys' enrollment. The smaller and more isolated the site, the larger the impact. In fact, the combination of variables that best predicts the impact on girls' enrollment is exactly the same as the combination of variables that best predicts the impact on boys' enrollment--the expected enrollment of boys in 1983-84 (negatively related) and the change in boys' enrollment from 1978-79 to 1983-84 (positively related). The correlation of these two variables with the impact of the new schools on girls was .4084 (see Table II-22).

The correlations shown in Table II-23 suggest that consideration of the changes in proportions of girls' enrollment may also help to predict impact of the new school on girls, although only very slightly. The difference in the proportions of girls' enrollment from 1978-79 to 1983-84 was negatively and slightly correlated with impact (-.1247). Adding this variable to the multiple correlation consisting of boys' expected enrollment and the change in boys' enrollment increases the correlation impact very slightly from .3440 in this correlation matrix to .3578, but the effect is of little practical importance.

It is interesting to note that knowing the proportion of girls currently enrolled in related schools at a potential new-school site (%GE in Table II-23) gives little or no information that helps in predicting impact of the new school on girls' enrollment in grade one. The proportion of girls enrolled in related schools at a particular site gives a useful standard of comparison for the impact of the new school, but it does not seem to be helpful in predicting the effect.

For practical purposes, if one chooses isolated sites, where there is small total boys' enrollment in related schools and where boys' enrollment has been increasing over the past six years, one will optimize the impact on both boys and girls in grade one according to this small sample of correlational data. It is important to note that these conclusions, in general, have been drawn from a very small sample of new-school sites and they have been analyzed within such a short time frame from new school opening that it is difficult to assess as yet the stability of patterns that are emerging. Next year when the 1984 new school sites are analyzed we should be able to support and extend these findings further.

Table II-23: Correlations of Proportions of Girls' Enrollment with 1983 New School Impacts in Grade One, School Year 1983-84

Multiple Correlation File: vari83 CORRELATIONS GIRLS IMPACT 2

Records read: 22
Missing data: 2

Record selection: none
Data fields: 3 8 5 6 9 GI

	BE	B%CHG	%GL	%GE	%GDIF	GI
mean	155.135	1.224	0.397	0.607	0.210	24.850
s.d.	91.059	1.725	0.178	0.213	0.236	22.015

n= 20	B%CHG	%GL	%GE	%GDIF	GI
BE	.1543	.2491-	.2396-	.0293-	.3310-
B%CHG		.7611-	.0336-	.5457	.1436-
%GL			.2856	.4984-	.2099
%GE				.6855	.0378
%GDIF					.1247-

CORRELATIONS GIRLS IMPACT 2

1	BE	2	B%CHG	3	%GL	4	%GE	5	%GDIF	6	GI
*		*		*		*		*		*	

R6.12 = .3440

R6.123 = .3563

R6.124 = .3466

R6.125 = .3578

R6.12345 = .4836

199

IMPACT OF THE 1983 NEW SCHOOLS ON LITERACY AND NUMERACY

Until now, the entire focus of the Extensive Study of the Impact of New Schools has been on enrollment. Ultimately, however, it is important to find out whether the new schools have an impact on the numbers of children who reach competency in reading and arithmetic. Logically, the main way in which new schools would achieve this goal would be through the increased enrollment--more children going to school means more children becoming literate. However, it is possible that, as critics of the schools sometimes complain in the United States, more children going to school does not necessarily mean more children becoming literate, because they may not learn these competencies while they are on the school rolls. New schools may, in other words, attract more children, but a lower percentage of these children may achieve literacy while in school.

The following report comprises a first, preliminary analysis of the test scores of students in the new schools. Our proxies for literacy and numeracy are the proportions of youngsters passing end-of-year examinations at grades two, four, six, and nine. Only a very small number of new schools include grade nine, so the present analysis focuses on the tests for grades two, four, and six. Separate tests are given in Arabic and in mathematics. The Arabic test is our proxy for literacy and the mathematics test is our proxy for numeracy. We are interested in the proportions of youngsters who pass these tests. In our preliminary analysis, passing scores on these two tests were combined: our data, therefore, consist of the proportions of youngsters passing both examinations. Passing the examinations at the second grade level represents a rudimentary kind of literacy and numeracy, passing the fourth grade level represents a more generally accepted level of basic literacy, and passing the sixth grade level is generally accepted as fully representing basic literacy. In Egypt at the present time the tests for second and fourth grade are locally produced. The tests for sixth grade have been until recently formal governorate-wide examinations. As of the school year 1983-84, each governorate has the option of requiring governorate-wide sixth-grade tests or allowing teachers to use locally produced tests.

Logically, one would not expect the construction of a new school to have an effect on the numbers of children passing examinations during the first year of the school's operation, unless some kind of selection factor was in operation that caused the new school to attract transfers from other schools who tended to be either more or less competent than the average. However, at the end of the second year of operation of the new school, the first-grade cohort that began studying in the first year of school operation would take the grade two end-of-year tests. Four years after the school opened they would take the grade four test. At this point one could ask whether an acceptable proportion of these children were passing, since they can be seen as exclusive "products" of the new school.

Method

Data on the numbers of children attending and passing end-of-year tests in second, fourth, and sixth grades have been collected from all of the schools in the previously described 1983 and 1984 new-school sites. The present analysis deals with the 1983 sites where examination data could be collected from the new schools at the end of the school year 1983-84. As noted above, we do not expect to find impacts of the 1983 new schools in the data from school year 1983-84. These data are presented simply to illustrate the method of analysis and assess its reliability.

Our strategy in this preliminary analysis is comparable to the previously described strategy for comparing the proportions of girls' enrollments in the new schools with the proportions of girls' enrollments in comparable related schools at the same sites. The same set of matched pairs of schools were used (see Table II-17). Our approach is to compare proportions of youngsters passing the examinations (out of those enrolled in school) in each pair of schools. If overall, the proportions of youngsters passing the examinations in the new schools equal or exceed the proportions of youngsters passing the examinations in the comparison schools, then we will say that the new schools have produced a net increase in literacy, since enrollment increased and the proportions passing the examinations did not decrease. (It might also be possible that the new schools might be so attractive, well equipped, well staffed, and well organized that they also produce a detectable increase in the proportions of students passing examinations in contrast to their comparison schools.)

Distributions of the proportions of youngsters passing the examinations were constructed for each group, and differences in these distributions were tested for significance with non-parametric statistics. The basic data table for these comparisons may be found in Appendix F.

Findings

Table II-24 shows descriptive statistics on the proportions of youngsters passing the examinations in the new schools and their paired-comparison schools, for boys and girls at grade levels two, four, and six. The reader will be quick to note that many of the percentages are greater than 100--more children passed some of the examinations than were enrolled in school. We are told that this happens because of the practice of allowing youngsters who have not been enrolled in school to take the examinations and to acquire credit for passing them. Only in grade six, the grade level of the formal governorate exam, are the passing percentages notably less than 100 percent. A somewhat smaller percentage of girls seems to pass the sixth grade exam than boys. Percentages obtained from the new schools are very comparable to those obtained from their paired-comparisons. Note that there was a much greater difference among schools, within groups, than there is between groups.

Table II-24: Descriptive Statistics: Proportions of Students Passing End-of-Year Examinations (Out of Those Enrolled in School) in 1983 New Schools and Paired-Comparison Schools, School Year 1983-84

Descriptive statistics File name: exa83%r %PASS TO ENROLMT NEW SCH 83-84

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
NB2%	18	17.542	0.975	0.230	1.00	0.59	1.61	4
NB4%	16	14.538	0.909	0.225	0.78	0.38	1.31	2
NB6%	12	9.832	0.819	0.218	0.93	0.48	1.00	1
NG2%	18	19.594	1.089	0.346	1.00	0.67	2.00	4
NG4%	16	17.291	1.017	0.541	1.00	0.57	2.50	2
NG6%	11	8.528	0.776	0.326	0.85	0.00	1.00	1

Table II-25: Descriptive Statistics: Proportions of Students Passing End-of-Year Examinations (Out of Those Attending the Examinations) in 1983 New Schools and Paired-Comparison Schools, School Year 1983-84

Descriptive statistics File name: exa83%r %PASS TO ATTEND NEW SCH 83-84

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
NB2A%	18	17.409	0.967	0.051	1.00	0.86	1.00	4
NB4A%	16	15.187	0.949	0.100	1.00	0.61	1.00	5
NB6A%	13	11.174	0.860	0.201	0.95	0.48	1.00	5
NG2A%	18	17.451	0.970	0.049	1.00	0.87	1.00	4
NG4A%	16	14.952	0.934	0.160	1.00	0.36	1.00	5
NG6A%	12	9.890	0.824	0.304	1.00	0.00	1.00	1

Descriptive statistics File name: exa83%r %PASS TO ENROL COMP SCH 83-84

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
NB2%	20	20.465	1.023	0.217	0.98	0.70	1.64	2
NB4%	20	19.418	0.971	0.071	1.00	0.71	1.08	2
NB6%	19	15.115	0.840	0.140	0.86	0.55	1.00	3
NG2%	20	21.195	1.060	0.417	1.00	0.92	2.90	2
NG4%	20	20.361	1.018	0.282	1.00	0.67	2.00	2
NG6%	18	14.241	0.791	0.279	0.88	0.00	1.10	4

Descriptive statistics File name: exa83%r %PASS TO ATTEND COMP SCH 83-84

Records read: 22
Record selection: none

Variable	n	sum	mean	s.d.	median	min	max	md
NB2A%	21	20.264	0.965	0.047	0.98	0.83	1.00	1
NB4A%	21	20.399	0.971	0.070	1.00	0.71	1.00	1
NB6A%	21	18.459	0.879	0.127	0.91	0.58	1.00	1
NG2A%	21	20.428	0.973	0.059	1.00	0.75	1.00	1
NG4A%	21	20.428	0.973	0.053	1.00	0.83	1.00	1
NG6A%	19	15.868	0.835	0.187	0.87	0.43	1.00	3

202

The differences between the distributions of proportions of students passing the tests in the new schools and the comparison schools at each grade level were tested by the Wilcoxon Signed Ranks Test. One contrast was found to be statistically significant: for boys at grade four slightly larger proportions of youngsters passed the tests in the comparison schools than in the new schools (see Appendix G).

It is difficult to interpret the foregoing proportions, because so many youngsters took the examinations who apparently were not enrolled in school. Consequently the data were also analyzed using proportions of attendance rather than enrollment. The descriptive statistics for this analysis are shown in Table II-25. None of the proportions exceeded unity, but they are again all very high, with only a slight reduction in the proportions passing the grade six examination. None of the comparisons approached statistical significance by the Wilcoxon Signed Ranks Test. (See Appendix G to this chapter.)

Clearly, the procedure for collecting data from the examinations needs improvement. Next year in the new and comparison schools we will try to collect data pinning down exactly how many students of those who were enrolled attended the examination and of those how many passed, leaving out of the analysis youngsters who came to school to take the examination but who had not been carried on the school's rolls during the preceeding year.

The conclusion one may draw from this preliminary analysis is that, on the whole, the new schools seem to be performing essentially the same as the related schools. Therefore, the net impact of the new schools on literacy would seem to be positive, because the additional children who are attracted into the new schools do not seem to be failing the examinations more frequently than those in the comparison schools. As previously noted, we would not expect to find a direct effect of the new schools until we have data on the percentage of students in the 1983 New School sites who passed the second grade examination in the summer of 1985. These data will be reported next year. Similarly, if the project's life span allows, we would be able to analyze the performance of the 1983 new-school first-grade cohort on the fourth-grade examination using data collected in the summer of 1987. We will be able to analyze the performance of the 1984 new school first grade cohort on the second grade exams using data collected in the summer of 1986.

The differences among the proportions of youngsters passing examinations between schools, within groups, is of particular interest. For example, though on the average the proportion of boys who passed the examinations in grade 2 in the new school sites was .975, it ranged from a low of .59 in one school to a high of 1.61 in another (see Table II-24). Similar variability may be seen in all the groups. It would be very interesting to know what factors account for both the particularly low percentages of passes in certain schools and the particularly high percentages in the others. During the school year 1985-86 we hope to collect more thorough data from a set of schools that may help to throw light on the sources of this variance (see Chapter III).

SUMMARY AND DISCUSSION

In its second year, the Extensive Study of the Impact of New Schools has concentrated on the 1983 new-school sites. The impact of the 1984 new schools will form the core of the Third Annual Report. The impact of the 1983 new schools was significant in comparison to the control sites, beyond the .05 level for all groups of students--boys and girls in grade one and boys and girls in grades two through six. The overall impact is now estimated to be to add, in the first year, approximately 18 boys to grade one, 19 girls to grade one, 46 boys to grades two through six and 26 girls to grades two through six. These are very respectable impacts for a new school. The second-year impact of the new schools was of comparable magnitude to that of the first year but statistical significance did not attach to the comparisons. This is an artifact of the statistical procedures used.

A study of the specific impact of the new schools on proportions of girls' enrollment during the first year showed that in the new schools the average ratio of girls to boys in grade one was .856--approximately eight girls for every ten boys. The average proportion in comparison schools at the same sites was .619--approximately six girls for every ten boys. This finding was statistically significant beyond the .05 level. The new schools thus appear to be achieving their goal of especially increasing girls' enrollment.

A study of variables that might be used to predict the impact of new schools, based on variations among the 22 1983 new-school sites, suggests that the smaller the enrollment in the related schools surrounding a site, as indexed by boys' enrollment in grade one, the larger the impact of the new school. A multiple correlation consisting of size of boys' enrollment (negatively related to impact) and rate of change of boys' enrollment over the past six years (positively related) correlated at approximately .4 with new school impact. The same combination of variables predicts the impact of new schools on girls' enrollment at approximately the same level. Thus, in general, it appears that within this set of predominantly rural and isolated sites, the more rural and isolated the site, the greater the impact of the new school.

No differences were found between percentages of children passing examinations in the new schools and percentages of children passing examinations at comparable grade levels in paired-comparison schools at each site. Further improvements need to be made in the procedure for collecting the examination data. Analysis of the examination data will become more important during the next years of the study.

In general, the findings from the second year support and extend those of the first. The results continue to underline the wisdom of locating schools in isolated rural areas as a strategy for increasing both girls' and boys' enrollment with a particular differential effect upon girls. Clearly, there is a trade off. To produce a net increase in enrollment, particularly of girls, new schools should be placed in isolated, rural villages. But for a time these schools will be underutilized in the upper grades. To relieve crowding, new schools should be placed in urban villages, towns, and cities. These schools will be immediately utilized at all grades, but probably will not produce <u>net</u> increases in enrollment.

204

CHAPTER III

STUDY OF NEW EQUIPMENT

TABLE OF CONTENTS

	Page
Background	III-1
Study Approach	III-1
Study Organization	III-3
Procedures for the Visits	III-3
Schools Visited	III-5
Facilities	III-9
Classes Observed	III-10
Teachers and Headmasters Interviewed	III-12
Distribution of Equipment	III-13
Procedures	III-13
Constraints on Equipment Use	III-14
Findings	III-14
Equipment Storage	III-14
Equipment Maintenance and Repair	III-16
Materials Budgets	III-17
Equipment Instruction Booklets	III-19
Equipment Distribution	III-19
Teachers' Opinions About USAID-Funded Equipment	III-21
Instruction	III-28
Objectives and Equipment Use	III-29
Class Organization and Teaching	III-29
Teacher Talk--Student Talk	III-30
Students Active or Passive, Self-Directed or Teacher Directed	III-30
Emphasis on Practical vs. Theoretical Learning	III-31
Examinations	III-32
Inservice Training	III-33
Teachers'--Headmasters' Recommendations	III-36
How to Improve Instruction In the Practical Classes	III-36
Equipment Needed	III-37
Summary	III-38
Equipment	III-38
Materials	III-39
Facilities	III-40
Inservice Training	III-40

206

TABLE OF CONTENTS
(Continued)

	Page
Innovative Methods	III-41
Assessment	III-41
Specific Recommendations	III-42

LIST OF TABLES

III-1	Summary of Schools by Type of Location and Level	III-6
III-2	Characteristics Assumed to Affect Enrollment and Grade-Level Attainment	III-7
III-3	Schools by Location and Level	III-8
III-4	Number of 1984 Equipment Schools Having Special-Purpose Rooms	III-10
III-5	Classes Observed by Subject and Grade Level	III-11
III-6	Years of Experience as a Headmaster	III-12
III-7	Years of Teaching Experience--Headmasters	III-13
III-8	Percentages of Sample Schools Receiving Less Than, More Than, or the Correct Amount of Money for Their Materials Budget in 1983-84 and 1984-85	III-17
III-9	Percentages of Sample Schools Receiving Less Than the Correct Amount of Money for their Materials Budget by Governorate in 1983-84 and 1984-85	III-18
III-10	Number of Items of Carpentry Equipment Ten Schools Had Received in 1984 as Opposed to the Number they Were Supposed to Receive	III-20
III-11	Emphasis Given by Teachers to "Practical Learning" as Opposed to "Theory Learning" in Teaching the Practical Courses and Science	III-31
III-1	Percent of Schools Receiving Equipment	III-21
III-2	Percent of Teachers Judging Equipment to be Adequate	III-22

207

LIST OF FIGURES

		Page
III-3	Percent of Primary School Teachers Judging Equipment to be Adequate	III-23
III-4	Percent of Preparatory School Teachers Judging Equipment to be Adequate	III-23
III-5	Percent of Teachers Judging Equipment to be Adequate in Kind	III-25
III-6	Percent of Teachers Judging Equipment to be Adequate in Amount	III-26
III-7	Percent of Teachers Judging Equipment to be Adequate in Amount in 1983	III-27
III-8	Percent of Teachers Judging Equipment to be Adequate in Amount in 1984	III-27
III-9	Possible Point Distribution for Evaluating Students in Practical Courses	III-32
III-10	Percent of Teachers Receiving In-service Training of Differing Course Lengths	III-34
III-11	Teacher Ranking of Inservice Course Utility	III-35

208

BACKGROUND*

With the advent of the Basic Education Project, it became necessary to provide teaching equipment for use in agriculture, industry, home economics, science, and social studies. The AID commodities import program was used for this purpose.

Committees of supervisors and experts in technical education were assembled and charged with compiling lists of the needed equipment. In general, the equipment was of two sorts: that needed by teachers as instructional tools--items such as charts, maps, globes, slide projectors and slides, overhead projectors, and demonstration models for use in science--and equipment for student use. The latter ranged from simple hand tools such as saws, hammers, screw drivers, pliers, rakes, steam irons, kitchen utensils, crocheting needles, and other sewing equipment, to rather more complicated items such as electric drills, voltage meters, electric sewing machines, incubators for baby chicks, microscopes, and so forth.

A system was developed for tendering, purchasing, receiving, verifying order fulfillment, and shipping; for checking for damage caused in shipment or offloading; for actions to correct such errors or problems; and for temporary storage prior to distribution. A parallel system was developed and set into operation for identifying each school's equipment needs so that once shipments were received, verified, inventoried, stored, and made ready for distribution, governorate education officials were notified to come to the appropriate warehouse (in Alexandria or Damenhur) to receive their equipment for distribution to schools.

STUDY APPROACH

The purposes of the study are to determine and assess the relationships between the input and use of new USAID-funded equipment and enrollment, attendance, retention in grade, and students' learning of practical skills and knowledge in the Basic Education courses offered in grades five through nine in selected schools in the five governorates of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena.

It was hypothesized that:

- certain patterns and levels of utilization of equipment of the type supplied by USAID will measurably increase the enrollment of school children;

---

*The reader familiar with the 1983 report may wish to skip the "Background" and begin reading the subsection entitled "Schools Visited," starting on page III-5.

209

- certain patterns and levels of utilization of equipment of the type supplied by USAID will measurably increase the attendance of school children;

- certain patterns and levels of utilization of equipment of the type supplied by USAID will decrease retention in grade;

- certain patterns and levels of utilization of equipment supplied by USAID will measurably increase both the practical skills and theoretical knowledge of school children;

- certain patterns and levels of utilization of equipment of the type supplied by USAID will measurably increase the enrollment, attendance, and practical skill levels of disadvantaged populations (girls, rural children, and poor children); and that

- a relationship exists between the Basic Education Project goals of increasing enrollment and attendance, of enhancing the development in school children of the desired skills and knowledge, and the following factors:

  - the adequacy of the supply of materials and equipment;

  - the degree of logical connection between the content and uses of the materials and equipment, the instructional goals of the units of instruction in which they are used, and the tests used to evaluate the children's performance;

  - the levels of the teachers' training in the use of materials and equipment in instruction;

  - the maintenance, repair, and replacement rules and procedures;

  - the logistics of storage and retrieval of equipment in the schools; and

  - the amount of administrative encouragement and supervision in the use of the new equipment.

The study was divided into two phases. Phase one, the first two years, was designed as a descriptive and qualitative study to answer the questions posed by the last hypothesis through looking in depth at those factors listed as contributing variables that might affect the achievement of the Basic Education Project goals. Phase two of the study (see the Appendix to this chapter for a copy of phase two of the study) is designed to answer the questions posed by the first five hypotheses.

In pnase one, therefore, information was gathered on the selection, acquisition, and distribution of equipment and the efficacy of that process; on its instructional use in schools, in particular with reference to the curriculum; on the amount and nature of teacher and headmaster training; on the suitability of the equipment for its intended uses; on constraints that might inhibit its use; and on administrative or logistical problems with regard to its use, storage, record-keeping, replacement, and repair, among other things.

Interviews were conducted with key officials in the Ministry of Education in Cairo, in the governorate education offices of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena, and in schools. During the team's visits to each governorate, interviews and briefing sessions were held with the Undersecretary and/or Director General, with the Director of Basic Education, the Director of Planning and Follow-up, with educational zone and district officials, and with relevant supervisors.

In the schools visited, the team interviewed headmasters, teachers, teaching assistants, and school secretaries; observed classroom instruction; examined equipment in storage and use; and examined school records and administrative and supervisory procedures.

STUDY ORGANIZATION

For logistical reasons, the team responsible for the Intensive Study of New-School Communities and the Equipment Study Team scheduled their fall field visits concurrently each year. The equipment team made an additional field visit to schools during March 1984, however, to see what changes, if any, had taken place during the instructional year (see the Appendix to this Chapter for the schedules of field visits).

The fall visits began on or about the first of November and usually lasted about five full weeks. The 1984 visits were to schools and communities in the governorates of Beheira, Assiut, and Qena. In 1985, visits were made to schools and communities in the two remaining governorates in the study, Kafr il Sheikh and Sohag.

Even though our visits came at or very near the beginning of school both years and were somewhat disruptive of school routines despite our best attempts to be as unobtrusive as possible, the teachers and school officials were generous of their time and energy for which we are extremely grateful. Without their gracious cooperation, the study would not have been possible.

PROCEDURES FOR THE VISITS

In February 1983, a preliminary visit had been made to the governorates of Beheira, Assiut, and Qena to pick sample communities for the Intensive Study of New-School Communities, sample and control schools for the Extensive Study of the Impact of New Schools, and to select schools and gather background

211

information on them for the Study of Equipment. Relatively short and informal visits were made to the schools to gather background information and familiarize team members with the schools, the equipment, and its use in the schools. Field visits had been planned for the spring of each year but subsequent events that spring forced us to reschedule our major visits to the fall of each year.

Prior to each visit, a visitation schedule and travel itinerary were submitted to the MOE for approval and security clearance. Once obtained, governorate education officials were notified of the visits and schedule. Upon arriving in the governorate, we met first with those responsible for having made the scheduling and other logistical arrangements for us.

As soon as convenient, we then met with the senior governorate education official and other appropriate staff to discuss our plans, procedures, and study purposes; to answer any questions that arose; and to secure final approval and security clearance at the governorate level. Appropriate officials at the markaz, zone, and district levels, and in the schools and communities were then apprised of our schedule. We were then free to begin the formal community and school visits, accompanied on each, of course, by governorate and local officials assigned to act as hosts and expediters.

Though this schedule may appear rigid, in reality changes were frequently necessary and were made without problem, particularly in selecting schools to visit each day. In fact, for the November 1984 field trip for school visits in Kafr il Sheikh and Sohag, only a general schedule was sent out prior to our visit which listed only one school specifically by name. All decisions as to which schools to visit were then made on a day-by-day basis.

On days when two or three small schools were to be visited, the team was split up so that two or three researchers and one or two officials visited one school and the remainder visited another. In the case of visits to larger schools, however, the entire team stayed together so as to complete the visit in one day, if possible.

Upon arrival at a school, the ministry official introduced us to the headmaster and staff, explained the purposes of the visit and the procedures we would follow, and answered any questions. In the course of these conversations, we examined the school's instructional schedule, decided on which classes to observe, and assigned the researchers. They were then accompanied to classes, introduced, and left on their own to conduct the observations. In every instance, the American observer was accompanied by an Egyptian researcher who also observed the class.

While observers were in classes, another team member interviewed the head master, the school secretary, equipment clerks (if a larger school); examined school records; and inventoried all USAID-financed equipment. In smaller schools, once the observations and the administrative staff interviews were complete, the teachers of the practical courses and science were assembled and

212

interviewed. In larger schools, teacher interviews were scheduled first and classroom observations were conducted during periods when teachers were not available for interviews.

These were small-group interviews of two, three, or four teachers at a time. After the teachers had been given the questionnaire, the researcher explained the purposes of the study, assured them of anonymity, and explained response procedures and any technical vocabulary items that were not understood. He stayed with the group as they proceeded through the questionnaire, answered questions as they arose, and monitored to see that responses were individual, though inevitably there was some discussion among the teachers of particularly thorny or volatile issues. Frequently, these impromptu discussions provided the researcher with additional important information.

Each afternoon or evening of the day of the school visit, the team went over every interview and observation, checking for response accuracy and completeness, and coding the answers. Any unusual circumstances that might have biased responses in one way or another or may have indicated that a lesson was unrepresentative were discussed thoroughly and entered in field notes.

SCHOOLS VISITED

Though we visited the schools in the "new-school communities" under study and a few of their related schools (schools the students in the new schools had attended or would have attended were there no new school) in 1983, we were not able to take data from any of these "new" schools since none had as yet received any equipment. Therefore, we concentrated in the main on gathering data from schools in the markaz and governorate capital towns and cities. These had been chosen from a list prepared by the Directors of Planning in the governorate education offices in conjunction with their Directors of Basic Education so as to be representative of the schools in Egypt, ranging from the "ordinary" to the "exemplary"--those of which they were particularly proud, wherein we might find especially "good" instruction and equipment use in science, agriculture, industry, and home economics.

Since the study was designed to be qualitative and descriptive and to tie into the Intensive Study of New-School Communities, our initial set of schools was those in the new-school communities. As has been mentioned, this initial set was then augmented by the addition of a set selected from a list of candidate schools in governorate and markaz capital towns and cities provided us by governorate officials at our request. From that longer list, we then selected the additional schools we needed to fill out our sample and make it as fully representative as possible of the full range of schools to which equipment had been provided. It should be noted, however, that none of the large cities of Egypt--Cairo, Alexandria, Tanta, etc.--were included in the study, since none was located in the governorates of Kafr il Sheikh, Beheira, Assiut, Sohag, and Qena to which the study was limited by AID.

213

Table III-1, following, summarizes the location of the schools by the categories used to group the rural communities in the Intensive Study of New-School Communities, with the addition of the category of markaz or governorate capital city.

Table III-1: Summary of Schools by Type of Location and Level

LOCATION	LEVEL		
	PRIMARY	PREP	TOTAL
Urban Village	5	3	8
Mixed Village	9	2	11
Rural Village	7	2	9
City/town (Governorate or markaz capital)	17	23	40
TOTAL	38	30	68

"Urban" villages are those in which the combination of the spatial distribution of the school population, occupational patterns, the value placed on education, the distribution of socioeconomic levels, and the degrees of urbanity/ruralness is assumed to have a positive effect on school enrollment and grade-level attainment. "Rural" villages are those in which the combination of these variables is assumed to have a negative effect. "Mixed" villages, as the name implies, are transition communities in which there are wide ranges in the distribution of these variables such that they possess some characteristics of both the "urban" and the "rural" villages. Table III-2 below illustrates this in summary fashion.

Table III-2: Characteristics Assumed to Affect Enrollment And Grade-Level Attaiment*

VARIABLE	NEGATIVE EFFECT	POSITIVE EFFECT
1. Spatial variables in the distribution of school populations	far/dispersed	near/concentrated
2. Occupational variables	agricultural	touristic/industrial/ commercial
3. Value in education	few or no nearby schools; existing schools not long established	many schools/long established
4. Socioeconomic level	poor	self sufficient/ affluent
5. Urban/rural	rural/far from cities	urban/near cities

*Study of USAID Contributions to the Egyptian Basic Education Program: First Annual Report. Vol. 1: Studies of New Schools; Oct. 1984; p. 20.

Table III-3, on the following page, lists the location and level of the sample selected schools.

Of these schools, 63 percent are mixed-sex schools, 19 percent are girls' schools, and 18 percent are boys' schools. Eighty-three percent of the preparatory schools are single-sex schools. There are no single-sex primary schools in the sample.

Of the 68 schools visited, 8 were new USAID-financed schools. These new schools were located in the small villages of Roda, Manshiya, Kafr Nekla, Ghanayem, Nag il Haref, Nag il Khutaba, and Nag il Dahi. The two additional new USAID-financed schools in the community sample, a Basic Education school (grades one-nine) for girls in Beni Rafa and a primary school in Gurna, were not visited because they had not yet opened. They are expected to be in operation by the fall of 1985.

215

Table III-3: Schools By Location and Level

1983			1984		
Beheira					
	prim	prep.		prim	prep
Hosh Isa	-	2	Manshiya	1	-
Mahmudiya	2	-	Abqain	1	-
Damenhur	1	2	Hosh Isa	1	-
Kafr Duwar	1	1	Monshat il Awkaf	1	-
			King Othman	2	-
			Kafr Duwar	1	-
Assiut					
Assiut	2	3	Manfalut	-	1
Beni Rafa	1	1	Azaiza	1	1
Ghaneyem	1	1	Ghaneyem	1	1
Qena					
Qena	2	2	Nag il Dahi	3	-
Luxor	1	1	Khutaba	1	-
Nag Hamadi	1	1	Danfiq	1	-
Kafr il Sheikh					
			Roda	1	1
			Duwayda	1	-
			Abu Daraz	-	1
			Motobus	-	2
			Kafr il Sheikh	2	2
Sonag					
			Nag il Haref	1	-
			Nida	4	-
			Akhmim	2	-
			Sohag	2	3

The remaining 60 were located in companion villages to the new-school communities (the related schools) and in markaz and governorate capitals. In age they ranged from the oldest, which began in 1911, to the four USAID-financed schools completed in 1984. Of those for which we have information, 13 percent were built in the 1940s or earlier, 50 percent were built in the 1950s and 1960s, and 37 percent in the 1970s and 1980s.

216

Two buildings were used simultaneously to house both a girls' preparatory and a girls' secondary school, both operating as full-day schools. One building houses both a primary and a preparatory school that operate simultaneously, each with its own faculty and administration.

Twelve (frequently referred to as two-shift schools) are buildings that house two separate schools, one of which meets in the morning and the other in the afternoon. Eight were schools that split their classes into two shifts, so that some are held in the mornings, some in the afternoons. The remaining 44--the predominant majority-are single-shift, single-session schools. However, the majority of these are very crowded and, as has happened elsewhere, at least one of the USAID-financed schools we visited, which began holding classes in early November 1984, reports it will have to go on two shifts by the fall of 1985.

Within the schools, classroom observations were made in each relevant grade level in the practical courses and science. Audiovisual equipment and instructional materials for the social studies (maps, charts, globes, etc.) were also examined but no classroom visits were made to observe them in use.

FACILITIES

Information was gathered on the physical facilities, numbers of special-purpose rooms for instruction, such as workshops for teaching industry and agriculture, home economics rooms, gardens (the out-of-doors workshop for teaching agriculture), audiovisual rooms, and rooms for equipment storage.

Even though the schools surveyed in 1984 are somewhat better supplied with workshops (79 percent of the schools surveyed in 1983 had no workshops whereas only 23 percent reported having none in the 1984 schools), about even in home economics rooms, and worse off in all other categories, Table III-4 clearly shows the severity of the facilities shortages still facing the Egyptian schools. Even so, ingenious staff make efficient use of what space they do have. In the 1984 survey, for example, 33 percent of the workshops were shared among two, three, or four subjects and 10 percent of the schools had converted a classroom to workshop use.

In one small preparatory school we visited, the industry teacher and students use the school's corridor as their workshop or work under a tree in the school yard, which is also used as a threshing floor by some of the villagers.

Each primary school teaches three practical courses--agriculture, industry, and home economics. The preparatory schools offer the same three if mixed-sex schools. If single sex, they only offer two of the three courses.

Two (7 percent) of the 28 schools visited in 1983 had no electricity. Of the 40 schools visited in 1984, however, 13 or 33 percent had no electricity, and of the 27 that did, 4 did not have electricity in all rooms. All but one of the 1983 schools had water piped in but only 33, or 83 percent, of the 40 1984 schools did.

Table III-4: Number of 1984 Equipment Schools Having Special-Purpose Rooms

Types of Special-Purpose Rooms	Number of Special-Purpose Rooms per School								Total Number of Schools
	7	6	5	4	3	2	1	0	
Workshops	1	2	2	3	8	6	7	9	40
Home Economics Rooms	-	-	-	-	1	3	8	9	40
Libraries	-	-		-	-	-	11	29	40
Gardens	-	-		-	-		18	22	40
Storerooms	-	-	-	-	-	-	1	39	40
A/V Rooms	-	-		-	-	-	1	39	40

The preparatory schools are larger than the primary schools, of course, ranging in size from one school with 40 classrooms, down to three that have only 6 classrooms. Seventy-four percent have more than 13 classrooms and 52 percent have 25 or more classrooms. On the other hand, 60 percent of the primary schools have less than 13 classrooms, 30 percent have between 13 and 29 classrooms, and only 14 percent have more than 19, with the largest one having 25 classrooms. Average class size differs, as well, with the primary schools having the larger average class size--43.1 as contrasted with an average of 38.6 students per class in the preparatory schools.

CLASSES OBSERVED

The major criteria for selection of classes for observation were coverage of the practical subjects and grade levels; coverage of as wide a range of teaching patterns as possible, including examples in each field of both "theory" and "practical" teaching; coverage of the variety of patterns of classroom organization for teaching; as much curriculum coverage as possible in such a short visit; and coverage of the different patterns of equipment usage.

Thus, in schools large enough to provide a wide choice, classrooms were chosen to provide data for a full picture of that school's instructional patterns in the practical subjects and science in the range of relevant grade levels. In other instances, classes were chosen at random to sample a school's offerings, or special observations were made to observe classes taught by teachers that were considered superior, or to observe the use of a set of equipment not yet observed, or to observe the teaching of a portion of the curriculum not yet observed.

Table III-5 displays the classrooms observed by subjects and grade levels. Note we observed appreciably more classes in grade six in primary schools, since that is the last year of primary, and unfortunately for all too many children also their last year of school. In preparatory schools we observed a somewhat larger proportion of grade nine classes, since that is the last year of Basic Education and since 1984 was the first year in which Basic Education was to be a regular offering in that grade.

Table III-5: Classes Observed by Subject and Grade Level

Grade Levels	SUBJECTS				
	Agri.	Indus.	H.E.	Science	Total
Grade 5	5	5	6	6	22
Grade 6	13	10	15	15	53
Total Primary	18	15	21	21	75
Grade 7	6	9	3	4	22
Grade 8	5	7	6	6	24
Grade 9	5	9	6	10	30
Total Preparatory	16	25	15	20	76
TOTAL	34	40	36	41	151

TEACHERS AND HEADMASTERS INTERVIEWED

Teachers in preparatory schools are expected to be university graduates, in the main. Those in helping roles--teaching assistants, laboratory technicians, and others--however, are not. The schools are faced with teacher shortages, however, and consequently must often make exceptions. Of the preparatory teachers we interviewed, 54 percent were not university graduates but had received their pre-service training in teacher training institutes--36 percent had graduated from three-year programs (teacher training secondary schools) and 18 percent from five-year programs.

While this may look like a large percentage of non-university graduates teaching in the preparatory schools, the reader should keep in mind the nature of our sample. We interviewed teachers of science, most of whom are university graduates, of course, but the remainder were teachers of agriculture, industry, and home economics, most of whom are not. Six percent of our sample taught two subjects, science and agriculture in the main, and the remainder taught only one subject.

The teaching staff is relatively young, 35 percent having taught four years or less. Ten percent were first-year teachers, 25 percent had taught from two to four years, 22 percent from five to nine years, and 43 percent were veterans of ten or more years of experience.

By and large they were also quite mobile. Twenty-six percent were new to the school in which they were teaching, 41 percent had taught from two to four years in the same schools, 22 percent from five to nine years, and only 11 percent had taught in the school in which they were currently teaching for ten or more years.

We decided to gather much more information on headmasters and their background in our 1984 school visits once we began to understand how critical their role was or could be in the schools, particularly in the primary schools and even more particularly in the more remote, smaller, rural primary schools.

Table III-6, below, shows their years of experience as a school head. As one can see, almost half of the headmasters were relatively new at their job, 45 percent having between one and four years experience. Sixty-two percent of

Table III-6: Years of Experience as a Headmaster

1-4	5-9	10-14	15+	No Answers
45%	28%	10%	8%	8%

the preparatory-school heads were in the one-to-four year group. No preparatory- school head had served more than eleven years. All the headmasters had been teachers, of course, and we were curious to see how much teaching experience they had as a group given their supervisory responsibilities. As Table III-7 shows the vast majority were well-seasoned veterans--83 percent having taught 10 years or more. None were teaching headmasters.

Table III-7: Years of Teaching Experience--Headmasters

n = 40

5-9	10-14	15-19	20-24	No Answer
8%	28%	30%	25%	8%

DISTRIBUTION OF EQUIPMENT

PROCEDURES

Some of the schools began receiving USAID-financed equipment in 1981. Based on the knowledge of the practical courses each school planned to offer, its size, and the amount of equipment it already had, the governorate education offices drew up lists of their equipment needs for each school and submitted them to the appropriate office in the central Ministry in Cairo. Once the equipment had been officially processed and stored in the Alexandria or Damenhur warehouse, the governorate offices were notified to come and get their requests.

In turn, the governorate offices were responsible for distributing the equipment to their schools. The equipment had been grouped into separate "packages" by sub-topic within each subject area, so that in agriculture, for example, the appropriate quantity and items for teaching the sub-topic "food industries" were packaged together and so labeled, as were those for teaching "poultry."

In science, mobile laboratories were distributed complete with a set of items of equipment and materials for performing experiments and an instructional manual describing how to conduct 150 or more experiments.

A standard procedure had been formulated for schools to use when they received their shipment. Upon its receipt, each school formed a committee of the appropriate teachers and their supervisor, opened and examined the contents of each package, comparing them to the equipment and price list accompanying each to be sure they had received the proper number of items in good condition. The equipment was then entered on the school's records. The record-keeping system itself is not standard, varying by governorate, and by whether the school is a large or small, primary or preparatory school.

221

CONSTRAINTS ON EQUIPMENT USE

As we visited schools, examined equipment, and interviewed teachers, headmasters, and others, we were interested in finding out what constraints existed, whether logistical, procedural, or administrative, that might either prevent or inhibit the fullest use of the equipment. Was any of the equipment centrally stored, for example? If it was not centrally stored, how was it stored, where, and who bore the responsibility for it? Was the storage adequate as to space and facilities? What happened in double-shift schools, for instance?

What happened if a piece of equipment was broken, stolen, or lost? Who bore the financial responsibility? Was there an equipment repair budget? An equipment maintenance budget? A budget to replace items that were lost or stolen? What procedures existed to remedy these problems?

Did the schools have a budget for the purchase of the raw materials--lumber, cloth, sugar, copper wire, etc., needed to enable students to gain experience actually using the equipment in practice, rather than simply learning about its use in theoretical lessons in the classroom?

Did the equipment have an accompanying booklet, catalogue, or set of instructions for its assembly and use (if a complicated piece sent unassembled)? Did that booklet or set of instructions contain any directions for its use in actual teaching? Were they printed in English or Arabic?

Had teachers been trained to use the equipment, on how to teach students to use it properly, on its maintenance, and on other procedural matters such as proper storage and repair? How long had their training been? How useful did they think it had proven to be in their teaching?

Teachers' opinions about the equipment were important, as well. Did they consider it to be adequate in amount, in kind, and in quality? That is, from their experience with using the equipment in teaching, did they think they had "enough" of the "right" equipment? Was its quality sufficient to their uses? If not, what other items of equipment would they suggest be purchased?

FINDINGS

EQUIPMENT STORAGE

Preparatory schools are departmentalized with each department responsible for its own equipment and materials and for establishing and following standard procedures for their storage, maintenance, and repair. Most have technical assistants who manage the equipment and materials for the teachers and help in instruction. In science, for example, they set up and disassemble the equipment teachers use in their demonstration experiments.

222

In industry classes, technical assistants are generally in charge of the equipment, demonstrate its safe use, help students as they learn to use equipment, demonstrate how objects such as a ladder are made, and in general are heavily involved in the "practical" lessons. This would be particularly true, for instance, in a girls' preparatory school industry class wherein one might well find a female science teacher who teaches the electricity "theory" lessons and a male technical assistant who sets up wiring boards and helps the girls learn what tools to use and how to wire a simple circuit.

In the larger primary schools one also finds similar arrangements, since grades five and six are taught by specialized teachers, in contrast to the first four grades, which are largely self-contained (the exceptions generally being art and music instruction).

Hence, science equipment is usually centrally stored in the science preparation room(s) in large schools or in the equivalent of closets or free-standing cabinets in the smaller schools. For most other subjects, the equipment will be stored in cabinets in the rooms in which it is used. In all but the largest of schools, a teacher--the teacher, in most cases--is in charge of the equipment, is financially responsible for it, and correspondingly, will more often than not be the one person who has the key to the storage cabinet.

Generally speaking, in most schools neither the procedures for equipment storage, check-out, and return, nor the crowded and often unsuitable storage facilities have acted to constrain equipment use. In a few with no workshops and no classrooms available to be used as workshops and terribly crowded and unsuitable storage space, undoubtedly the lack of adequate storage helps inhibit use. But not having any teaching space at all in which to use equipment is the compelling constraint; the storage problem is merely annoying.

There are instances, of course, where equipment use has been inhibited or impeded at least for a while by the inability of teachers to obtain access to stored equipment which they need. Three examples follow.

- The equipment clerk for home economics in a large girls' preparatory school did not think the new home economics teachers were very good. She therefore kept the new USAID-financed equipment locked up and unused, evidently for fear they would ruin it if they were allowed to use it.

- The science technical assistant in a moderately large primary school took the key to all the equipment home with her while she was on maternity leave. During the two and one-half months of her absence, the science teacher taught only "theory" lessons, since he did not have access to the equipment.

- Agriculture and industry teachers in a "morning" school lock up their equipment and do not let the "afternoon" school teachers use any of it (or vice versa).

223

These bits of realia are the product of the system of assigning responsibility for equipment and of an informal system of "turf respect," i.e., one seldom sees role incumbents encroaching on one another's area of responsibility or assuming authority they have not been assigned.

Thus, while it is clear there are serious needs for adequate storage in almost all the schools, in and of itself the lack of adequate storage facilities seems not to have seriously inhibited equipment use, but is rather a simple concomitant of the larger facilities problems of most schools.

EQUIPMENT MAINTENANCE AND REPAIR

Schools ordinarily do not have a separate equipment maintenance and repair budget. Usually the technical assistants, or the teacher in small schools with no technical assistants, are expected to keep the instructional equipment in good working order. For complicated repairs requiring parts or someone with additional skills to maintain or repair a piece of equipment, the headmaster has access to the parent teacher council and may solicit money from their modest budget. This situation may be changing, however, for in at least one governorate the team was told that the Director General was establishing a separate equipment maintenance, repair, and replacement budget for the schools to use.

Generally speaking the situation is the same for equipment replacement. If a small item of modest cost is lost or destroyed, such as a screwdriver, often teachers will replace it without notifying anyone in order to avoid the hassle involved in the formal notification process. But if a larger, more expensive item were lost an inquiry is made as to who had responsibility for the equipment, the circumstances in which the loss or destruction occurred, and whether the person in charge of the item at the time of the loss or destruction had exercised due diligence in its use and care. If it were found that the responsible person was at fault, he or she may be required to pay for the item.

Staff reports this to be a constraint because they are at risk financially for lost, stolen, or broken equipment in their charge. Many expressed reluctance to use certain pieces of equipment that looked rather fragile or were known to be expensive. This was a much discussed matter in most schools when the new equipment arrived--frequently with a price list in dollars accompanying the shipment.

It may also account, at least in part, for the frequent reluctance of many teachers to share their equipment, particularly in a building housing two schools--either a morning or afternoon school, or sometimes, another school operating simultaneously in the same building. Since the different shift schools are separate, autonomous entities with their own administration, staff, budgets, etc., the issue of accountability for broken, lost, stolen, or destroyed equipment gets complicated when it's shared by faculty members of two different schools. Who decides the responsibility issue, who pays, who replaces, how, and when are some of the issues that have to be resolved in such a case.

224

Nonetheless, some equitable system should be established for sharing equipment between the two or three schools in multiple-shift school buildings. Unfortunately, they will continue to exist for the next few years and it is simply not cost efficient to furnish these buildings with two complete sets of equipment when one complete set or one plus a few additional items would be just as adequate if an appropriate system for sharing and affixing accountability were devised.

MATERIALS BUDGETS

Early on, the MOE had established an allocation to schools for their materials budgets of 40 LE per Basic Education classroom in primary schools and 60 LE in preparatory schools. The Guide to Basic Education, issued by the MOE for the 1983-84 school year, sets the primary school figure at 33 LE per Basic Education class but lets the figure stand at 60 LE for the preparatory schools.

However, some schools reported receiving an allocation at variance from these standards. The differences vary by year, by school level, and by governorate. Table III-8 illustrates the differences by year and school level.

Table III-8: Percentages of Sample Schools Receiving Less Than, More Than, or the Correct Amount of Money for Their Materials Budget in 1983-84 and 1984-85

Years	Primary				Preparatory			
	Less	Correct Amount	More	N/A	Less	Correct Amount	More	N/A
1983-84	1%	99%	-	-	47%	53%	-	-
1984-85	38%	42%	12%	8%	64%	36%	-	-

As the table shows, in 1983-84, almost half the preparatory schools received less than the standard amount. In 1984-85, however, 38 percent of the primary schools and 64 percent of the preparatory schools received less. The addition to the sample of schools in two additional governorates not surveyed in 1983-84 accounts for this in part, but only in part. As the following table shows, governorate three reduced its allocations at both the primary and preparatory levels in 1984-85; governatorate four reduced its primary school allocation. These changes are probably a reflection of the fact that in 1984-85 we surveyed only rural schools in these two governorates. Table III-9 shows the differences as a percentage of schools receiving less than the correct amount by governorate by year.

205

Table III-9: Percentages of Sample Schools Receiving
Less Than the Correct Amount of Money for Their Materials Budget
by Governorate in 1983-84 and 1984-85

Governorate	Primary		Prparatory	
	83/84	84/85	83/84	84/85
1	0	0	100%	N.A.
2	N.A.	50%	N.A.	80%
3	0	50%	0	100%
4	25%	86%	40%	N.A.
5	N.A.	0	N.A.	33%

As the preceding table shows, not only do the governorates vary from one another within each year but also from year to year. Moreover these variances are fairly large in some cases, small in others. The variations are larger in the 1984-85 school set. Primary school allocations ranged from a low of 17 LE per Basic Education class in one school to a high of 68 LE in one school (used heavily as a practice teaching school). The majority reported receiving from 20 to 27 LE per Basic Education classroom.

In the preparatory schools in 1984-85, 50 percent reported receiving an allocation of from 40 to 49 LE per Basic Education classroom rather than the 60 LE they were supposed to receive.

When headmasters were asked if their materials budgets were adequate to meet the schools instructional goals, 64 percent stated it was not sufficient to purchase the amount of materials needed for an adequate job of teaching. The remaining 36 percent felt it to be adequate to their school's needs. Those not receving their full allocation were particularly adamant. Of those who felt it was not adequate, 68 percent felt that even the full allocation was not sufficient and that a temporary increase (of a year or two) might let them get caught up. Twenty-four percent felt the increase should be permanent.

Clearly these variations in the amounts of money allocated for the purchase of the raw materials needed for instruction in Basic Education courses impinge heavily on classroom teaching. Those teachers with low budgets simply cannot do as adequate a job of teaching the practical aspects of their courses as can those with full allocations, all other things being equal. An inadequate supply of raw materials vitiates the effectiveness of having equipment and is iniquitious to boot, since in our sample, at least, those with the lowest materials allocations are invariably the rural schools.

226

EQUIPMENT INSTRUCTION BOOKLETS

In the 1983-84 surveys, we found that the majority of the equipment had accompanying assemblage or use manuals but in English only. We had recommended translation into Arabic for at least some of them, especially for the more complicated, such as the mobile science labs, whose manuals included directions for over 150 experiments that the teacher could conduct. To our pleasure, in the 1984-85 survey we found the new science lab manuals to be in both English and Arabic. The problem remains of getting the new Arabic/English manuals to all the schools that had previously received the English version.

We also found more of the other manuals had been translated, as well, and in addition, that many more of the schools were requiring their English teachers to translate manuals when the teachers using them were not sure enough of the English to be confident in the use of the equipment. We applauded those efforts but found them to be less than satisfactory in some cases, such as when a manual author has made heavy use of technical jargon or the manual is badly written and difficult to understand even for native English speakers, as was the case with some.

By and large, however, we find the lack of Arabic manuals a constraining factor only if the equipment is unfamiliar and then usually only in the first year of use of a piece of equipment. Even then it it is not a serious constraint if the teacher has had inservice training. Without that, however, a teacher fluent only in Arabic, or Arabic/French, faced with a totally unfamiliar piece of equipment and a manual in a language he/she doesn't understand, usually puts the equipment away until he/she can get the help he/she needs. In time this problem, now relatively small, will disappear.

EQUIPMENT DISTRIBUTION

In our First Annual Report for school year 1983-84, we reported that we found a continuing problem with equipment that required slight modifications in order to be usable. The new butagas stoves were equipped to use line gas, but the schools used bottled gas. This meant the school not only had to adapt the stoves by installing different valves in each but also had to purchase a "bomba"--a butagas cylinder and valve for which they had no budget. By March some schools still had not made the conversion. Unfortunately, by the following November the problem still persisted in some locations though others had installed the new valves (often an industrial teacher made the simple adaptation).

On page III-13 of this report, we described the MOE established procedures for distributing equipment. Insofar as we know, that set of procedures was followed for the first two years of equipment distribution in the governorates we visited. By the distribution in the spring of 1984, however, all our governorates had begun distributing partial packages to schools, i.e., in many instances a "package" of carpentry tools or agriculture equipment would be

227

opened by governorate officials and individual items distributed to schools. This was probably done, as some directors of Basic Education explained, to ensure that every school had at least some of the new equipment.

In some instances when a new USAID-funded school opened, the governorate officials had to make up a set of USAID equipment by retrieving pieces already distributed to other schools rather than from a reserve set aside to furnish the new USAID-funded schools as they came on stream. The result is, as one Basic Education director stated it, "The records in Cairo of who has what equipment and our records and the schools' records are no longer going to be the same since we started giving schools separate pieces of equipment and moving equipment from one school to another."

Unfortunately, in some instances schools would receive a shipment of equipment with no packing slip or other means of identification attached so they had no way of knowing whether they had received the "correct" amount or not. We also found in many instances the school secretary received the equipment and was responsible for entering it on the school's records, often without knowing the names of some of the items.

Nor is the distribution as even-handed as it could be. For example, we show in Table III-10 five primary and five preparatory schools each of which received more than its MOE-approved allocation of carpentry equipment.

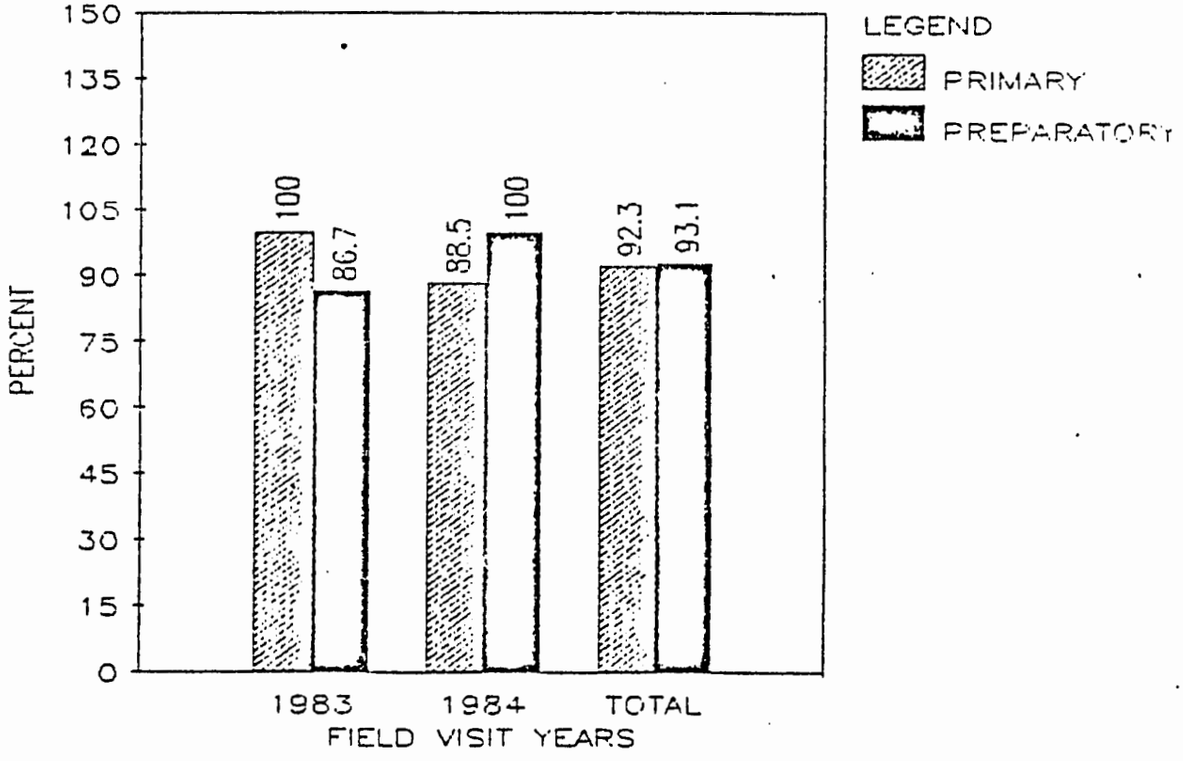
Table III-10: Number of Items of Carpentry Equipment Ten Schools Had Received in 1984 as Opposed to the Number They Were Supposed to Receive

Primary Schools			Preparatory		
School No.	Should Have	Has	School No.	Should Have	Has
No. 2	15	19	No. 4	19	57
No. 15	15	28	No. 30	19	34
No. 18	15	86	No. 31	19	30
No. 22	15	22	No. 32	19	38
No. 33	15	63	No. 40	19	21

In these same governorates we also found schools with very few items of carpentry equipment and some with none at all--these latter were the more remote rural schools. In most instances these favored schools were larger but none of those with the largest amount actually needed the amount they had. Attention will have to be paid to rectifying these instances of unfairness if the principal of equity to which the MOE is pledged is to be honored.

Figure III-1 shows the percentage of schools in the selected samples surveyed in 1983 and in 1984 that received USAID-funded equipment. Although a very high percentage of the schools received some equipment, fewer than ten percent have received their full allocation in all three practical fields and science, as yet. Presumably the next commodities purchase will allow most to receive what they're lacking, except perhaps in agriculture.

Figure III-1: Percent of Schools Receiving Equipment



TEACHERS' OPINIONS ABOUT USAID-FUNDED EQUIPMENT

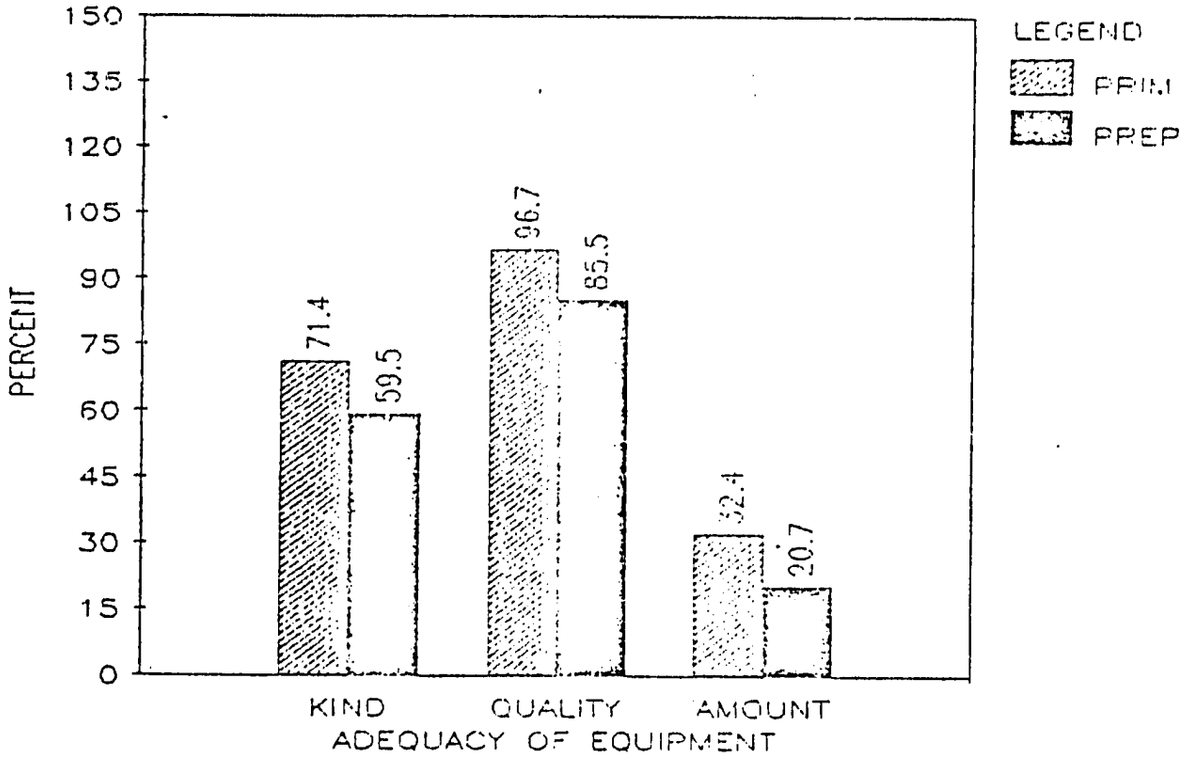
In order to get teachers' opinions about USAID-financed equipment, we asked them to answer the following question.

> "As you consider the USAID equipment that you have, in your judgment is it adequate or inadequate in amount, in quality, and in kind for satisfactory teaching of the practical courses, science, and social studies?"

229

The teachers understood "adequate in amount" to mean that there were "enough" items of equipment for satisfactory teaching of a particular subject, "adequate in quality" to mean the equipment was of sufficiently good quality to last, and "adequate in kind" to mean that it was suitable for use in teaching their courses. The teachers' overall answers are shown in Figure III-2.

Figure III-2: Percent of Teachers Judging Equipment to be Adequate



As Figure III-2 shows, teachers felt the equipment they received to be of good quality. Fewer felt it was as suitable as they needed for use in teaching their courses, particularly in preparatory schools, and a very large majority stated they did not have enough for satisfactory teaching their particular subject--again especially in the preparatory schools.

To probe these differences further, we broke the data out by school level. Figures III-3 and III-4 below illustrate these differences quite clearly.

III-3: Percent of Primary School Teachers Judging Equipment to be Adequate

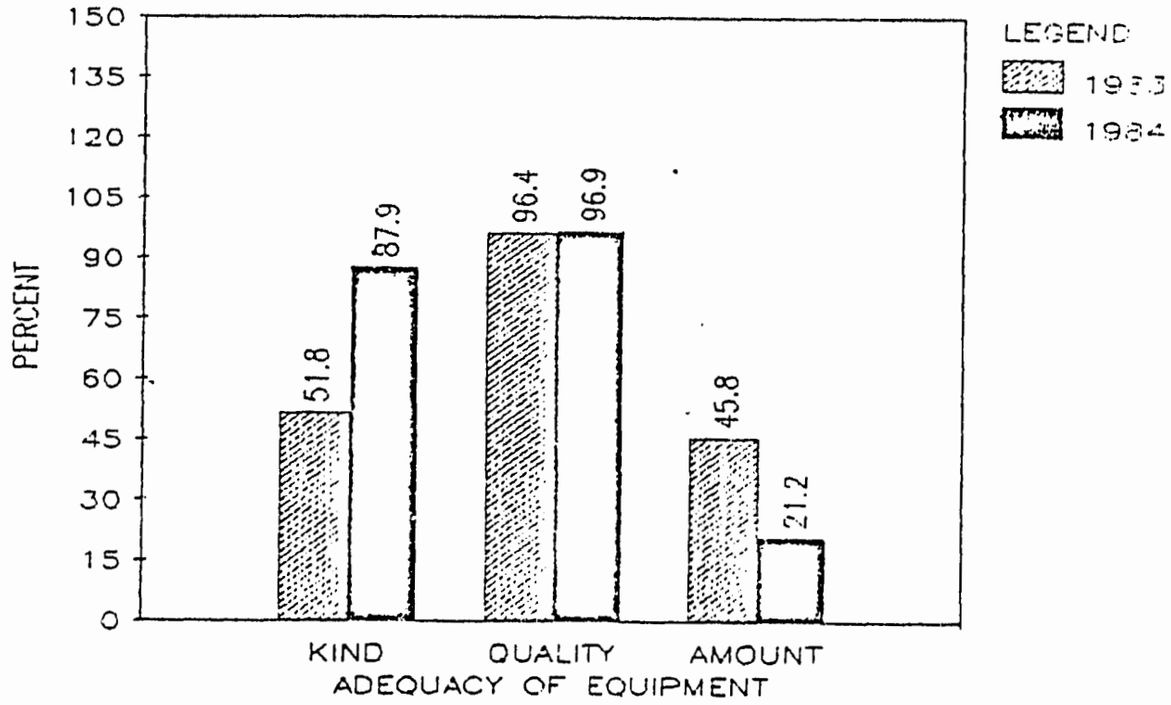
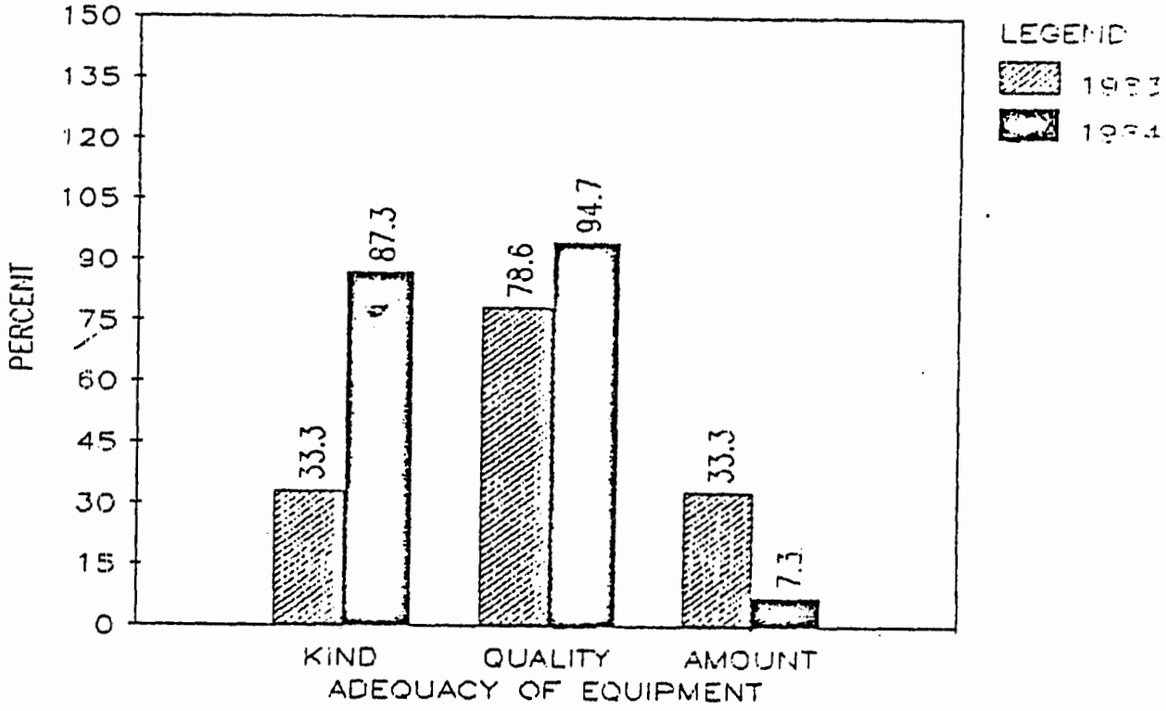


Figure III-4: Percent of Preparatory School Teachers Judging Equipment to be Adequate



231

Note that a larger percentage of primary school teachers rated their equipment as adequate on all three dimensions than did their preparatory school colleagues. Note also that except for judgments about the adequacy of the amount of equipment they had in 1984, a much larger percentage of teachers responded favorably than in 1983.

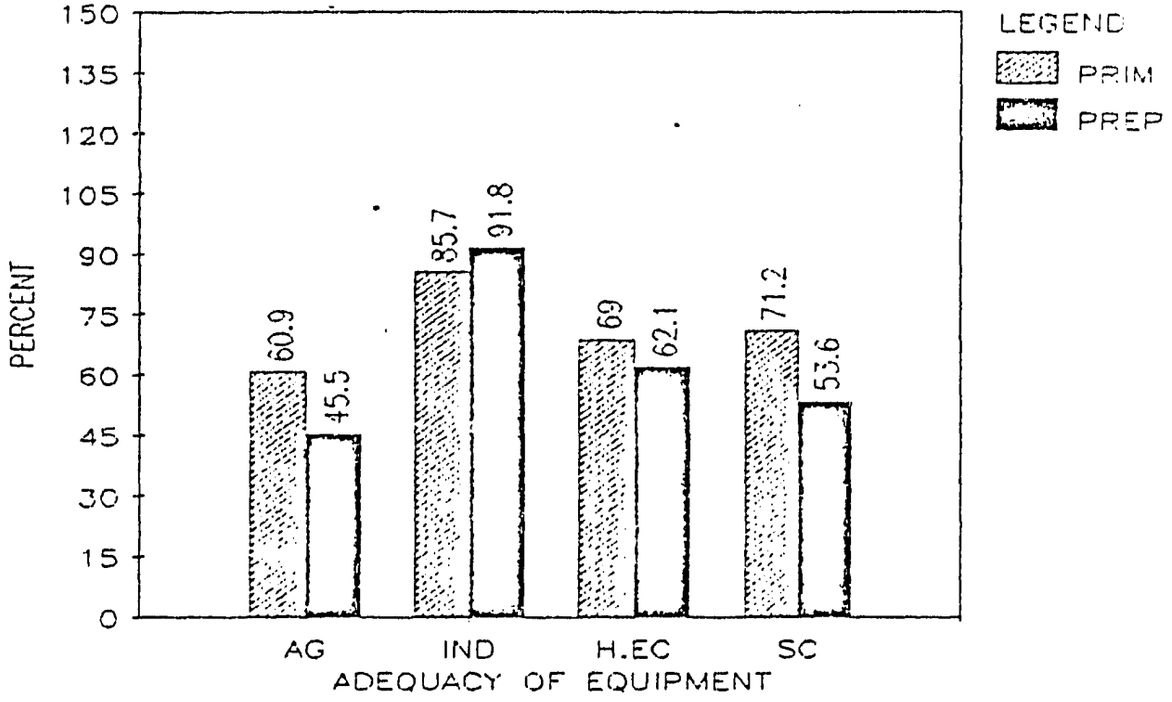
We can only speculate about why there were, overall, more favorable reactions given by primary school teachers. It may well be that the reaction of the preparatory teachers is a more sophisticated one. As a group they teach in cities or towns, not in rural areas. Many in our sample are teaching in relatively long-established preparatory schools that have had more equipment, shops, and special-purpose rooms; therefore, they may well have higher standards and higher expectations.

The very large differences between 1983 teacher reactions and 1984 reactions may arise in large measure from these same differences in our sample for the two years. For the first year in any governorate, we specifically included schools in the governorate and markaz capital cities or towns. These tend to be larger, older, more sophisticated schools with a stabler and generally older, more experienced staff than one finds in the rural schools. In our 1984 sample, for example, in the three governorates of Beheira, Assiut, and Qena all but two schools were rural, whereas in Sohag and Kafr il Sheikh we surveyed a number of city schools, since it was our first year in those two governorates.

We look further now at the adequacy of "kind" ratings. When we break out responses by subjects taught, we see that what we might have assumed to be uniform judgment looks much different across the subject fields, and of course, different by school level as well. In the primary schools, the highest percentages of ratings of adequate for "kind" were from industry teachers followed in order by science teachers, home economics teachers, and in last place, agriculture teachers. Preparatory school industry and agriculture teachers responded much as had their primary school colleagues, though at lower levels of enthusiasm. Their order has industry first, followed by home economics in second place (it was third with primary school teachers), science in third place, and agriculture in last place again. See Figure III-5.

We inquired specifically of agriculture teachers as to why so many of them felt the "kind" of equipment they had received was not adequate to their needs. Three general reasons dominated their responses. The first was that they had not received equipment they needed to teach certain parts of their curriculum--equipment specifically of use in cheesemaking and for beekeeping in the preparatory schools, for example. Secondly, particularly true of the primary school agriculture teachers and shared by home economics teachers, was their stated need for a refrigerator in which to store agricultural raw products until used and finished products made by students in their agricultural products classes. Third, many felt the few tools they had for their work with plants were terribly inadequate, particularly in the primary schools. The team had to concur wholeheartedly with their judgments on this category of hand tools.

Figure III-5: Percent of Teachers Judging Equipment to be Adequate in Kind

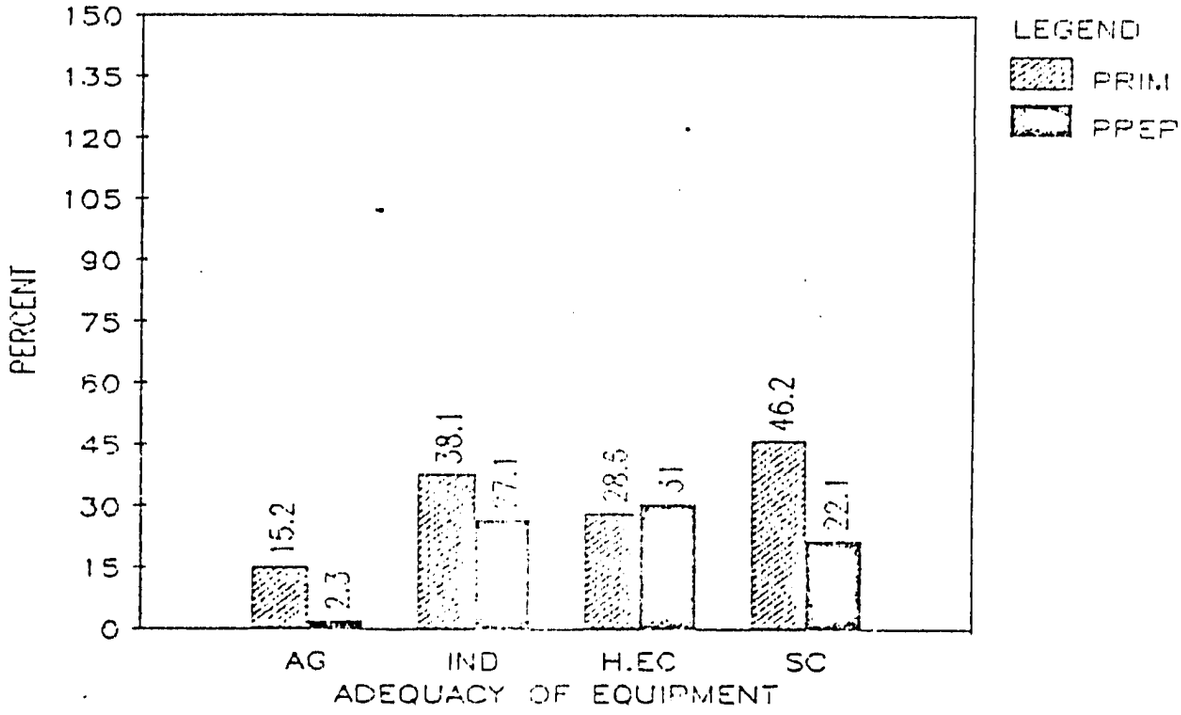


When we examined judgments as to the adequacy of the "amount" of equipment by subject fields, we again found agriculture in last place, i.e., with the lowest number of favorable responses by both primary and preparatory teachers. Otherwise, the two teacher groups were not in agreement. In the primary schools, the highest degree of satisfaction, not quite half (46.2 percent), was from science teachers. Industry was second with a low 38.1 percent satisfactory responses, followed by home economics in third place with an even lower 28.6 percent satisfactory response, and, as mentioned earlier, agriculture teachers gave the least favorable responses with only a low 15.2 percent stating they had "enough" equipment to do a satisfactory job of teaching.

In the preparatory schools in 1984-85, home economics teachers rank first, industry teachers second, science teachers third, and agriculture teachers fourth in their satisfaction with the "amount" of equipment they have--with only 2.3 percent stating the amount of agriculture equipment was adequate. See Figure III-6.

233

III-6: Percent of Teachers Judging Equipment to be Adequate in Amount



Differences between the equipment distribution to the schools surveyed in 1983 and in 1984 are reflected dramatically in Figures III-7 and III-8. Note the particularly striking difference in the percentage of industry teachers responding favorably in the 1983 and 1984 schools--a drop from 81.3 percent responding favorably in 1983 to 11.5 percent in 1984.

Once again primary school teachers respond more favorably in general, except that a slightly higher percentage of preparatory school home economics teachers in both years reported the amount of equipment they received to be adequate to their needs. It is particularly noteworthy that none of the 1984 preparatory agriculture teachers felt they had an adequate amount of USAID-funded equipment. Interestingly enough, their headmasters agreed. One hundred percent of the preparatory school headmasters responding rated the amount of agriculture equipment inadequate. Headmasters tended to concur in their teachers' sentiments in the other subject fields, as well, although generally speaking the headmasters tended to be somewhat more favorable than teachers except, as noted, in agriculture.

234

Figure III-7: Percent of Teachers Judging Equipment to be Adequate in Amount in 1983

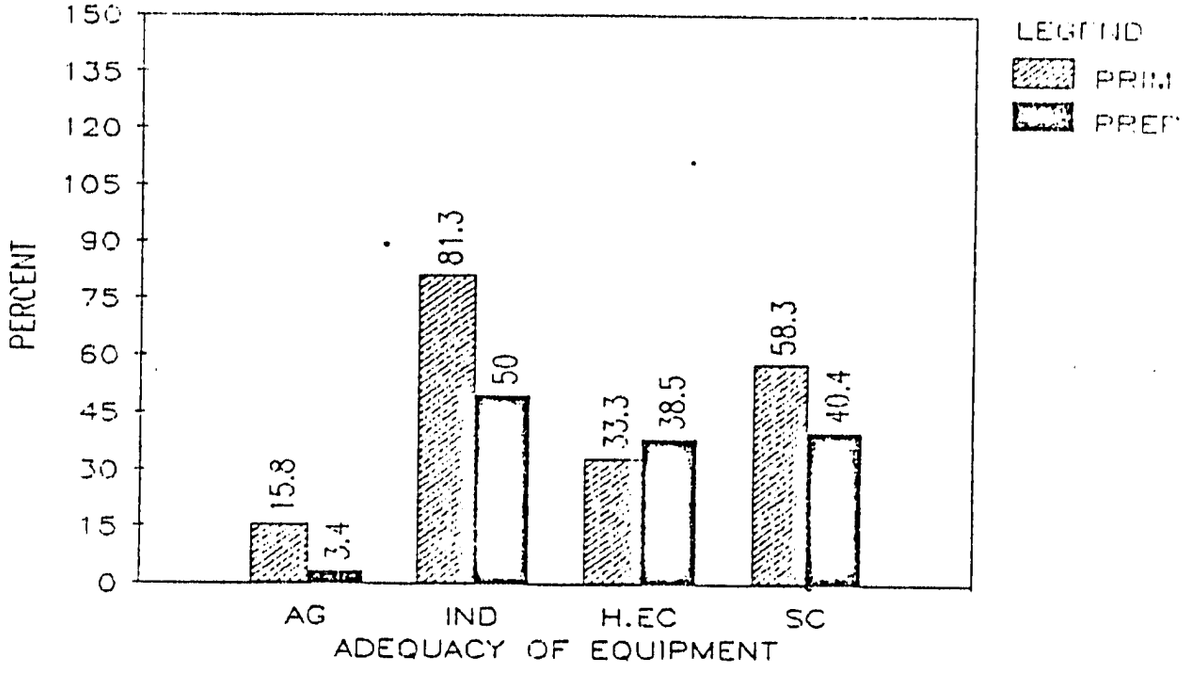
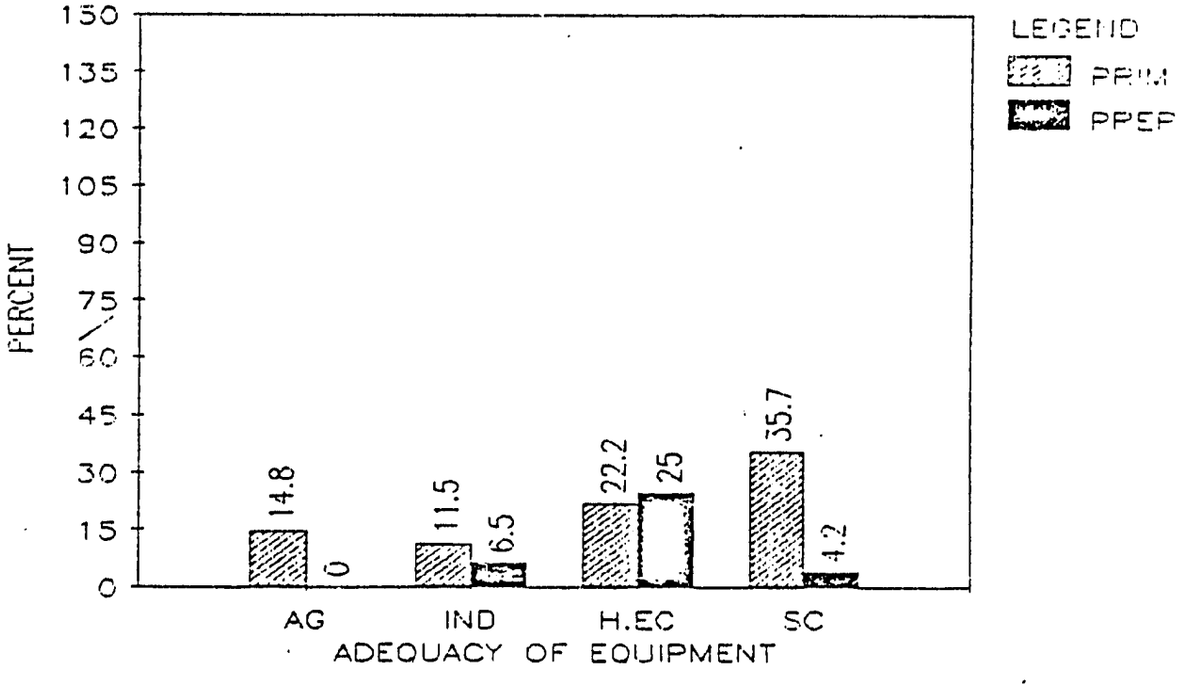


Figure III-8: Percent of Teachers Judging Equipment to be Adequate in Amount in 1984



235

A frequent comment about the "amount" of equipment in preparatory schools was that it was insufficient for the number of students in the class or that equipment in short supply had to be shared between different classes. This required inter-class, inter-teacher coordination, as well as sharing within classes among students, thereby making class organization and management more difficult, especially in these large classes. Sometimes a more inventive class schedule might alleviate some of these pressures but scheduling options only work well when there is a least enough equipment for one complete classroom set, often not the case.

In the primary schools, particularly the 1984 rural primary schools, there frequently simply isn't enough equipment in the practical courses for the teachers to do an adequate job of teaching. When coupled with the lack of special-purpose rooms or shops, the situation proves even more difficult for teachers.

INSTRUCTION

To become familiar with general instructional practices and use patterns of USAID-financed equipment, we conducted formal observations in a total of 151 classes. Of these, 22 were fifth-grade classes, 53 were sixth-grade, 22 were seventh, 24 eighth, and 30 were ninth-grade classes, for a total of 75 observations in primary schools and 76 in the preparatory schools.

Each observation report recorded the name of the course being taught and the grade level, the size of the class, the number of boys and girls in the class, the time the class began and ended, the number of adults in the classroom and their roles, and the objectives of the class. The report also noted whether or not equipment was being used, by whom, and how. We described also how the lesson developed during the course of the period, whether any of the equipment that was being used was new or unfamiliar to the student, or whether there were any pieces of equipment in the classroom that were clearly not usable for any reason.

We were also interested in how the class was organized and taught: how much of the class period was devoted to whole group teaching as opposed to teaching in small groups or individual teaching; whether the teacher or the students did most of the talking; whether the students asked lots of questions, or rarely asked questions; and whether the teachers made all the classroom decisions, shared the decision making with students, or initiated no decision making in the classroom. Finally, we wanted to know the degree to which the students were active or passive, and the degree to which they were self- or teacher-directed.

We saw both "theory" classes and "practical" classes in all subjects. The "theory" and the science classes were larger, as a general rule. The range of children at the primary level went from one class of 5 students to one of 55; at the preparatory level, we saw one class with 7 students and one with 60.

OBJECTIVES AND EQUIPMENT USE

As one would expect, the objectives of the classes observed were generally consistent with the syllabus for the course and grade. An examination of the practical course textbooks found that all too frequently the objectives, if specifically mentioned, are given in terms of knowledge and activities and not in terms of specific behavior or skills. They may specify that the student will know the types of tools used and the safe ways in which to use them.

Equipment use was highest in the industry and home economics classes we observed; 59 percent of the industry classes made "high" use as did 48.3 percent of the home economics classes. The highest use overall was in primary school industry classes with a "high" use percentage of 71.4 percent. Both agriculture and science classes made "moderate" uses of equipment in the classes we observed.

Generally speaking, in the classes in the fall of the year, near the beginning of the school year, the predominant equipment users were teachers, frequently for demonstration pursposes or to enable students to learn the nomenclature of the equipment and its parts. (In science teaching we saw no students using the equipment since it is generally used by the teacher for conducting demonstration experiments--though students do get to use the microscopes.)

We found some equipment not in usable condition in 53 percent of the primary classrooms and 43 percent of the preparatory classrooms in which we observed. Frequently butagas stoves had not yet been converted to use bottled gas or were not hooked up. The schools without electrical service as yet were not able to make use of their electrical equipment. Many of the mobile labs were not yet completely unpacked or in usable condition, particularly in those schools without the instructional manual in Arabic (only the 1984 schools had these), and frequently schools were missing voltage converters.

Almost always these problems were alleviated by the end of the school year, although as has been mentioned before, the butagas conversion remained a problem in three of the five governorates. The use of the mobile labs, particularly in primary schools, was not as high as one would have hoped, in large part because of the failure to supply all the schools with Arabic manuals, and in part because many of the experiments for which the lab is designed are not yet in the syllabus.

CLASS ORGANIZATION AND TEACHING

The observers were asked to judge what percentage of instruction in each class was whole group, what percentage was small group, and what percentage was individual. Of the classes oberved, 85 percent of the teachers used whole group instruction for 80 percent or more of their class period. In primary-school classrooms we saw only 5 teachers who used small group instruction at all. Of the 76 preparatory teachers we observed, only 9 (12 percent) made any use of small-group instruction. Generally speaking, whole

group instruction predominates, particulary in science teaching where we saw only whole group instruction. In some schools we saw excellent examples of instruction in which small groups of two, three, or four students were working together on a project. These were generally in industry classes, particularly in the electrical portion of their syllabus. In home economics sewing classes we saw many instances of individual instruction, of course, as girls learned to knit, iron, or use sewing machines.

Whole group instruction is almost always used for explaining matters to a class or for purposes of information exchange, explaining a theory, or demonstrating how a tool is held or sharpened or assembled or taken apart. Almost always whole group instruction was used in teaching about food industries in agriculture and in demonstrating cooking in home economics as well as in sewing when students were learning how to read patterns or make measurements for patterns.

TEACHER TALK--STUDENT TALK

In 81 percent of the classes observed, teacher talk dominated the classrooms. The classes with the least teacher talk were the industry classes but even so it predominated in 70 percent of the classes observed. Our being in classes so near the beginning of the year while teachers are still establishing classroom routines may have accounted for some of this teacher-talk predominance but observations in almost half these same schools in March showed that teacher-talk, student-memorize-and-recite-back still predominates as the preferred mode of instruction. Certainly this is clear for the so-called "theory" classes and, to a lesser extent, for the practical classes, as well. David Kinsey of the project staff examined the practical course textbooks and found that many of the practical objectives can be memorized as knowledge. Yet, notwithstanding this, there are still numerous examples of excellent practical-outcomes-oriented teaching we observed, especially in the industry classes, in which teacher talk did not dominate but wherein they worked quietly with individuals and small groups, answering questions quietly as they arose.

STUDENTS ACTIVE OR PASSIVE, SELF-DIRECTED OR TEACHER-DIRECTED

As one would expect from the foregoing section, the vast majority of classes are teacher-directed. There is a small amount of student self-direction in the preparatory industry and home economics classes we observed but we saw none in science (as one would expect) and none in agriculture. Generally speaking, when in their classrooms students tend to be well-mannered, passive, and acquiescent--few even asked questions of the teacher. In short, the students were lively, acted interested, but were well-disciplined and clearly under the teacher's control in most of the classes observed.

EMPHASIS ON PRACTICAL VS. THEORETICAL LEARNING

According to the Basic Education Guide published by the Ministry, Basic Education, in its philosophy and functioning, emphasizes the role of the application of knowledge. "It is an education system which combines both the theoretical and practical dimensions in one course of instruction, [emphasis in the original] and thus firmly establishes the interrelatedness of knowledge and experience in human endeavor."[2]

We asked teachers how much emphasis they placed on "practical learning" and how much on "theoretical learning." Table III-11 shows their responses.

Table III-11: Emphasis Given by Teachers to "Practical Learning" as Opposed to "Theory Learning" in Teaching the Practical Courses and Science

Degree of Emphasis on Practical Learning	Agriculture	Industry	Home Economics	Science
None	---	---	---	1.4%
20%	4.6%	2.8%	1.4%	5.4%
40%	8.7%	14.9%	8.2%	39.3%
60%	52.6%	53.9%	61.9%	42.6%
80%	34.1%	28.4%	28.6%	11.1%
100%	---	---	---	---

As the table shows, science teachers tended to place considerably less emphasis on practical learning--53.7 percent saying they emphasized it in 60 percent or more of their teaching, as opposed to home economics with 90.5 percent, agriculture with 86.7 percent, and industry with 82.5 percent. From our observations we were surprised to find the industry teachers saying they gave less emphasis to "practical learning" than did their colleagues in agriculture and home economics. Impressions from the observations were that they actually gave practical learning at least as much emphasis as did home economics teachers and more than did agriculture teachers.

[2]Ibid, p.9

239

Nonetheless, it is clear that the teachers try to conform to the directions laid out in the Basic Education Guide as to integrating both theory and practice in the teaching. Interestingly, however, we found only four instances in which a teacher deliberately integrated learning from another field into his lesson, much to our surprise. We had thought we would see more deliberate reference to and use of mathematics learnings, especially in measurement and estimation, in the three practical fields, as well as the use of scientific principles in agriculture and home economics. That cross-subject integration, always difficult to achieve in a school, may well exist in larger measure than we observed but it clearly was missing from our observations.

EXAMINATIONS

Official policy on student evaluation specifies "The vocational education and practical training courses are to be graded for success or failure [emphasis added] but are to be excluded in computing the overall grade average. They may be weighted with the maximum score being 40 points and the minimum 16. In order to pass the student must get at least 25 percent of the points allocated for the final exam."[3] See Figure III-9 for the point distribution.

Figure III-9: Possible Point Distribution for Evaluating Students in Practical Courses[4]

1. Classroom performance	11	points possible for equipment use and participation in class
	5	points possible for keeping a notebook
Part 1 Total Points Possible	16	
2. End-of-Year Examination	16	points possible for a practical and oral test "to measure the student's knowledge of the tools and materials necessary to perform a specific task . . . how to use and maintain them [the tools] . . . to measure the student's ability to discuss what he knows and understands about what he has done in the practical part of the test . . . his use of technical terminology."
	8	points possible for " . . . a written, subjective examination."
Part 2 Total Points Possible	24	
Total Possible Points, all parts	40	

[3] Guide: Basic Education, 1983-84, Ministry of Education, p. 16.

[4] Ibid.

240

We asked teachers if they examined students on a monthly basis, at mid-year, and at the end of the year. Ninety-nine percent of the teachers reported examining students on a monthly basis, 85 percent, at mid-year, but only 8 percent at year end. In all cases the examinations were teacher-made and consisted of a combination of oral questions and two or three essay questions. Each student's product output was evaluated as well, of course, and most had products on display at the product fair held near the end of each school year. Examination results are not used in computing students' grade averages or school rankings nor as a part of one's achievement records which figure so prominently in the decisions about one's future schooling.

INSERVICE TRAINING

In both years, we asked teachers whether they had had any training courses in the last two years connected to what they teach, and if so, how helpful they had found each course. The Basic Education Guide states that "All teachers must undergo suitable training locally--at the level of the directorate or administration or department--which must include analysis of the curricula, their goals, use of equipment and its maintenance, and preparation of simple materials which link the practical training sphere to the other academic subjects."[5]

The governorates are following these guidelines, on an incremental basis, of course. In one, the last of the pre-school inservice courses had been completed one week prior to our arriving in the governorate. In 24 days, governorate education officials had given a 12-hour training course to 1,494 teachers--three from each "complete" primary school. The twelve hours (from 1 to 5 P.M. each afternoon for three days), consisted of two hours of instruction in "theory" and ten hours of "practical" training under the tutelage of supervisors in the three practical fields.

The goals of the training program were listed as:

1. explanation and clarificaion of the goals, philosophy, and bases of Basic Education;

2. the use and maintenance of equipment and tools, and illustrative methods that help in teaching the three Basic Education fields; and

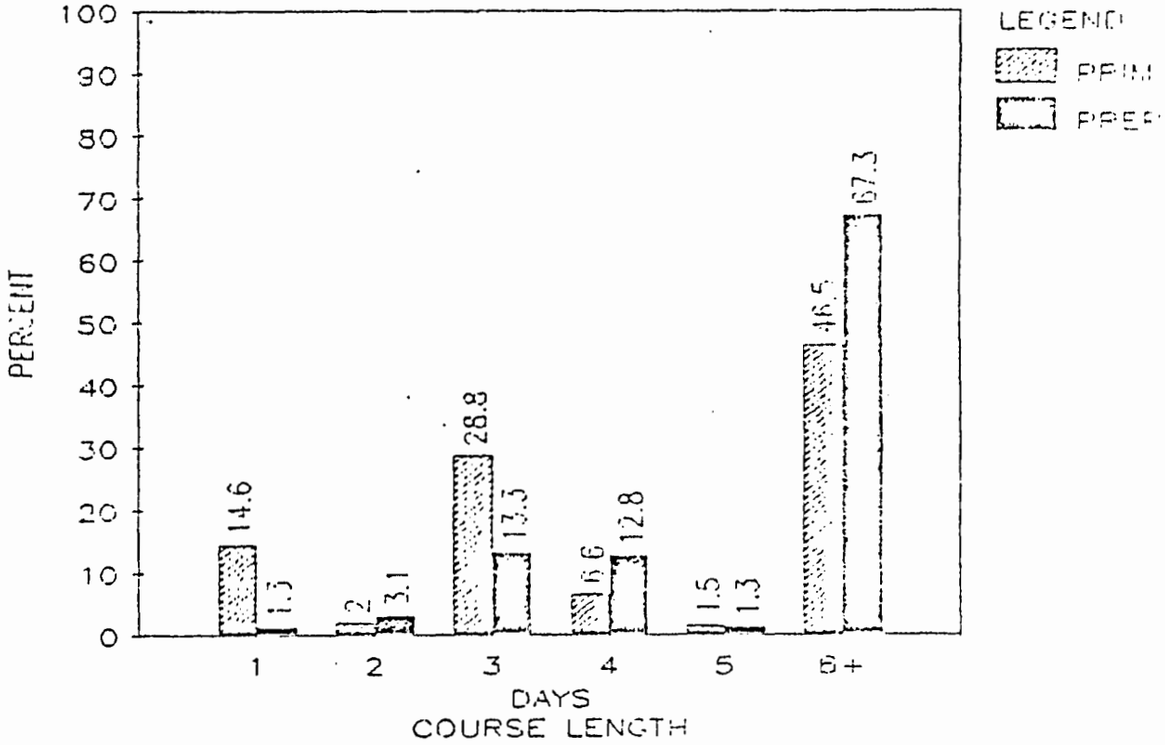
3. discussions of the problems that teachers must overcome in order to achieve Basic Education goals.

---

[5] Ibid, p.17

Of the 450 teachers responding, 42.2 percent had not attended an inservice course within the last two years, 33.7 percent had attended one course, 11.5 percent had attended two, 11.5 percent had attended three, and four hardy individuals had attended four courses. As Figure III-10 shows, 67.3 percent of the preparatory teachers reported their courses were six days in length whereas only 46.5 percent of the primary teachers attended six-day courses (usually six afternoons--not full days).

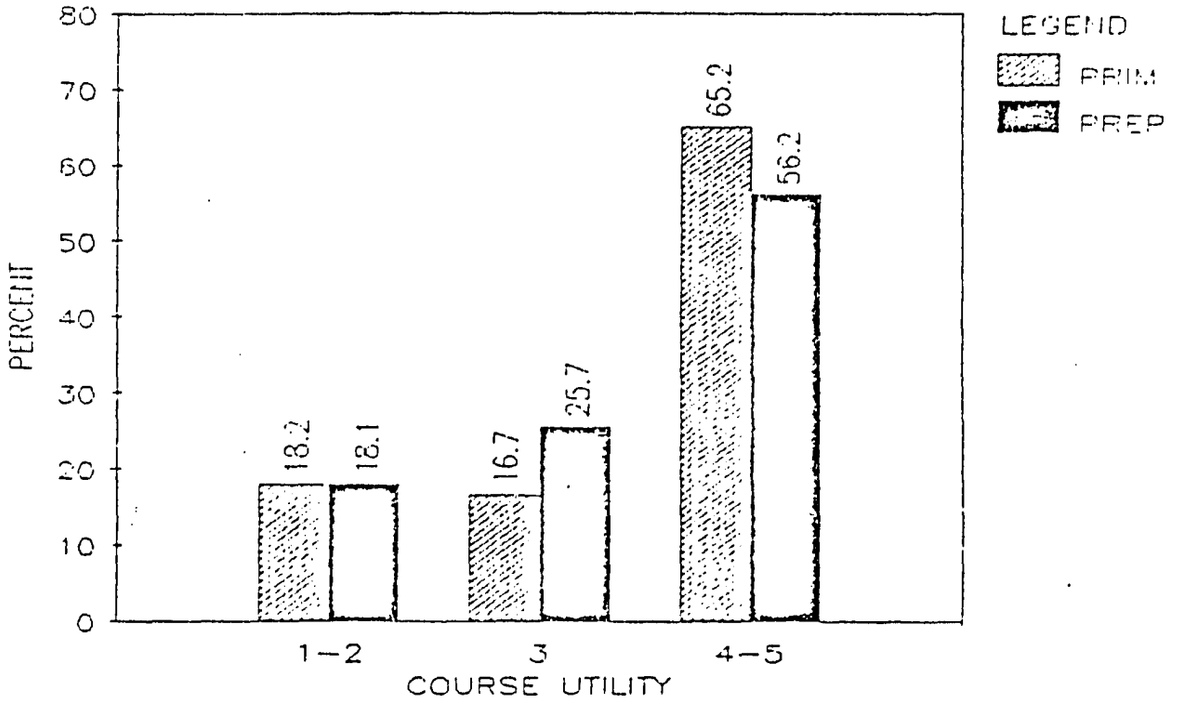
Figure III-10: Percent of Teachers Receiving Inservice Training of Differing Course Lengths



242

In both years, the majority of teachers responded favorably to the training. We asked them to rank the course(s) for how helpul they were in their teaching, using a five-point scale, with 1 being "of no use," 2 "of some use," 3 "useful," 4 "of much use," and 5 "of great use." As Figure III-11 shows, 65.2 percent of the primary and 56.2 percent of the preparatory teachers gave them a ranking of 4 or 5 and only 18.2 percent and 18.1 percent respectively ranked them 1 or 2 (of "no" or "little use").

Figure III-11: Teacher Ranking of Inservice Course Utility



Most also felt they wanted more inservice training and had definite ideas of how the courses could be improved. In general they wished more time had been spent on solving the practical day-to-day problems of instruction--on "tradecraft," as it were, with less lecturing and abstract or theoretical discussion.

Of the 68 headmasters, only 9 had had any inservice training within the last two years, a fact we found distressing. When asked if they felt they could use some inservice training and, if so, what it should contain, 85 percent responded in the affirmative.

Primary school heads said a headmaster "needs to know everything about the Basic Education fields to be able to supervise his teachers." They also wanted to learn how to use the USAID-funded equipment, how to budget, and four new headmasters wanted to learn about the goals of Basic Education.

243

Preparatory heads wanted the goals, objectives, and instructional strategies of the Basic Education fields explained to them, they wanted to visit ideal Basic Education schools, and 40 percent of them wanted a course in budgetting.

In view of what the team sees as a present real need for increased instructional leadership, especially in the rural schools, we will make a specific recommendation that headmasters receive inservice training, as well.

TEACHERS'--HEADMASTERS' RECOMMENDATIONS

HOW TO IMPROVE INSTRUCTION IN THE PRACTICAL COURSES

In each school visit, teachers and headmasters were asked:

> "If you could have five choices of the things that would improve the teaching of practical courses in your school, what would they be?"

In order of priority, the most frequent teachers' responses were:

1. build more workshops;
2. increase the amount of equipment, particularly in agriculture;
3. increase teacher inservice training in order to have more teachers trained better in longer courses;
4. decrease class size; and
5. increase the materials budgets.

Headmasters' priorities were:

1. build more workshops;
2. provide more inservice training for teachers;
3. provide schools with better trained teachers to begin with (this could also be construed as support for more and better inservice training, which would make it the first priority);
4. increase the materials budget; and
5. two recommendations tied for fifth priority--increase the amount of equipment in the practical fields and decrease class size.

EQUIPMENT NEEDED

The most frequently mentioned recommendations were for

1. movie projectors (science teachers);

2. refrigerators (asked for by agriculture and home economics teachers); and

3. cream separators (agriculture teachers).

Most of the remainder of their requests were for items already on the USAID list--items such as electric mixers, more chemicals, simple carpentry tools, plastic human upper torso with detachable parts, sewing machines, cooking utensils, sewing tools (especially scissors), garden tools, butter churns, and home maintenance equipment, to mention a few.

There are probably a number of reasons why the teachers did not recommend a larger number of "different" items of equipment. Most have learned to make do with what they have and may well be unfamiliar with items of equipment other than those they have seen or used in their own training or in their classes or homes. Moreoever, there are relatively few equipment catalogues circulating freely in the schools of Egypt from which they can learn about new or different pieces of equipment.

We found the majority to be very practical in their outlook and to recognize that since equipment should be suitable for use in their schools, it should not be exotic, nor terribly expensive, nor too complicated for students to use. An additional imperative is that it must fit the syllabus, for that is the controlling element in the curriculum. Even if a different piece of equipment were suitable, were relatively inexpensive, and simple to use, it still would not be recommended unless it were called for by the syllablus--at least not by more than a very few teachers.

We were frequently asked about whether it was possible to request equipment for other than the practical course--simple musical equipment and physical education equipment were most frequently mentioned. We responded that we would pass their requests along to the proper USAID and MOE authorities, though we couldn't make any promises about whether they would be honored or not, of course.

SUMMARY

In this section of the report, we will group the summary and recommendations under the headings of equipment, materials, facilities, inservice training, innovative methods, and assessment.

EQUIPMENT

It seems clear from our observations in the classroom, from teacher interviews, and from interviews with headmasters, that more equipment would be extremely useful--particularly in agriculture--if instruction is to offer the students adequate opportunity to use the equipment themselves rather than only observe it in use. Some of this problem might be alleviated by more imaginative scheduling and grouping practices within the classes, but there is a limit to how artful one can be in the absence of enough equipment. In school buildings that house two shifts, we clearly see the need for a system to be devised such that one complete set of equipment, perhaps augmented by a few extra pieces if either shift school is quite large, can be shared between the two staffs. In time, of course, when each faculty has its own separate building, there will be a need to add equipment so that each may have its own. But until then a system for sharing is most cost efficient.

It also seems clear from our classroom observations, teacher interviews, and headmaster interviews that there should be a reexamination of the equipment list for teaching agriculture--particularly with regard to equipment for use in gardens and for working with plants.

The central purchasing and distribution system is working very well--thanks to the dedicated Ministry officials who devised the system and oversee its operation. If the commodities program is to continue, it would be more cost efficient to add a warehouse facility in upper Egypt. Assiut might be the most central area, rather than continuing to have the upper Egypt governorates truck all their equipment several hundred kilometers from Alexandria or Damenhur.

The latest equipment distribution of parts of packages should be discouraged except in those instances in which schools only need a few more items to complete their full set. The original procedure of distributing sets of full packages complete with shipping and price lists should be used in all initial distributions to schools.

Officials are keeping accurate inventory records at both the governorate and school levels, for which they are to be commended, but it seems that the redistribution procedure some governorates use, though keyed to governorate and central inventory records does not provide MOE/Cairo officials with accurate records. A system needs to be developed for the governorates to use that would provide local officials with the logistical flexibility they need to be more fully responsive to the schools' needs and the central MOE with accurate records so that inequities in the distribution can be prevented and progress in equable distribution monitored.

The lack of budgets in the schools for equipment repair, maintenance, or replacement will prove more inhibitory of equipment use over time. Few schools have personnel trained in equipment maintenance or repair. To take a trivial example, who is going to sharpen all those crosscut saws made dull by students' use in carpentry classes? Surely, a modest investment in equipment maintenance would be wise to safeguard the large investment made to date by USAID in the commodities-equipment supply program.

It is clear that Basic Education in Egyptian schools involves a great deal more than simply the three practical courses, science, and social studies. And equally clear is the severe shortage of equipment in other areas of the curriculum--particularly music and physical education. We urge consideration be given to expanding the commodities program into these other areas and into the area of instructional supplies, such as paper, textbooks, workbooks and lab manuals, art supplies, chalk (especially dustless chalk), sheet music, and films, which are a few of the things schools must have more of if the quality and efficiency of instruction is to be upgraded. However, we would caution that this expansion not be at the expense of completing the equipment supply for the three practical courses, science, and for audiovisual education. Only once those needs have been met, or it is clear that they can and will be met, should the commodities program be expanded to these other areas of needs.

We are also concerned about the future--about the time when funds may not be so readily available from USAID or other external sources for the purchase of equipment abroad. We suggest, therefore, that USAID and the Ministry give serious attention now to developing a project that will study the feasibility of having the needed school equipment and tools manufactured in Egypt through a combination of private enterprise and state participation. This private/state system participation should include the technical schools. These schools now manufacture some school furniture. There may be some equipment or supply items that they could also manufacture and thus provide valuable training experiences to their students as well. It may be that a modest investment now can have long-term beneficial pay-off.

MATERIALS

At least one of the governorates is experimenting with the central purchase and storage of durable material items such as lumber, wire, metal, etc. These materials are then distributed to schools on the basis of need. Governorate officials believe this to be a more efficient, cost-effective way to provide the schools with the materials they need rather than have each teacher or department head in larger schools purchase the items as needed, get receipts and eventual reimbursement for their receipted expenditures. This system probably won't work for the purchase of perishable items used in home economics or agriculture but it is worth watching.

Teacher reaction seemed mixed; some were delighted not to have to put up with the chores of purchasing, getting receipts, etc.; others preferred the

older system since it gave them greater flexibility in the choice of materials, the timing of purchases, and so forth. Clearly the experiment should be watched and evaluated.

This should not be an excuse, however, to put off action to make sure that each school receive its full materials budget allocation. That should be done now.

FACILITIES

There is a clear and present need in the schools for workshops, especially for industry courses, and for more storage space. No schools have enough storage space, and every school could easily use more storage cabinets.

INSERVICE TRAINING

Inservice training needs are high, both for teachers and for headmasters. Teachers and headmasters responded to questions about improving instruction by saying that more training and longer training is required. Many, many teachers unfamiliar with the equipment they were using could have benefited from instruction in equipment use itself. This is particularly true of industry teachers. Newer teachers could benefit from training in classroom organization and management. It is no easy task to organize and manage a classroom of active young students into small productive work/learning teams, each of which may be working on a different aspect of the week's lessons. This is particularly difficult to do well in multiple- activity courses such as the three practical courses wherein equipment and facilities must be shared. (How many students can make use of the same work bench at the same time without chaos erupting or safety becoming a problem?)

As mentioned earlier, we saw only four teachers who had deliberately tried to integrate mathematics and science learnings into their practical classes. Since this is a Basic Education goal, difficult to achieve at best, some inservice time and attention should be devoted to it, we feel, for we doubt the situation will remedy itself without such explicit attention. This may well fit into an area teachers seem to feel they wanted help with, an area we label "tradecraft." In short, it includes the technical aspects of a teacher's life, the "how to's" that are involved in solving and coping with the many problems with which teachers must contend on a daily basis.

It's for these reasons that we feel not only should teachers' and headmaster training programs be redesigned, expanded, and made more practical, but they should be conducted in actual school settings where good models of effective and efficient ways of teaching the practical courses can be observed and learned. Successful teachers and headmasters should be used as trainers and paid extra for their work. In some schools, one can find senior teachers and persons qualified to be headmasters who cannot accept the job for personal

reasons and who have time available to provide inservice training in their own schools, train those in other schools, and help as needed. Perhaps the technical assistance work to be conducted through Work Order No. 6 will address these issues at least on a pilot basis. We hope so and that there be wide-scale implementation of the model if it proves to be successful and if it can be readily adaptable to meet teachers' needs as they change over time.

We feel it is of vital importance that headmasters receive inservice training also, particularly headmasters of the smaller, rural, and remote rural schools. Instructional leadership demands on these officials are much higher than on their colleagues in schools in towns or cities. Training in instructional supervision and leadership is especially important for those in more remote locations where transportation is difficult or even impossible at times for they cannot rely on the instructional leadership of subject supervisors and the schools are usually too small to have highly qualified subject specialists or department heads. Hence, it is the headmaster who bears the major responsibility for technical supervision and instructional leadership.

INNOVATIVE METHODS

We felt from our observations and interviews that improving instruction was so vital in the Basic Education courses that inservice education, as important as it is, would not suffice. We therefore spoke with officials in the governorates about the importance of establishing a system that promotes the development and use of new methods. To be effective it is essential that the methods be developed, tested, and revised within classes in regular Basic Education schools set up as models, not in expensive or unusual schools. We agree there is a need in Egypt for model schools but feel strongly that using regular, ordinary but good schools in which to develop and teach a sustained program of this type will make Basic Education more effective, consistent, and efficient.

Teachers could test and practice innovative methods; then they could instruct other teachers in the use of techniques they found successful. Over a relatively short time a more effective mix of instructional techniques than one now sees might appear in the classroom and teachers might become more enthusiastic about teaching the practical courses.

ASSESSMENT

In the opinion of most, unless students in the practical courses are examined as rigorously as they are in their other courses, and unless their test scores are used in some way that is significant to them, both the students and the teachers will not take these courses as seriously as they do others. Additionally, with the current system, it is almost impossible to know with any certainty whether the practical courses are building the attitudes, the knowledge, and the skills that they were designed to produce.

In order to know whether the practical courses are meeting their objectives, students' attainment and growth over the five years in which they are enrolled in the practical courses must be measured in a systematic and valid way. A consistent, objective system of measuring student performance, particularly in the skill areas, needs to be developed and implemented.

SPECIFIC RECOMMENDATIONS

On the basis of our study of new equipment, we would make the following specific recommendations now, listed in the order of their priority.

- The Ministry's current practice of constructing workshops for schools that do not have them should be continued and expanded if at all possible. We also urge the MOE and USAID to consider including workshops and special-purpose rooms in new USAID-funded schools.

- A revised, more effective, and more efficient inservice training system should be devised and implemented nationwide, based on an examination of the current inservice training system for teachers of practical courses and for headmasters. That system should use effective Basic Education schools as training sites and successful teachers and headmasters as trainers.

- Careful attention should be paid to analyzing the equipment needs of agriculture teachers in particular and revising that equipment list.

- Consideration should be given now to expanding the commodities program to include other school subject areas with equipment needs--music and physical education are two that need attention now--and to the area of instructional supplies, provided this expansion is not done at the expense of completing the equipment purchases and distribution for the three practical courses, science, and audiovisual education.

- An explicit examination should be made of the official systems and of popular practices in the governorate offices and in the schools for the distribution, assignment, redistribution, inventory, maintenance, repair, storage, and replacement of equipment and materials. Thus, a more effective and efficient system could be designed, developed, tested, and implemented for and in the governorates.

250

- In the interests of equity, we strongly recommend that schools have only the amount of equipment they actually need and that excess equipment now in some schools be redistributed to those that are short. Moreover, we recommend that governorate officials set aside and store equipment for the new schools that are being built so that they can be completely equipped with new equipment when they open their doors for students.

- We recommend the development and installation of a set of procedures that will enable multiple-shift school buildings to share equipment while yet having someone accountable for its care.

- We recommend that every effort be made to see that all the schools are allocated their full materials budget. Further, the question of whether those allocations should be higher should again be examined carefully by the MOE.

- We recommend that the MOE and USAID/Cairo study the feasibility of manufacturing in Egypt as many as possible of the supplies, teaching materials, and equipment the schools need. This should be designed as a project using both the public sector--technical and industrial schools, for example--and private enterprise.

- A system should be established for developing and testing innovative methods of teaching the practical courses in Basic Education in each of the governorates. It should include a communication system for sharing the results among the governorates and within each one, and a subsystem for implementing the adoption of these new proven methods in other schools through training programs, support services, appropriate supervision, and an incentive system to encourage headmasters and teachers to participate.

- A consistent and objective student performance assessment system for the practical courses needs to be designed, tested, revised, and implemented on a nationwide basis. It should include a requirement that the results of the measures have consequences of importance to students and teachers to ensure that they are taken seriously and administered fairly and properly. Such an assessment system must contain objective ways of measuring the practical skills as well as the acquisition of knowledge (often referred to as the "theoretical" portion of the courses).

The Evaluation Team will be glad to expand on the recommendations, of course, and is prepared to do so in greater detail should the request be made.

CHAPTER IV

STUDY OF TECHNICAL ASSISTANCE

TABLE OF CONTENTS

	Page
Background	IV-1
Approach	IV-2
Hypotheses	IV-2
Dimensions of Technical Assistance	IV-3
Organization of the Technical Assistance Project	IV-5
Technical Assistance Work Schedules	IV-8
Accomplishments	IV-9
The New Work Orders	IV-13
View of Process--First Two Years	IV-15
Discussion	IV-17
Recommendations	IV-23

LIST OF FIGURES

IV-1	Project Implementation Process Showing the Flow Cycle of Project Activities	IV-7
IV-2	Technical Assistance Project Work Schedule, Planned VS. Actual	IV-10
IV-3	Work Flow Action Stages	IV-15
IV-4	Work Flow Status as of May 31, 1985	IV-18

253

BACKGROUND [1]

Once the school construction and commodities programs were established, USAID and Ministry officials turned their attention to providing the Ministry with appropriate technical expertise in Ministry-designated high priority areas. The first so designated were curriculum, teacher training, educational planning, educational economics, and school administration.

The mechanism used was a host-country time-and-effort contract through the Ministry of Education (MOE) for the provision of technical assistance in support of the Basic Education Program. This provided the Ministry with flexibility to call on expertise as needed and to adjust work efforts easily to fit new needs as they arose.

In the spring of 1983, the Ministry completed negotiations with the Academy for Educational Development for a three-year contract to provide the required technical assistance. Specifically, in response to a statement of priorities from the Ministry, the Academy was to provide:

1. state-of-the-art information on the priority topics;
2. qualified consultants (to work on these same priority topics); and
3. management structure and coordination for the entire process.[2]

In short, the Academy was to design and provide the technical assistance delivery system, to staff it as needed with qualified consultants, and to offer the latest state-of-the-art information upon which they and the MOE could base alternative courses of action.

Consultants were "expected to be capable of . . . planning and executing research activities related to the development of programs to implement planned educational change; and . . . advising and assisting . . . responsible MOE officials on the development and implementation of programs to achieve stated policy goals."[3] In addition, the consultants were to hold seminars and workshops for interested Ministry employees whenever there was an opportunity.

---

[1]The reader familiar with the First Annual Report may wish to skip the "Background" and begin reading the sub-section entitled "Accomplishments" starting on p. 25.

[2]From the proposal presented by the Academy for Educational Development for the Basic Education Project, Ministry of Education, Arab Republic of Egypt, (USUSAID Grant #263-0139).

[3]Ibid.

254

The Academy proposed to "supplement the . . . knowledge of its American consultants or employees with a broader familiarity of Egyptian education (sic) and culture and Arabic language skills through access to a pool of qualified Egyptian education consultants." A sub-contract with TEAM/MISR was to provide this "access to (the) pool of . . . . experts."[4] TEAM/MISR was also to assist in formulating the requirements for work orders and to act as the Academy's agent in selecting, contracting for, and coordinating the efforts of Egyptian consultants.

APPROACH

"The objective of the technical assistance to be provided under the Basic Education Project is to support efforts of the Arab Republic of Egypt through its Ministry of Education (MOE) to develop an analytical base for and to devise programs to implement planned educational change at the primary and preparatory levels (grades one through nine)."[5]

The study of technical assistance is designed

- to assess the amount, nature, and utility of the impact of the technical assistance at the policy and operational level of the Ministry and its governorate offices;
- to determine what the program's effects, if any, were on other institutions in Egypt's educational system--such as the Schools of Educations' pre-service education programs and the Teacher Training Institutes' programs; and
- to determine what impact the program would have on actual school practices.

HYPOTHESES

The study design was guided by the following hypotheses.

- USAID-financed technical assistance will stimulate noticeable changes in important aspects of the rationale, objectives, and procedures through which the MOE organizes and supports curriculum development, teacher training, educational planning, and cost analysis for basic education.

---

[4] Ibid.

[5] Project Paper, Egypt Basic Education, Project Number 263-0139.

- USAID-financed technical assistance will stimulate noticeable changes in the rationale and procedures that guide the MOE in evaluating the effectiveness and efficiency of programs in the areas of curriculum development, teacher training, and related programs that enhance the relevance, efficiency, and effectiveness of basic education.

- USAID-financed technical assistance may have a noticeable effect on educational activities in primary and preparatory schools.

The technical assistance study will gather data from interviews of key technical assistance providers, key recipients of the advice, and key department staff in the areas in which technical assistance is provided to see if they perceive any clearly identified areas of change resulting from technical assistance and to gather their estimates of the significance and importance of those changes.

Additional data sources will include the various documents generated in the course of the technical assistance program. Document analysis will play a prominent role in guiding the interviews, and when appropriate and feasible, in-system observations of practice will be made in the schools and in administrative offices at Ministry and governorate levels.

DIMENSIONS OF TECHNICAL ASSISTANCE

The effectiveness of a large-scale technical assistance program may be related to the degree to which the delivery system is designed to emphasize certain system characteristics. Most designers of technical assistance delivery systems emphasize certain aspects or dimensions of technical assistance over others. This comes about for a variety of reasons having to do with the nature of the organizations involved, the problems they are attempting to solve, and the time, financial, cultural, and other constraints the designers face.

Some systems are designed to increase the recipient's capacity to identify and solve problems, while others are designed to emphasize direct problem solution. Some are intended to be flexible so they may be updated or renewed periodically as needs and conditions change, while others operate as fixed systems and implement only the original plan. Some systems are designed to use a mixed strategy, implementing the original plan where appropriate and retaining flexibility to change plans as the necessity arises.

Often a technical assistance delivery system is designed to have a process- rather than a content-orientation. Usually the process-oriented design also has a capacity-building aim whereas the content-oriented system most

256

frequently is used to provide direct aid. The process orientation is typically characterized by attention to the function, structure, and organization of the recipient. It tends to approach needs and problems through strategies that help the client discover the necessary resource or solution, for example, through engaging the recipient in a planning or problem-solving process to address a specific manifest or latent need.

Need identification or need assessment strategies differ, as well. Typically, the capacity-building approach will emphasize helping the client organization assess or reassess its own needs. On the other hand, a direct-aid, fixed-approach design usually takes the client organization's statement of need at face value and proceeds to the solution with little or no attempt to redefine or reassess the needs.

System designs differ also on the dimension of reactivity. Some are designed to be deliberately proactive, to take direct initiative with their assistance recipients on addressing the problems identified, whether or not the recipient organization may have originally perceived them as needs. Reactive systems, on the other hand, respond only to requests for help formulated and presented by the recipient organizations.

The more comprehensive the system, the more likely it is to emphasize engaging the recipients consciously in diagnostic activities--in the process of self-assessment--so they are empowered by a greater understanding of their situation and its possible cause and are thus likely to be more ready to engage in improvement activities.

Technical assistance delivery systems differ in how they approach the critical intervention activity of planning--how the planning is done and who is involved. The more comprehensive capacity-building systems usually emphasize mutual planning based on the mutual analysis of diagnostic information. Typically, they also feature mutuality in defining the task and subtask structures of the work to be done, in setting timelines and critical milestones, in establishing evaluation criteria, and in negotiating the allocation of resources to these important matters.

Resource allocation becomes critical early on since limitations always exist on the number of people, amounts of money, materials, and time available. Critical decisions on resource allocation have to be negotiated, for these resource allocation decisions will determine the relative scope and depth of the total technical assistance effort itself.

Finally, some systems feature problem solving as the central process through which to involve members of the recipient organization and build their ownership of the problems and potential solutions. Such systems usually have the goals, as well, of ensuring that the most salient problems of the recipient organization have been accurately and consciously formulated, that a full range of solutions and solution sequences have been identified and examined, that an appropriate solution or solutions have been chosen in a mutual process involving those same members, and that the means of evaluating the effectiveness of the solution(s) have been identified.

Clearly, not all technical assistance systems are, will be, or even can be fully comprehensive. Yet it is useful to analyze each on a set of idealized dimensions such as was listed above. Consequently, as we follow each work order and its consequent activities through the system that has been established between the Academy and the Ministry of Education, we will attempt to examine how the efforts surrounding each work order are affected by the properties of the technical assistance delivery system as it was designed, and as it is modified in practice over time.

ORGANIZATION OF THE TECHNICAL ASSISTANCE PROJECT

The design and formal organizational structure of the system were the products of Work Order No. 1. Since the delivery of technical assistance services was not to be either informal nor casual but formal, ordered, and deliberative, the Academy's first effort was to design a formal but temporary organization. This provided the mechanism through which services could be agreed upon, ordered, delivered, reviewed, deliberated upon, and accepted or rejected.

To say it was a "formal" system is to say that it contained the mechanisms for, and its legitimacy depended upon, the careful definition and negotiation of rights, responsibilities, and procedures. To say it was a "temporary" structure is to say that it was established to function only for the life of the project. Thus, ideally the role definitions of those appointed to function within this system are defined and limited by the rights, responsibilities, obligations, and procedures that define the system itself.

In fact, of course, things are never this straightforward nor simple, for most come to this temporary, formally-defined, and limited system from the client organization that is presumably to benefit from the technical assistance. And typically, as well, the temporary service delivery system is not, need not be, as complex in its structure and operation as the client organization, the presumptive benefactor of the technical assistance. Hence, the technical assistance delivery system, to have long-term effect in the client system, must depend in large measure on the continued playing out of those more fully defined, more habitual, and more permanent roles and role relationships in the client organization.

Early on, the Academy and the MOE agreed on the operational aspects of the technical assistance system by creating what was in effect a "charter" for its operation. This delineated the function each element in the organization was to play, empowered each with the appropriate authority and responsibility, listed its membership, and described the general procedures to be followed from the inception of a piece of work to its completion and final acceptance or rejection.

The structure consists of an Executive and a technical committee, the Technical Secretariat, both chaired by the First Undersecretary of State for Education. The Executive Committee has the ultimate "within project"

258

authority for policy, procedural matters, and project evaluation. The Technical Secretariat, composed in the main of those in the Ministry in charge of the departments whose affairs are most likely to be affected by the technical assistance (such as the Undersecretary of Basic Education, the Director of Primary Education, and so forth), serves as a gatekeeper and renders technical advice and opinion to the Executive Committee.

It also serves as the bridge between the Executive Committee and project management, providing advice and opinion on task requirements and reviewing and recommending approval or rejection of those nominated for expert teams. It reviews and approves schedules and evaluates project deliverables and progress for the Executive Committee. It may also conduct studies. The "charter" stands silent on where responsibility lies for conducting further needs assessment.

The Ministry paper, Priorities of Special Importance in the Different Areas of the Required Studies on Basic Education, (Arab Republic of Egypt, Ministry of Education, October 1982), served as the equivalent of a first "needs assessment" statement, as the basis of the initial scope of work for the technical assistance contract, and as the basis upon which the first work orders were established.

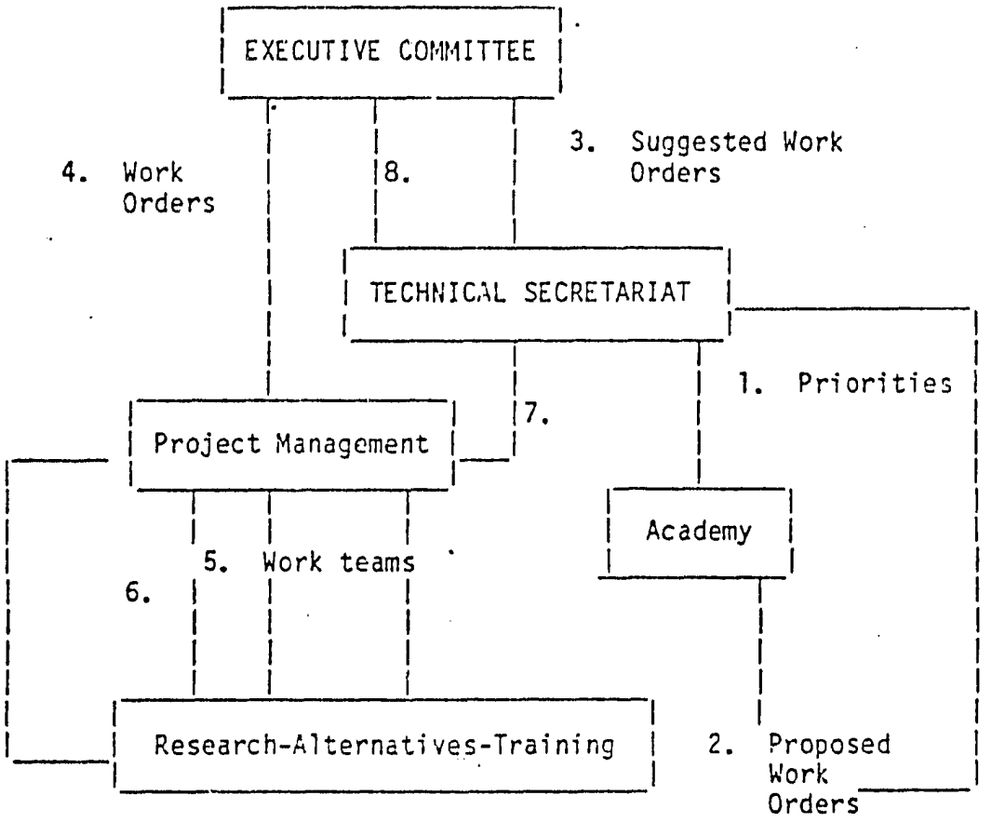
In interviews in late January and early February 1983, the three high-level staff members of the MOE who were the chief architects of the technical assistance planning in the MOE spoke extensively of their views of the technical assistance project and their hopes for its attainments. Essentially, they viewed the effort as a series of separate research projects designed to provide the MOE with the specific information they felt they needed and had delineated in the priority paper.

Figure IV-1, a verbatim copy from Work Order No. 1, shows the flow cycle of project activities. Note that the cycle commences with the Technical Secretariat working with management to convert priorities into work orders, which are then submitted to the Executive Committee for approval. Once approved, project management then selects personnel and forms the work teams. Upon completion of the work, products are fed back through project management to the Technical Secretariat for its consideration. In turn the Secretariat makes recommendations to the Executive Committee for product disposition.

Note also, that unlike most technical asistance efforts, this one contains no needs-assessment cycle. Nor is there any mention, in early project papers, of the process of product implementation--that is, of how or whether any of the results will be put into practice or "institutionalized."

Figure IV-1

Project Implementation Process Showing the Flow Cycle of Project Activities*



*The numbers show the sequence of activities.

260

TECHNICAL ASSISTANCE WORK SCHEDULES

The Academy had prepared and negotiated the first five work orders by mid-May 1983. As has been mentioned, Work Order No. 1 resulted in the design of the technical assistance delivery system and the "charter" for its operation. Work Order No. 2: "Assessing the State of the Art of Basic Education" (curriculum and teacher education), No. 3: "Education Economics of Basic Education," and No. 4: "School Designs for Basic Education," were derived from and directly responsive to the MOE's priority paper.

Also called for in the MOE's priority paper were three other studies, one on educational planning, one on school administration, and a third on student flow and dropouts. The educational planning study asked for:

1) preparation of school maps showing areas in the various governorates where essential Basic Education facilities are available, and others where such facilities are lacking with regard to:

   - space for practice of practical skills,

   - availability of equipment and raw materials,

   - availability of teachers, ensuring both quantity and quality;

2) submitting a time-plan for introducing Basic Education in areas that are less-favoured educationally, culturally, socially, and economically.

Work Order No. 5: "A Computer-Based Planning Model for Basic Education," however, was not derivative of nor specifically responsive to these exact concerns expressed in the educational planning study mentioned above but rather reflected a more basic need arrived at by the Academy after discussion with MOE officials--that of helping the Ministry sophisticate its planning systems.

Neither the school mapping study nor the time-plan for the introduction of Basic Education was incorporated into a work order. By the time the work orders were formulated, the school mapping study had already been funded by USAID as a separate project and was being ably performed by a small staff within the Department of Planning and Follow-up in the MOE, and the time-plan had already been decided upon by the MOE, as well. The school administration was also dropped, but questions from the student flow and dropout area (another priority which didnot become a separate work order) were incorporated into Work Order No. 3: "Educational Economics of Basic Education."

261

ACCOMPLISHMENTS

Following the negotiation of these first five work orders, the Project Director quickly selected and nominated a slate of experts for each, early in the summer of 1983, since an early and prompt start was imperative if a tight timetable was to be met.

However, no further overt action on the approval of the foreign experts nor on the nomination of a counterpart team took place until the Academy forced the issue by preparing to have the foreign experts begin Work Order No. 2 in early December. Even so, the Egyptian counterpart team was not appointed until over half the time available to the American experts had elapsed.

The Work Order No. 2 team's draft report was presented to USAID/Cairo on January 19, 1984. The Technical Secretariat met on three occasions--January 25, February 1, and February 8--to discuss the draft and to prepare a critique for the team to use in preparing the final report, which was completed in March 1984.

By mid-May of 1983, the foreign experts for the work orders on economics, school design, and computer-based planning had all arrived in Egypt to begin that portion of their work that required their presence in-country.

The unexplained delay first experienced in the summer of 1983 in approving foreign experts and nominating Egyptian experts for Work Order No. 2 seems to have had a lasting and compounding effect, as Figure IV-2 shows. Work on Work Order No. 2 got started four months late, No. 3 started over seven months late, No. 4 was delayed by about eight months, and Work Order No. 5 was substantially delayed, as well.

Phase II of Work Order No. 5: "A Computer-Based Planning Model for Basic Education" was completed in time for a presentation to USAID/CAIRO and a presentation to and enthusiastic reception by the MOE in late February 1985. Work on Phase III has proceeded apace but its completion and the beginning of work on Phase IV are contingent upon the successful completion of the procurement and delivery of the computers to be installed in the Ministry and in governorate education offices. Unfortunately, there has been much confusion and backing and filling on the MOE's and USAID's part about the procurement. It became entangled in changes of mind about who should be responsible for the procurement, in delays in obtaining appropriate clearances, and in other bureaucratic red tape in both institutions. As of the end date of the period covered in this report, May 30, 1985, the procurement had become the responsibility of USAID/Cairo.

Figure IV-2 shows the status of all work orders undertaken or approved in the first two years of the TA contract (June 1983--May 30 1985).

262

FIGURE IV-2:
Technical Assistance Project Work Schedule
Planned vs Actual (As of May 30, 1985)

Work Orders	Start Dates		First-Draft Due Dates		Final Report Due Dates	
	Planned	Actual	Planned	Actual	Planned	Actual
#2: Assessing the State of the art of Basic Education (curriculum) and teacher education)	early Aug '83	mid Dec '83	early Sep '83	mid Jan '84	early Oct '83	Mar '84
#3: Educational Economics of Basic Education	early Oct '83	mid May '84	early Nov '83	Jun '84	early Dec '83	Sep '8
#4: School Designs for Basic Education	early Aug '83	mid May '84	early Sep '83	Oct '84	early Oct '83	late May '85
#5: A Computer-Based Planning Model for Basic Education						
Phase I--Establishing data bank procedures and developing strategies	beginning Jun '83	mid May '84	No report 6 months for phase I	N. A.	N. A.	N. A.
Phase II--Model design and modification	beginning Jan '84		end of Mar '84	late Feb '85		
Phase III--Full Implementation and presentation	beginning Apr '84		end of Jul '84		end of Jul '84	
Phase IV--Training	beginning Aug '84		early Dec '84		N. A.	
Phase V--Followup and monitoring	beginning Jan '85		end of Jun '85		N. A.	

*The preparation of technical papers by the two Egyptian experts began in Feb '84. The American expert arrived in Egypt May 16 to begin the "in country" phase of his work.

263

Figure IV-2
(Continued)

Work orders	Start Dates		First-Draft Due Dates		Final Report Due Dates	
	Planned	Actual	Planned	Actual	Planned	Actual
#6: Development of Basic Education Teachers In-service Training--Programs and Techniques	Eff.Date: Feb 19, 1985		Not known		May, 1986	
#7: Handicapped in Basic Education	Eff.Date: Feb 19, 1985		Not known		May, 1986	
#8: Organization and Management	Eff.Date: Feb 19, 1985					
Part 1: Diagnosis	Will require 8 wks: 5 in Egypt, 3 in U.S.		8 weeks from starting			
Part 2: Policy Planning	Will begin 4 mos.after end of Part 1: Diagnosis		At end of period			
Part 3: Execution Monitoring	Will begin 4 mos.after reorganization efforts have been initiated		N.A.		May, 1986	

264

With the beginning of the new contract year (June 1, 1984--May 30, 1985)--a change took place in the top leadership of the Ministry. Responsibility for primary and secondary education and for the teacher training institutes was separated from responsibility for higher education and scientific research and placed under the direction of a new Minister of Education, appointed from outside the Ministry. Responsibility for higher education and scientific research remained in the portfolio of the Deputy Prime Minister of State for Education.

The former Deputy Minister of Education retired, as did the first Undersecretary of Education, who had been responsible for the technical assistance contract inside the Ministry. His Director of Administration, who had handled all the day-to-day technical assistance administration and coordination within the Ministry, also retired.

The new Minister appointed a governorate Undersecretary of Education to the position of First Undersecretary, who in turn brought in his own Director of Administration. In time, the two would assume the same responsibility for the technical assistance contract and its work as had their predecessors. The position of Deputy Minister of Education was not filled.

These leadership changes quite naturally affected the timing and conduct of technical assistance activities, especially with regard to defining and establishing new work orders. They presented concomitant problems to USAID/Cairo staff, as well, for they had a new cast of characters with whom to deal, all of whom were largely unknown to them, and all of whom needed time and an orientation to become familiar---and hopefully sympathetic--with the projects USAID had negotiated with their predecessors, as well as those that were in various planning stages.

Fortunately, two of the original group of Ministry staff that had acted as architects of the technical assistance program remained in the Ministry as consultants and were available on call to brief the new leadership.

The Academy was quick to respond to the new situation. By early October it had presented the new Minister with an ambitious and comprehensive new plan and reorganization of work for the remaining two years of the contract and a reorganization of its operating staff in Egypt. The staff reorganization would have remedied what many saw as a major problem in the first year of operation--the lack of a full-time director resident in Egypt.

The position incumbent would have reported directly to the Minister of Education. His team would have consisted of Egyptian and American specialists in educational planning, architecture and school design, textbook development, curriculum development, organizational development and management, vocational education, and teacher training---experts, in short, in the areas to which the Ministry hoped to "address issues of policy and alternative courses of action to remedy deficiencies in the educational system." (See Appendix F for a copy of the Academy's plan.)

In the end it proved impossible for the Ministry to approve the proposal. After consideration, it first rejected the new work plan but continued consideration of the staff reorganization. In time, however, that was rejected, as well, ostensibly because of its expense.

Following rejection of the plan, the Academy's project Director and Assistant Director discussed possible new areas of work with members of the Technical Secretariat. From these discussions, they were able to generate and rework the formulation of three new work orders, which were formally approved on February 19, 1985---nine months after the beginning of the second contract year.

THE NEW WORK ORDERS

The first, Work Order No. 6, entitled "Development of Basic Education Teachers Inservice Training--Programs and Techniques," had six major objectives.

1. Assess present organizational structure of training and suggest needed changes and improvements.

2. Assess present inservice training programs, techniques, and practices for Basic Education teachers in Egypt.

3. Develop a list of identified additional needed inservice training modules for Basic Education teachers.

4. Develop guidelines to prepare new inservice training modules appropriate for Basic Education teachers in Egypt.

5. Prepare a sample of inservice training prototype material.

6. Design and conduct an intensive training workshop to develop and improve the professional training skills of Basic Education inservice training staff.

Work Order No. 6 is the only one of the three new work orders that seems in some measure related to a previous work order. Work Order No. 2 had as one of its objectives establishing criteria for selecting, preparing, and training Basic Education teachers and administrators. In writing about teacher education in their final report, the American experts had recommended four "priorities for reform." Their number two priority was to "develop a short-range and a long range inservice training plan for teachers and administrators of Basic Education. . . ." Coincidentally, the technical assistance evaluation team had also recommended that the current inservice training system for Basic Education teachers and administrators be redesigned and that such redesign be made a responsibility of the technical assistance project.

Work Order No. 7: "Handicapped in Basic Education" has the following five objectives.

1. Assess present testing, evaluation, placement, and counseling techniques used with handicapped children at the Basic Education level in Egypt.

2. Evaluate presently used systems and different services and tools and suggest possible improvements and/or additions.

3. Develop prototypes of appropriate additional tools based on (2) above.

4. Train staff and personnel on the appropriate use of said tools.

5. Study possibilities of providing modern equipment to enhance the educational and rehabilitative processes for the handicapped.

Work Order No. 8: "Organization and Management" has one over-arching objective.

> The purpose of this work order is the preparation of a reorganization plan that, when executed, would strengthen the organizational and management capabilities of the Ministry, allowing the better utilization of time and effort in the spreading of Basic Education and reaching its goals.

Work Order No. 8 is divided into three parts: "diagnostic, policy planning, and execution monitoring." Part one is estimated to take a total of eight weeks, five in Egypt and three in the United States. Part two is scheduled to begin four months after the completion of part one. The last part, "execution monitoring," is to begin four months after "the reorganization efforts" have begun within the Ministry.

(See the Appendix to this chapter for copies of all the Work Orders.)

By the end of this reporting period, May 30, 1985, no detailed work schedule for the new work orders had as yet been projected. In each, the effective date--the date on which work could have commenced--is the "date of last signature," or February 19, 1985. The estimated completion date is May 1986, the last month of the current contract.

On May 19, 1985, the Technical Secretariat received and approved for submission to the Executive Committee the names of foreign experts for all three work orders. However, none of the 30 Egyptian experts nominated for the work orders was accepted. Thus, all further action on the new work orders, including the final design and approval of the new work schedules, will wait until the new slate of candidates requested by the Technical Secretariat has been received and acted on.

VIEW OF PROCESS--FIRST TWO YEARS

By combining an analysis of "the flow cycle of project activities" contained in Work Order No. 1, (see page IV-7 of this report), with the stages through which work should flow in an ideal comprehensive technical assistance program, we have developed the outline shown in Figure IV-3. It shows the successive work stages of the technical assistance project, from the inception of the technical assistance delivery system itself to the disposition of a work product by the Executive Committee.

Figure IV-3: Work Flow Action Stages

A. Design Stage

- Design technical assistance system in consultation with MOE officials.
- Propose system to MOE.
- Negotiate system with MOE.
- MOE approves.
- MOE appoints committees.
- Committees meet, are charged with responsibilities.

B. Needs Assessment

- Needs assessment could happen at this point, or if already accomplished, should be considered and accepted or modified.
- Translate priorities into formal work orders that contain objectives, describe services to be performed, including person-power needs, estimate levels of effort, and stipulate activities and deliverables, and budget.

C. Work Specification

- Negotiate work orders, making any changes called for.
- MOE approves work orders and authorizes project management to proceed.

D. Expert Selection

- From expert candidate pool--Americans, Egyptians, and MOE--select and nominate three candidates for each two positions, both Egyptian and American.
- Names submitted for approval.
- After approval, experts hired, schedules modified as necessary, all travel, and logistics plans arranged.

268

E. Pre-Visit Preparation

- Prepare general background and other briefing materials for experts if necessary; counterpart experts or MOE staff prepare specific papers, reports, or data analyses.
- Collect information needed for experts to use.
- Brief American and other experts, provide necessary materials pertinent for work to be done.

F. Team(s) Begin Work

- Send American experts to Egypt.
- Form teams in-country, redefine work if necessary.
- Prepare definitive work schedules and assignments, and begin work.
- Team completes in-country work and preliminary draft report, makes oral report to MOE and USAID before departure of American experts.

G. Technical Review I

- Preliminary report submitted to the Technical Secretariat.
- Technical Secretariat reviews, evaluates preliminary report and prepares a critique for experts to use in preparing final report.
- Critique sent to experts.

H. Final Report Preparation

- Experts revise preliminary draft, prepare final report.
- Final report submitted to Technical Secretariat.

I. Technical Review II

- Technical Secretariat reviews, evaluates final report, prepares recommendations for action of Executive Committee.

J. Executive Action

- Executive Committee meets and takes action on the final report.

K. Implementation

- Relevant Ministry or other education officials take appropriate action leading to the institutionalization of the changes recommended in the report and approved by the Executive Committee.

Figure IV-4, following, briefly summarizes the status of all work activities in the technical assistance project for the first two years of the contract. The left hand column shows the work accomplished in 1983-84; the right hand column shows the same for the 1984-85 contract year.

Figure IV-4: Work Flow Status as of May 31, 1985

1983-84	1984-85
A. Design Stage	
• Original design of TA system completed in May 1983.	• Reformulation of design for remainder of project presented to Ministry in October, 1984; eventually rejected by MOE.
B. Needs Assessment	
• None made. Contractor accepted MOE's statement of "priorities," except for study of school administration, school mapping, and student flow and drop-outs; computer-based planning was added.	• Informal needs assessment made through conversations, discussions with members of the Technical Secretariat, converted to draft work orders 6, 7, and 8, reviewed, critiqued by T.S., re-drafted by contractor (except for the priority on the handicapped W.O. No. 7 which originated with the Minister).
• "Priorities" translated into work orders in May 1983.	• Final work orders completed in January '85.
C. Work Specification	
• Completed in May 1983 for first five work orders.	• Completed for work orders 6, 7, 8, in January 1985.
• Work Orders 2,3,4,5 approved and project management authorized to proceed in May 1983.	• Work orders 6,7,8 approved and project management authorized to proceed in Feb. '85.
D. Expert Selection	
• Experts were nominated early by the Academy (mid July '83) but MOE approvals and the nomination of Egyptian counterparts were held up until it was too late to begin work on the original schedule. Thus, all work may fall behind schedule.	• Foreign experts were nominated by the Academy and accepted by the Technical Secretariat on May 10, 1985. All the Egyptian nominees for expert positions (10 nominees for each work order) were rejected by the Technical Secretariat who requested that additional persons be nominated.
• Foreign experts for Work Order 2 were hired and arrived in Egypt a week to 10 days before Egyptian counterparts were hired.	• By May 31, 1985, no Egyptian experts yet approved, no final action taken by the Executive Committee on foreign experts, no work schedules yet approved for work orders 6, 7, 8.
E. Pre-Visit Preparation	
• This was an area of great difficulty for Work Order 2. It was apparently remedied for subsequent work orders, at least with regard to the preparation of background papers by host country or other experts, by an agreement negotiated by the Academy that Egyptian experts be hired in advance of foreign experts and that foreign experts would not be sent to Egypt until they had received and had had time to study pertinent background papers, data, etc.	• No action taken as yet for work orders 6,7,8.

271

Figure IV-4 (Continued)

1983-84	1984-85
F. Team(s) Begin Work	
• Work Order 2, 3, 4 and 5 teams began work, though starts were much delayed.	• Final report for Work Order 3, "Educational Economics" completed, accepted by Technical Secretariat and by Executive Committee.
• In-country work, preliminary draft reports, final report, and oral reports to USAID/MOE were completed for Work Order 2. Preliminary draft, oral report to AID/MOE, was completed for Work Order 3.	• Final report for Work Order 4, "School Designs," submitted to Technical Secretariat. Academy has recommended that a special committee of technical experts be appointed to review the final report and advise the Technical Secretariat on what action(s) to take with regard to the report (not acted on by MOE by May 31, 1985).
	• System design for Work Order 5, "Computer-based Planning," using partial, exemplary data completed, presented to MOE/AID for review, discussion, critique, feedback for use in design review; operationalization of system with "real" data completed by Feb 19, 1985. All system specifications reviewed, finalized and final decision on who would procure hardware, software made; fast procurement action urged yet again by May 1985. Next scheduled activity is installation of the system and the training of central MOE and governorate staff in its operation. Dependent upon the purchase of the computers and the related software, however, since the training is "hands on."
	• No teams yet appointed for Work orders 6, 7, and 8, so no work begun aside from general planning on Academy's part.
	• No technical Review I done by Technical Secretariat for Work Order 3, "School Designs." (See F. above)
G. Technical Review I	
• Completed for Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Completed for design stage, Work Order 5, "Computer-based Planning."
H. Final Report Preparation	
• Completed for Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Completed for Work Order 4, "School Designs."
I. Technical Review II	
• Completed for final report of Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics" • Pending for final report of Work Order 4, "School Designs."
J. Executive Action	
	• Completed for final report Work order 3, "Educational Economics" only.
K. Implementation	
• None	• None

DISCUSSION

Unfortunately, the technical assistance contract work is even farther behind now than it had been at the end of the first year. At this, the two-thirds point in the contract, four work orders out of the eight issued have been completed.

To summarize briefly, Work Order No. 1 enabled the organization and staffing of the technical assistance system and the development of its operational charter. Work was completed on Work Orders Nos. 2 and 3 and their final reports were accepted by the Executive Committee and have been shelved. Action on the final report of Work Order No. 4 by the Technical Secretariat awaits the results of a review by a specially appointed technical panel of experts.

The next set of activities planned for Work Order No. 5 is the training of appropriate MOE staff and the installation and trial use of the computer-based planning system. These await USAID/Cairo's completion of procurement action for the necessary hardware and software.

Three new work orders, Nos. 6, 7, and 8, were negotiated and signed by the MOE on February 19, 1985. The Academy received approval of the foreign expert candidates for the three work orders from the Technical Secretariat on May 19. The entire slate of Egyptian expert candidates, some thirty names in all, was rejected, however, and the Academy was requested to provide a new slate. Therefore work on the three new work orders awaits the submission and approval of the new slate of Egyptian experts.

These stutters in the technical assistance system's timing mechanism will have the certain effect of forcing the remaining required work into the last contract year. There may well be problems in completing all the work laid out to date, particularly if the use of the summer of 1985 for the training called for in Work Orders No. 5, 6, 7, and 8 proves impossible for one or another reason. In addition, it will require close to one full year to complete Work Order No. 8, if all goes as planned with no unexpected delays.

In fact, however, there is a strong probability that Work Order No. 8 may face a time-consuming administrative hurdle before it can be completed---that of requiring approval from higher authority in the GOE outside the MOE before the planned reorganization can be undertaken as called for in Part Three of the order.

Clearly, the delays experienced in the first year were compounded by the difficulties met in year two in getting new work orders negotiated and approved. A great deal of time and administrative effort was taken up during the year by the lengthy negotiations between the Academy, the MOE, and USAID on the computer system procurement issue, as well as by the usual administrative routine and the problems they generate in the complex of interaction among the three organizations.

273

Despite these problems, work proceeded on the three extant work orders. No. 3 went from draft to final report preparation and acceptance, final report preparation was completed for No. 4 in the following month, and substantive work was accomplished on Work Order No. 5, culminating in successful presentations to the MOE and USAID/Cairo in mid-February.

As previously noted, this study of technical assistance was designed:

- to assess the amount, nature, and utility of the impact of technical assistance at the policy and operational level of the Ministry and its governorate offices;

- to determine what the program's effects, if any, were on other institutions in Egypt's educational system---such as the Faculty of Educations' pre-service education programs and the Teacher Training Institute programs; and

- to determine what impact the program would have on actual school practices.

Despite our hopes, it is clearly premature to make any firm judgments at this time on what impact, where, if any, the total Technical Assistance Project will have. In fact, one cannot yet assess the impact of the work done to date, for as mentioned previously, the only two final reports completed and accepted by the Executive Committee to date have been shelved. Given the Secretariat's response to the final report of Work Order No. 2 that it "met only minimal specifications," it seems only natural that it would be shelved.

The final report of Work Order No. 3 was received with enthusiasm, however, and therefore one would have expected its fate to be different. Perhaps, with the passage of enough time, it will have an impact at policy and operational levels within the Ministry and its governorate offices, though the fact that since its enthusiastic reception some eight months have elapsed to date with no action does not lead one to be too hopeful.

In frank discussions held with Ministry officials about the issue of technical assistance product implementation, it was conceded that, as is often the case, the business of daily operations had pre-empted concern and planning for implementation. In a follow-up discussion about ways in which the situation might be remedied, an official suggested some changes in the technical assistance system he thought might help focus attention or implementation. In summary, these involved giving additional responsibility to the Technical Secretariat for

- laying out in complete detail the action steps required,

- the assignment of responsibilities required,

- the budgetary implications, and

- an action timetable for implementing the recommendations in each final report for which they recommended approval by the Executive Committee.

274

It was further recommended that every final technical assistance report be submitted in Arabic, for even those in the Secretariat most facile in English often find it difficult to read technical reports with complete understanding, particularly when the authors use technical jargon, as most do. Moreoever, having the reports in Arabic would make them fully accessible not only to Secretariat members but also to those relevant others in the Ministry and elsewhere whose understanding, involvement, and commitment are required if implementation is to occur.

The evaluation team concurs wholeheartedly with these suggestions and will recommend their adoption to the MOE and USAID/Cairo. Even should those recommendation be adopted, however, one would expect there to be differential implementation of the work order products given that they differ so much in goals, content, scope, and process.

Work Orders No. 2, 3, and 4, for example, are instances of relatively straightforward technological consultation that make few requirements of and do not require the involvement of many members of the client organization during the rendering of the assistance, aside from requesting the provision of the necessary data and background information the experts need. These might be called "low client involvement" work efforts. They assume that the client organization's problems stem from knowledge deficits easily solved by the direct application of the relevant knowledge. In essence, they are based on the notion that cognitive or logical processes are the all-important ones and, therefore, their job is finished once that missing ingredient---knowledge-is supplied. Issues of implementation never arise for the technical assistance system in this model, for implementation is solely the responsibility of the client organization.

Work Orders No. 5, 6, 7, and 8, on the other hand, not only require of the client organization the same provision of data and background information, but because of their very nature as technical assistance efforts, also require much higher degrees of involvement. Three of the four feature training in new or different operations or in using new or different techniques as a central component of the assistance effort and the fourth, if fully accomplished, may call for new position descriptions, the redistribution of authorities and responsibilities within the Ministry, and new job definitions for some incumbent staff.

Work Order No. 5 requires those trained to use their new skills under supervision and monitoring for a trial period prior to formal adoption of the computer-based planning system and its eventual expansion to all the governorate educational planning offices. Though Work Orders Nos. 6 and 7 are not nearly so complicated as work efforts, the trained personnel they produce and the specific products they in turn will create will in and of themselves develop a certain momentum and a dynamic when put to use. Therefore, it seems likely that despite the enormous scale differences in the numbers of those who must eventually be reached between the "high" and "low involvement" work efforts, implementation of the "high involvement" work efforts may well be easier to accomplish with dispatch and may also turn out to be less difficult to manage, since as technical assistance efforts they are action-oriented, concrete, and will have tangible results in that they actually result in changes in practice. Moreover, each will also already have a certain momentum that can be capitalized on for continuation, should they be successful in remediating the problems to which they are addressed.

Those beginning implementation of the "low-involvement" work efforts, on the other hand, will almost certainly have more system inertia to overcome, will have to translate recommendations into a concrete, tangible (i.e., nontheoretical) plan of action, devise a training program(s), and manage iterative trials and revisions of the solution set until problem remediation is achieved (which will involve an evaluation effort). And finally, after all this post-technical assistance work has been accomplished, they will still only be in the same position that the "high involvement" work efforts were at the end of the technical assistance without the expenditure of time, money, and effort required to mount the post-technical assistance activities.

In fact, with the addition of the new work orders, some of the technical assistance system characteristics will change, as well. Work Orders No. 2, 3, and 4 shared the following characteristics.

They were

- reactive rather than proactive,
- designed to provide direct aid rather than to build capacity,
- fixed rather than flexible,
- client-centered rather than technical assistance-system-centered in needs assessment (i.e., to work on client-identified problems rather than problems uncovered by the technical assistance system in operation);

to provide technical assistance services that were

- limited rather than comprehensive, and
- content-oriented rather than process-oriented.

Work Orders No. 5, 6, 7, and 8, on the other hand will differ in that they

- are designed to build capacity <u>and</u> provide direct aid,
- will be more flexible than fixed,
- will be more comprehensive in scope (especially No. 5) than their predecessors, and
- will probably be more process-oriented than content-oriented.

On the dimensions of reactivity and needs assessment, they will probably not differ. Clearly then, it would seem that these later four work orders should be easier to implement with dispatch, despite differences in content

and scope. We hope, however, that plans to implement all the recommendations judged to be of high priority and utility will be developed during this last year of the technical assistance contract.

RECOMMENDATIONS

Given the fact that work has been completed on only half of the work orders, with the remaining half to be completed in the last contract year, we recommend that all three organizations involved concentrate much more time and attention on implementation issues during this last year than has been the case to date.

A good start would be to institute the changes in the Technical Secretariat's duties and responsibilities that have been suggested. This would involve setting up an implementation planning system that would operate under the general authority of the Technical Secretariat and would require its active involvement.

As suggested, the system should contain at least the following functions:

a) deciding which technical assistance recommendations in each work order's final report should be implemented;

b) setting up a priority system for their implementation through identifying

   - those that should be implemented and can be without a great deal of additional development or research work, and
   - those that should be implemented but require more research or development work, and

   establishing a priority order for implementing the recommendations, including the additional research or development work required for some to be implemented;

c) setting up an overall action-plan and timetable for implementation in the appropriate sequences;

d) assigning implementation responsibilities for each set of recommendations;

e) analyzing the budgetary requirements for each;

f) recommending appropriate administrative, policy, and procedural action to accomplish the goal; and

g) planning and recommending appropriate follow-up and evaluation to assess the effectiveness of the action taken to implement the recommended changes.

277

We further recommend that every final technical assistance report be submitted in Arabic, for even those in the Secretariat most facile in English often find it difficult to read technical reports with complete understanding, particularly when the authors use technical jargon, as most do. Moreover, having the reports in Arabic would make them fully accessible not only to Secretariat members but also to those relevant others in the Ministry and elsewhere whose understanding, involvement, and commitment are required if implementation is to occur.

Since the Technical Secretariat members are all busy MOE officials with full-time positions, this recommendation may require assigning some staff and more administrative time for Academy staff in Egypt to work with them in order to make sure there is adequate time and energy devoted to this important set of tasks.

We suggest further that the MOE and USAID/Cairo discuss the implementation problem and the issues it generates fully, particularly with regard to supporting those efforts over the next two or three years.

These discussions should commence as early as possible and proceed concomitantly with the planning so that sufficient time is available to both the MOE and USAID/Cairo to plan and negotiate any further support project whose necessity and requirements emerge as a result of the Secretariat's planning system and the joint MOE-USAID/Cairo discussions.

178

2/6/1983

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 5
A Computer Based Planning Model
for Basic Education

A. OBJECTIVE

To establish a computer based planning and monitoring model for data gathering, organization, simulation, and presentation of a variety of options for Basic Education in Egypt using an integrated data base.

B. DESCRIPTION OF SERVICES:

The contrator shall appoint a team of specialists as shown below to carry out the following five phases.

PHASE I: ESTABLISHING DATA BANK PROCEDURES AND DEVELOPING STRATEGIES.
(6 months: June 83 - December 1983)
Basic gathering and analysis of data including establishment of level of accuracy by governorate and district, with regard to students, teachers, administrators, salaries, financial support, supplies and facilities. Preliminary research on available options for Basic Education.

PHASE II: MODEL DESIGN AND MODIFICATION:

(3 months: January 84 - March 1984)

Formulation of a planning Model for Egypt based on available data and administrative structure. Custom programming on existing Ministry of Education computer or compatable microcomputers for Arabic and/or English presentation and preliminary testing with actual data from governorate districts.
(Installing Hard Ware).

PHASE III: FULL IMPLEMENTATION AND PRESENTATION:

(4 Months: April 84 - July 1984)

Loading of model with tested data from all governorates and districts for all categories, and development of major alternatives in terms of student mix, student/teacher ratio, teacher salaries and qualifications, levels of material support, school location and condition.

Presentation of complete model with major options to MOE officials and to other government agencies if MOE so desires.

PHASE IV: TRAINING

(5 months: August 84 - December 1984)

Completion of technical training for a selected group of 10 MOE personnel in maintenance of Model, updating information, and continued training of 5 other MOE personnel to become trainers of governorate personnel including key administrators, selected teachers and other governorate and district level personnel.

PHASE V: FOLLOW UP AND MONITORING

(6 Months: January 85 - June 1985)

Monitoring the operation of the system and the outputs of the model. Help in discussing technical matters related to the maintenance and updating of the model.

C. ESTIMATED LEVEL OF EFFORT:

PROFESSIONAL LEVEL	TOTAL PERSON DAYS
PHASE I:	
Computer Modeling Specialist	32
Educational Planner	32
Educational Planner (Egyptian)	20
2 Assistants (Egyptian)	20
PHASE II:	
Computer Modeling Specialist	32
Education Planner	32
Computer Specialist (Egyptian)	22
Educational Planner (Egyptian)	10
PHASE III:	
Computer Modeling Specialist	38
Computer Consultant	24
Computer Consultant (Egyptian)	30
PHASE IV:	
2 Computer Modeling Specialists	90
2 Computer Consultants	90
Computer Consultant (Egyptian)	45
PHASE V:	
Computer Modeling Specialist	16
Computer Consultant (Egyptian)	10

D. PERIOD OF PERFORMANCE AND EFFECTIVE DATE:

This work order shall become effective upon the approval of the executive committee and the signature of the work order by the First Undersecretary of State for Education.

The Consultants will be in country within three months. The products of each phase will be presented and discussed with MOE personnel at the end of the phase. The Model and the trained personnel will be ready at the end of phase four.

E. BUDGET

The budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of State of Education and Chairman of the Executive Committee.

Individual cost items may be adjusted by a factor not exceeding 15% without the prior written permission of the First Undersecretary of State for Education.

The total direct cost line shall not be adjusted upward at all without the prior written permission of the First Undersecretary of State for Education.

APPENDIX F:

CHAPTER IV

WORK ORDER NO. 6

(Proposed and Rejected)

EGYPT BASIC EDUCATION PROJECT
BACKGROUND
PROPOSED WORK ORDER NO. 6

1. A new team has assumed responsibility for Basic Education in Egypt under the leadership of His Excellency Dr. Abdul Salam Abdul-Ghaffar, Minister of Education. Their concerns encompass both the internal and external efficiency of the system of Egyptian education. This approach is pragmatic and is concerned with short-term, as well as long-term solutions to problems facing the system.

2. The Egypt Basic Education Project evolved into two stages:

   Stage 1: Conduct of a series of studies:

   -- a general overview of basic education

   -- financing basic education

   -- school facilities

   -- management of the system

   The first two are completed while the last two are underway.

   Stage 2: Presentation of action programs:

   The four studies conducted in Stage 1 are to be the springboard for remedial actions to be taken in the second half of the Project. The intent has been to identify specific problems and to attempt their resolution.

3. It is opportune that changes in the Egyptian educational leadership came at approximately the end of Stage 1 of this Project. The new Egyptian leadership will determine priorities for remedial action and will decide on how best to utilize external assistance provided under this Project.

4. The ministry and the Academy have agreed upon an approach which has the following features:

   A. Stage 2 of the Project should concentrate on the development of policy alternatives, not studies of the status-quo (which has been undertaken in Stage 1). Furthermore, a beginning should be made in implementation of some policy alternatives. It is understood by all that solution of problems in Egyptian education is a lengthy process requiring human and financial resources beyond those available in this Project.

283

B. Because various key problems are interrelated, it is best to take a team approach, a system approach, rather than address each isssue separately.

C. Non-Egyptian specialists alone cannot and should not engage in the activities proposed; their expertise may be helpful as catalysts and consultants, but decision making is completely and thoroughly the province of Egyptian leadership. Their services can be more effective if they were to be members of a team which also includes Egyptian specialists who not only possess technical skills, but have a first-hand knowledge of the environment in which basic education takes place.

D. Any team, especially a relatively large one as is proposed in this Work Order, requires a team leader, a coordinator.

5. The Ministry has identified these priority areas for policy development and implementation:

A. School design, building and facilities.

B. Textbook production and instructional media development.

C. Curriculum design, evaluation and revision.

D. Vocational education.

E. Teacher training.

F. Management of the Basic Education System.

Each priority will be addressed by two educators, an Egyptian and an American colleague. The exception will be curriculum development where a large team is required.

6. In each priority area, the task of each team will be to develop, discuss, evaluate, and recommend specific policy actions, naturally in consultation with Egyptian authorities. For example, and these are only examples, under curriculum development:

-- Should the Ministry establish a curriculum development center?

-- Should each academic program have a set of behavioral objectives?

-- Should there be a degree program for curriculum development?

-- Should the Ministry establish professional qualifications for certain categories of teachers which serve as the objectives for pre-service teacher education and/or in-service teacher education?

-- What tools of measurement and evaluation are best suited for basic education?

-- How can higher education contribute more to curriculum development?

7. The proposed team is expected to act as a technical advisory committee to H.E. the Minister and their excellencies the Deputy Ministers, who are charged with policy development and implementation.

8. The proposed technical advisory committee is expected to carry out its assignment within one year from the time this Work Order goes into effect.

285

MEMORANDUM OF UNDERSTANDING

between

H.E. DR. ABDEL SALAM ABDEL-GHAFFAR, MINISTER OF EDUCATION,
ARAB REPUBLIC OF EGYPT

and

DR. FUAD K. SULEIMAN, VICE PRESIDENT,
HIGHER EDUCATION AND TECHNICAL PROGRAMS,
ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC.

October 14, 1984

1. Current Work Orders 3-5 should proceed as scheduled.

2. Work Order No. 5 (Ministry Automation) is of high priority--to Dr. Abdel Ghaffar.

3. Project emphasis shall now shift from studies to address issues of policy and alternative courses of action which the Ministry might take in its efforts to remedy deficiencies in the educational system.

4. The Ministry's priorities are:

   A. Policy development and policy coordination.

   B. Strengthening the central Ministry capabilities to deal with system-wide concerns.

   C. Attention to immediate problems facing the Ministry and development of plans to address medium- and long-range concerns.

   D. Priority concerns are:

      1. School buildings and the search for alternative school plans and construction materials.

      2. Textbooks revision, production and distribution.

      3. Curriculum revision.

      4. Review of the Ministry's organizational structure, and development of the Ministry's management capabilities.

      5. Development of the Ministry's capabilities to address issues of vocational education.

      6. Improvements in teacher training pre- and in-service programs.

286

5. The approach to be taken in addressing the above concerns:

1. Design of a "team" or "system" approach to utilization of project resources.

2. Maximization of the use of short-term technical assistance by:

   a. emphasizing the use of Egyptian consultants

   b. use of local research staff

3. Recruitment of specialists with experience in policy design.

4. Separation of this Work Order from other current Work Orders.

5. Designation of one specialist, an educational planner who is familiar with Egyptian education, facilities, curriculum, lecturer training and vocational education, as a senior advisor to the Minister whose responsibility includes coordination of project activities under this Work Order.

6. A team of specialists, American and Egyptians, will be assembled in the next 30-90 days, who will serve as a policy panel of experts and who are expected to complete most of this work within one calendar year.

7. The panel of specialists shall be:

a.	Educational planners and team leader	12 P/M
b.	Architecture and school design specialists	12 P/M
c.	Textbook specialists	12 P/M
d.	Curriculum development specialists	36 P/M
e.	Ministry organization and management	12 P/M
f.	Vocational education specialists	12 P/M
g.	Teacher training specialists	6 P/M

   Except for the team leader, who is expected to be full-time and an Academy employee, all other positions are to be shared equally between us and their Egyptian counterparts.

8. Egyptian research assistance (approximately 120 P/M) will be assigned to the panel to gather data and conduct initial data manipulation.

287

9. The Ministry will make available to the panel all data, reports and documents necessary for the conduct of this assignment.

10. Curriculum specialists from the U.S. will concentrate on training of Egyptian counterparts in the process of curriculum evaluation, revision, validation and modification, not in re-writing curricula.

11. Instructional media specialists will concentrate on utilization and maintenance of instructional equipment.

12. The approximate cost of this effort will be $800,000 to be paid for from current funds available in the Basic Education Project.

13. It is understood that U.S.A.I.D. will be consulted before this understanding is formalized into a Work Order.

14. The organization and operational standards of the National Center for Educational Research will be conducted by selected members of the panel.

15. Vouchers submitted under Work Orders 1-5 will be expedited through the Ministry.

16. Deadlines for Work Orders 2, 3, and 4 will be revised under separate amendments to these Work Orders.

EGYPT BASIC EDUCATION PROJECT
Contract No. EGY-263-0139 E.1
STATEMENT OF WORK

WORK ORDER NO. (6)
DEVELOPMENT OF BASIC EDUCATION TEACHERS
INSERVICE TRAINING - PROGRAMS AND TECHNIQUES

A. OBJECTIVES

1. Assess present organizational structure of training and suggest changes and improvements.

2. Assess present inservice training program, techniques and prac for Basic Education teachers in Egypt.

3. Develop a list of identified additional needed inservice tr modules for Basic Education teachers.

4. Develop guidelines to prepare new inservice training appropriate for Basic Education teachers in Egypt.

5. Prepare a sample of inservice training prototype material.

6. Design and conduct an intensive training workshop to devel improve the professional training skills of Basic Education in training staff.

B. DESCRIPTION OF SERVICES

The contractor shall appoint a team of national and foreign cons and research assistants to do the following:

1. Study present organizational structure of inservice training Ministry of Education and make recommendations for needed char improvements.

2. Assess existing Basic Education inservice training progra techniques and suggest possible areas for improvement within t Education philosophy and objectives.

3. Identify needed additional inservice training modules for Education teachers in Egypt.

4. Prepare guidelines for inservice trainig modules for basic Edu teachers in Egypt.

289

5. Develop and tryout one inservice training module to be used as a model for developing further modules.

6. Design and conduct an intensive 3-week inservice training workshop for 30 Basic Education inservice training staff on:

   a. Planning, organization, and administration of inservice training workshops.

   b. Modern training techniques and tools.

   c. Design and production of training materials and instructional aids.

D. ESTIMATED LEVEL OF EFFORT

Professional level	Number of days
Education Specialist (foreign)	110
Training Specialist (foreign)	35
Training Organization Specialist (foreign)	35
Education Specialist (national)	90
Training Specialist (national)	90
Training Organization Specialist (national)	35
Training Assistants (national)	180

E. PERIOD OF PERFORMANCE AND EFFECTIVE DATE

This work order shall become effective upon the approval of the Executive Committee and the signature of the work order by the First Undersecretary of State for Education.

Egyptian consultants shall be appointed at least one month before the arrival of the foreign consultants. The work of the consultants will be coordinated according to mutually agreed schedule and procedures within the time frame of the project.

F. BUDGET

The budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of State for Education and Chairman of the Executive Committee.

Individual cost items may be increased by a factor not exceeding 15 percent without the prior written permission of the First Undersecretary of State for Education.

The total direct cost line shall not be incresed upward at all without the prior written permission of the First Undersecretary of State for Education.

APPENDIX H:

CHAPTER IV

WORK ORDER NO. 7

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 7
HANDICAPPED IN BASIC EDUCATION

A. OBJECTIVES

1. To assess present testing, evaluation, placement and counseling techniques used with handicapped children at the Basic Education level in Egypt.

2. To evaluate presently used systems, different services and tools and suggest possible improvements and/or additions.

3. To develop prototypes of appropriate additional tools based on (2) above.

4. To train staff and personnel on the appropriate use of said tools.

5. To study possibilities of providing modern equipments to enhance the educational and rehabilitation processes for the handicapped.

B. DESCRIPTION OF SERVICES

The Contractor shall appoint upon the recommendation of the Ministry of Education a team of national and foreign consultants who will:

1. Carry out an evaluation and analysis of existing systems and tools.

2. Suggest improvements in the use of the present and future educational system and tools.

3. Design and administer two orientation workshops (2 weeks each) for concerned staff and personnel on the modern testing evaluation, counseling and techniques for the handicapped and their prospective application in Egypt, to take place in the handicapped institutions.

C. ESTIMATED LEVEL OF EFFORT

Professional level	Number of days
2 Special Education Specialists (foreign)	120
2 Special Education Specialists (national)	110
Training Assistants	100
Trainees 20 participants x 2 workshops x 15 days each	600

243

D. PERIOD OF PERFORMANCE AND EFFECTIVE DATE

This work order shall become effective upon the approval of the Executive Committee and the signature of the work order by the First Undersecretary of State for Education.

Egyptian consultants should be appointed at least one month before the arrival of the foreign consultants.

E. BUDGET

The budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of State for Education and Chairman of the Executive Committee.

Individual cost items may be increased by a factor not exceeding 15 percent without the prior written permission of the Ministry of Education.

The total direct cost line item shall not be increased upward at all without the prior written permission of the First Undersecretary of State for Education.

APPENDIX I:

CHAPTER IV

WORK ORDER NO. 8

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 8
ORGANIZATION AND MANAGEMENT

A. OBJECTIVES

The purpose of this work order is the preparation of a reorganization plan that, when executed, would strengthen the organizational and management capabilities of the Ministry, allowing the better utilization of time and effort in the spreading of Basic Education and reaching its goals.

B. DESCRIPTION OF SERVICES

The Contractors shall appoint upon the recommendation of the Ministry of Education a team of national and foreign consultants who will:

1. Carry out an analysis of the existing system to identify its strong and weak aspects. This includes:

   - defining job functions

   - the division of labor and levels of responsibility

2. Propose structural and functional alternatives to strengthen the system in the areas of goal setting, policy formation, resources, distribution, decision making procedures, information gathering, processing and distribution, in service training and career mobility, performance evaluation, incentive systems, managerial and institutional leadership.

3. Suggest staffing and orientation training programs on new organizational systems.

4. Monitor execution and suggest mid course corrections when necessary.

C. ESTMATED LEVEL OF EFFORT

Professional level	Number of Days
Organization and Management Specialist (foreign)	70
Education Specialist (foreign)	66
Organization and Management Specialists (nationa;)	90
Education Specialist (national)	90
Research Assistants Specialists (national)	150

246

D. PERIOD OF PERFORMANCE AND EFFECTIVE DATE

This work order shall become effective upon the approval of the Executive Committee and the signature of the work order by the First Undersecretary of State for Education.

Egyptian consultants should be appointed at least one month before the arrival of the foreign consultants. The work of the consultants will be divided into three parts: diagnostic, policy planning and execution monitoring.

The diagnostic component will require the foreign team's presence for five weeks in Egypt, followed by a three week of data analysis and report writing back in the USA.

The planning review component will take place four months later when two team members will return to Egypt to analyze, with the Egyptian planning team, the strengths and weaknesses of the reorganization plan.

The execution monitoring component will take place four months later after the reorganization efforts had been initiated. The team will revisit Egypt to analyze the reorganization execution process and to suggest mid course corrections.

E. BUDGET

The budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of State for Education and Chairman of the Executive Committee.

Individual cost items may be increased by a factor not exceeding 15 percent without the prior written permission of the Ministry of Education.

The total direct cost line item shall not be increased upward at all without the prior written permission of the First Undersecretary of State for Education.