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

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DISCLAIMER

The opinions expressed herein are those of the authors and do not necessarily reflect the views or opinions of the Agency for International Development nor of any of its employees.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

LIST OF TABLES

5

LIST OF TABLES
(Continued)

PAGE

ν

LIST OF TABLES
(Continued)

PAGE

LIST OF TABLES
(Continued)

8

LIST OF TABLES
(Continued)

PAGE

LIST OF TABLES
(Continued)

10

LIST OF CHARTS

LIST OF FIGURES

LIST OF FIGURES

PAGE

LIST OF FIGURES
(Continued)

PAGE

13

NOTE ON TERMINOLOGY

Terms that describe educational behavior are sometimes ambiguous, or when used in different contexts by different researchers, may have different connotations. In the United States one set of terms may have generally accepted meanings while in Egypt another set of English terms is used when Arabic is translated. The word retention, for example, is generally used in Egypt, rather than repetition, to signify the act of repeating a year. Ambiguity also arises with the term enrollment which can imply the "roll" or the number of children who attend school at any time. The term implies the act of enrolling initially or causing one's name to appear on the "roll." This is more than the condition of registering, which is an act that for technical reasons may fall short of final acceptance and actual enrollment in a school.

Another terminology problem exists in the attempt to describe the length of time a child continues in school. From the perspective of a child and its family, "persistence" seems the appropriate term, while from the perspective of administrators and teachers, the "holding power of the school" may be a more suitable way of describing the phenomenon.

We have tried in this Third Annual Report to use terminology which is generally understood by American audiences without compromising our capacity to discern the different perspectives of our studies and their respondents. Thus the reader will find terms used as follows unless otherwise noted.

Registration:	The act of applying for grade one enrollment.
Initial enrollment:	Registration and acceptance in grade one.
Enrollment:	Existence on the active lists of those who attend.
Attendance:	Actual presence in school.
Persistence:	Continuation in school as seen from the perspective of individual student motivation to continue.
Holding power:	Continuation in school as a function of the capacity of the school to attract student participation.
Educational participation:	The acts of enrolling and persisting.
Repetition:	The act of repeating a school year.

Dropping out:	The act of leaving school permanently prior to reaching the official school leaving age or prior to having completed the stage of education mandated by law (age 15 or grade nine completion) whether papers of the student continue through the system or not.
Younger generation:	Present school-age children in the family being interviewed and all their siblings.
Older generation:	Parents of the younger generation and all other members of the household who are not members of the younger generation.
Urban villages:	Villages with hypothesized positive factors encouraging educational participation (see text for factors).
Rural villages:	Villages with hypothesized negative factors constraining educational participation (see text for factors).
Gross Productivity:	A measure of approximate school efficiency obtained for primary schools by dividing the number of successes in the sixth-grade examination by the number of students who entered the school six years earlier.
Efficiency:	As used in this report, efficiency refers to the "internal" efficiency of the school, or the degree to which the school produces successful graduates in the time normally allotted for that purpose. That is, in a primary school that was 100 percent efficient, all students would complete the first through sixth grade cycle satisfactorily in exactly six years.

PREFACE

This is the Third 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 on 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 schools, 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 used, took place in the fall of 1983, 1984 and 1985, with follow-up visits to schools in the spring of 1984 and 1985. Data were also collected from Ministry of Education officials and records throughout the three years. This report updates the findings presented in the First and Second Annual Reports of September 1984 and 1985 respectively, and presents findings from the three years' work.

The Third Annual Report is designed so that the reader can understand the study and its progress to date with only minimal reference to the First and Second Annual Reports. The first four of the five independent but closely related sub-studies are integrated in the body of the report while the fifth technical assistance study is reported separately. The sub-studies are listed below:

- The 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 persistence in school.

- The 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.

- The 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.

- The Intensive Study of School Factors, principally a qualitative study, drawing its data from classroom observations, interviews with teachers, headmasters, supervisors, governorate educational leaders, students and some of their family members, from school records, regular

16

examination results, and from results of specially designed work-performance tests to assess practical skills and knowledge; aimed at understanding the factors that affect student participation and achievement.

- The Study of Technical Assistance, which is 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 activities and their impact on Ministry of Education policy and procedures.

In the following pages, the results of these studies are organized into two sections that are intended to be useful to those reading for different purposes. In the first section, findings, conclusions and recommendations are organized under the anticipated outcomes of USAID Contributions to Basic Education--enrollment, persistence and student achievement--in order to make useful information readily available for next-phase planners. The second section discusses important findings under topical headings. By using this format we hope to make the wealth of detail coming out of these studies available to as broad an audience as possible.

Appendix A, entitled "Intensive Studies of Community and School Factors Affecting Educational Participation," is a detailed, integrated, up-to-date report of the intensive studies. Appendix B is a more technical report of the extensive study of the impact of new schools. Appendix C reports on the evaluation of the technical assistance component of AID's Contributions to the Basic Education Progam. Appendix D is a discussion entitled "Simple Indicators Which May Be Used to Predict and Assess the Impact of New School Construction."

A special report prepared for the Ministry of Education by a former Undersecretary of the Ministry on the work-performance testing carried out February through March of 1986 is found in Annex II to Appendix A. This former MOE official had been the person responsible for the commodities import (equipment purchase) portion of the basic education program, and in February-March 1986 served as a Team Leader in the Creative Associate's sub-project to test sample work performance of Basic Education students to assess their development of practical skills and knowledge.

INTRODUCTION

BACKGROUND 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 with regard to 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 on the construction of new schools.

Provision of instructional 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. Subsequently, new work has begun in inservice teacher training, the handicapped in Basic Education, and the organization and management (of the MOE).

One can see from Figure i-1 that USAID contributions have been made, and are continuing to be made, 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 USAID's contributions to of the overall effort include:

- providing more accessible, more attractive schools in areas where enrollments are particularly low;

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

Ministry of Education Actitivies		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 instructional and audiovisual equipment and materials for use in science and social studies, and equipment for the practical courses; and

- providing technical assistance that examines how improvements can be made in providing teacher training to support the new curriculum, and in solving problems of organization, school design, 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 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.

HISTORY

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 over 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. 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 instituted a two-shift school day.

Despite general important advances in the educational system, access to education is still not equally available to all Egyptian children. Disparities are still found between males and females, urban and rural, and between Upper and Lower Egyptians. In 1977/78, in urban areas, 90 percent of the six- to twelve-year-old children were enrolled, but in rural areas only 62 percent were enrolled. Of these children, 94 percent of the males and 86 percent of the females were enrolled, whereas in rural areas only 75 percent of the male and 46 percent of the female children enrolled. Girls' ratios of total enrollments 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. It affects social mobility, the level and distribution of income, and the quality and quantity of needed skills in 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 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 hindrance to educational participation.

THE LAST EIGHT YEARS

The present study of USAID contributions to Basic Education must be seen in light of the enormously accelerated pace of economic and social change in rural Egypt in the last eight years. Parents have migrated within Egypt and abroad in search of higher incomes and in the process have gained a broader experience with other lifestyles and occupations. Their earnings have helped fuel inflationary and consumeristic tendencies as well as creating a monied and propertied group within the lower social classes.

Where recently education was the fastest route to social mobility, now the high wages commanded by agricultural and skilled workers create an alternate route to achieving rural aspirations. With television extending into most villages, urban middle class values, including those about extended educations and the occupations they lead to, have become the ideals rural people articulate. Coupled with the rapid fragmentation of land parcels that support fewer progeny in each generation, these ideals become one in a range of creative solutions that are worth pursuing even if they are not fully realizable. The successes of the few, educated a decade ago, serve as examples to motivate present parents to educate their children as long as they continue to show aptitude.

There is enough uncertainty about the economic future and ambivalence about women's roles in the labor force so that though overall trends in enrollment and persistence rise steadily, local anomalies and effects create a wide range of variability. Seen in the context of these rapidly accelerating increases in enrollment, the impact of new schools, significant as it certainly is, is less dramatic than it might have been at another time. The new schools seem to provide the enabling mechanism that allows rapid increases in enrollment to extend to educationally disadvantaged areas and children. Our studies examine, therefore, a unique moment of rapid transition in Egyptian education.

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, the MOE decided 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 al Shaikh, Bahira, 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, electrical wiring and fixtures, 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 and achievement in school--social factors, distance, economics, social characteristics, and so forth. These concerns, along with a need to assess the direct impact of the new schools on enrollment and literacy, form the subject matter of the Intensive Study of Schools and 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 and social studies 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 practical 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 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. The Study of New Equipment studied the effective use of AID-provided equipment.

TECHNICAL ASSISTANCE STUDY

Once the school construction and commodities programs were established and operating, 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. The Study of Technical Assistance considers the effectiveness of this effort.

SECTION I: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

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The following recommendations are based on findings of the Study of USAID Contributions to the Basic Education Program. They are a product of systematic interviews with community leaders, parents, teachers, school administrators, Ministry, and governorate education officials; classroom observations; and the collection of data from official school records.

In this section of the report the findings and recommendations are collected by type of anticipated outcome under major headings of enrollment in grade one, persistence, effectiveness and efficiency of new school construction, student achievement, equipment and technical assistance in order that they may be more conveniently used in planning future phases of the project. Section II briefly discusses the implications of the findings and the appendices expand and document the conclusions.

ENROLLMENT IN GRADE ONE

Pace of Enrollment Increase

Background Finding:

- During the period of this study, the following generalizations about grade one enrollment appear to hold:
  - In the extensive study control sites (where no new AID-funded schools had been built) the average percentage increase in enrollment for boys from 1980/81 to 1985/86 was 14 percent. (See Table B-4.)
  - For girls the percentage increase was 45 percent. (See Table B-5.)
- Across all extensive study sites proportions of girls' enrollment have increased dramatically over the past eight years, from approximately 35 percent to approximately 42 percent of total enrollment, apart from the impact of the new schools. This has been true even in the most rural sites. (Derived from Table B-6.)

Conclusion:

- Primary enrollment levels in the five governorates of the first phase of the construction project increased dramatically, particularly in the case of girls, independent of the opening of new schools.

Comment:

- The accelerated increase in enrollments reflects the eagerness for education in the five project governorates. In the villages where new schools were located, however, enrollments remained low before the new schools opened mainly because of the inaccessibility of facilities. New school construction, thus, allowed these villages to "catch up" with neigboring villages where opportunities existed already.

* * *

Trends in Target Group Enrollments

Background Finding:

- In the intensive sample, before new school construction 94 percent of boys (85), 69 percent of girls (77), 63 percent of remotely rural children (71) and 60 percent of economically disadvantage children (38) were enrolled. (See Table A-67.)

Conclusion:

- Rural girls and economically disadvantaged children, identified in the project paper as the beneficiaries of USAID-funded construction, constituted the major group of unenrolled children prior to the project.

* * *

Effects of Construction on Enrollment in Grade One

Finding:

- Linear regression studies showed consistent and statistically significant impacts of the new schools on grade one enrollment.
  - During the first year of operation, on average, each new school increased the first grade population of boys at each site by 15 percent and of girls by 29 percent. (See Table B-16.)
  - During the second year of operation the continued impacts of the schools were smaller when measured against expected enrollments but were still significant: 10 percent for boys and 17 percent for girls. (See Table B-16.)

Comment:

- These compacts were probably less for a combination of reasons including the large catch-up population that entered grade one in the first year, and crowding that begins to be significant in many new schools in the second year.

Conclusions:

- The USAID-funded schools in the first year after opening have had an impact considerably larger than the 9 percent anticipated as the overall goal of the project. This impact is well above the already accelerated increases in enrollment in the last five years.
- The size of the impact varied considerably from one site to another.

Recommendation:

- Continue the construction of schools in areas lacking accessible educational opportunities to provide spaces for the overwhelming demand for primary education.

* * *

Effects on Target Group Enrollment

Findings:

- The impacts on initial enrollment were greatest in the most rural sites. (See p. B-9.)

- In percentage terms the impacts of the new schools in the extensive study were greater for girls, but in terms of the estimated average numbers of new children brought into first grade at each new school site, the impacts on girls and boys were approximately equal. (See p. B-9.)

Conclusion:

- Rural and girls' enrollments in the extensive sample have increased appreciably during the course of the project.

Recommendation:

- Continue the construction of schools in disadvantaged areas to provide easily accessible educational opportunities for target groups.

* * *

Finding:

- In the intensive study sample since the opening of new schools, 100 percent of six-year-old males (68) have enrolled in grade one. Approximately 74 percent (55) of girls have enrolled, 77 percent of remotely rural children (65) and 78 percent (54) of economically disadvantaged children have enrolled. The few female children who are the remaining unenrolled after new school opening come from families with a past history of resistance to educating girls. (See Table A-67.)

- Overall, the enrollment increase for the two-year period since the opening of new schools has been 25 percent for boys and 46 percent for girls, grades one through six.

Conclusion:

- Even after new schools open, girls from economically disadvantaged families remain the major unenrolled group. Further construction of schools in areas having accessible facilities will not have a measurable impact on these remaining children (unless crowding is a factor).

Recommendation:

- Special efforts at recruitment need to be generated through local educational officials to encourage the enrollment of the remaining six-year-old children. Measures should be encouraged to relieve the economic costs of schooling in economically disadvantaged households.

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VARIABLES WHICH INFLUENCE ENROLLMENT IN GRADE ONE

Distance

Findings:

- From data in the intensive sites, the critical threshold of distance where children's enrollments begin to drop off and dropout levels to rise can be narrowed to between one and two kilometers. Girls' enrollments start to drop significantly after one kilometer, and by two kilometers, less than half the girls who live at this discrete distance go to school. Boys' enrollments start to drop significantly at 1.5 kilometers. If schools are built within one kilometer of children's homes, 94 percent of boys and 72 percent of girls will enroll. If schools are built at two kilometers, 90 percent of boys and 64 percent of girls will go to school. Dropout levels rise markedly for both boys and girls at 1.5 kilometers. (See Tables A-22 and A-23.)

- Interview data suggest that psychological and social distance are perhaps as important as physical distance, especially with regard to girls' educational participation. Here the two relevant categories are "own" community and "stranger" community. Girls are less likely to go to "stranger" communities, especially as they reach preparatory age levels regardless of distance. (See Second Annual Report, p. I-30.)

Conclusion:

- Schools located within one kilometer of children's homes in their "own" community will attract the largest ratios of eligible-age students and make it more likely that they will not drop out as quickly. Schools located no closer than two kilometers apart in most cases obtain this optimum condition.

Recommendation:

- To balance the objectives of high enrollment and the equitable distribution of resources, continue to locate schools no closer than two kilometers apart, except in special circumstances that require closer spacing such as heavy overcrowding or where the needs of girls are not being adequately met.

* * *

Economic Factors

Findings:

- The economic level of the household bears a strong relationship to the rates of children's enrollment, affecting the rates of both boys' and girls' participation but showing a stronger impact on girls. Rates of enrollment increase dramatically as economic level of the household increases and rates of completing grade nine increase modestly. Schooling is seen as expensive in terms of lost-work opportunities and because of the costs associated with attendance. (See Figures A-23, A-24 and A-32.)

- Parents identified education's lack of relevance[1] (34 cases or 27 percent) and cost of schooling or poverty (32 cases or 25 percent) as the major reason for the non-enrollment of boys, and social custom (133 cases or 27 percent) and education's lack of relevance (104 cases or 21 percent) as the major reasons for the non-enrollment of girls. (See Table A-49.)

Conclusion:

- Accessibility of school facilities alone will not guarantee the enrollment of all children, particularly girls, as long as parents perceive education as not having sufficient economic returns or as absorbing financial and labor costs that could be used more effectively for other family goals.

Recommendations:

- Study ways that expenses associated with attending school could be reduced. Perceived as most burdensome are those expenses connected with clothing, uniforms, school supplies, and special tutoring costs. Perceived as least burdensome are annual school fees and pocket money.

- Study how education programs can be better shaped to meet the long-term manpower training needs of Egypt and the occupational goals of parents for their children.

* * *

Adequacy of Facilities and Crowding

Findings:

- Schools are built in six, nine or twelve-classroom models. Natural increases in school populations and trends in educational participation mean that the bulk of the children fill the lower grades. Present

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[1]"Lack of relevance" usually refers to what parents see as the school not training children for their future economic/occupational goals.

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school design usually assumes one class per grade. When classrooms are filled, grade one enrollments are limited by the number of classes opened up by the promotion of grade six students. (See pp. A-64 to A-69.)

- Fifteen of the 23 extensive 1983 new school grade one classrooms appear to have been crowded (45 or more children) by 1985/86. Eleven were crowded in the first year of operation. Impacts of these schools on grade one enrollment during their second and third year of operation appear to have been reduced.

- Over and above their effects on grade one enrollment, the new schools also had a measurable effect on relaxing crowding in the related schools. The data show that this made places for additional girls to enroll in the related schools. (See pp. B-10, B-15.)

Conclusions:

- New schools are not built in a way that anticipates the pyramidal effect of increasing enrollment and persistence. Most assume, unrealistically, that one class per grade is adequate. Pressures of inadequate space are felt first on grade one enrollments, restricting the number of children who can be admitted.

- Primary enrollments in the five governorates of phase I construction continue to grow at a rate that will press the financial resources of these areas.

Recommendations:

- In the long run, it is more cost-effective to over-build in areas of high population growth to anticipate enrollment increases. Temporarily unused classrooms may be used for storerooms, workshops or teachers' residences in areas where local teachers are not available.

- The five governorates that participated in the first phases of the construction program were chosen because they showed some of the lowest enrollment rates in Egypt. Their need is still great. A portion of the funds for new phases of the project should be allocated for continued construction in the original five governorates in recognition of their disadvantaged position. (See Table A-24.)

* * *

PERSISTENCE

Pace of Persistence

Background Findings:

- In the extensive study control sites, the percentage increase in the persistence of boys in grades two through six from 1980/81 to 1985/86 was 14 percent. (See Table B-11.)

- For girls the percentage increase was 45 percent over that five-year period.* (See Table B-12.)

- In all extensive study sites girls' ratios of enrollment in grades two through six have increased on the average from approximately 29 percent of total enrollment to 36 percent. This has been true, like first grade enrollment, even in the rural sites. (Derived from Table B-13.)

Conclusion:

- Primary persistence levels in grades two through six in the five governorates of the first phase of the construction project increased dramatically, particularly in the case of girls, independent of the opening of new schools.

* * *

Trends in Target Group Persistence

Background Findings:

- Before new school construction, in the intensive community sample, of once-enrolled nine- to twelve-year olds 91 percent of boys (311), 82 percent of girls (165), 91 percent of remotely rural children (167) and 82 percent of economically disadvantaged children, (119 persisted to higher grades. (See Table A-69.)

- In the entire younger generation intensive sample, aged six and over who have enrolled at some time, girls drop out at virtually the same rate (21 percent) as boys (17 percent). (See Table A-10.)

Conclusion:

- Persistence rates of enrolled target group samples identified in the project paper as beneficiaries of USAID-funded construction were high prior to the project.

* * *

Effects of Construction on Persistence and Crowding in Grades Two Through Six

Finding:

- Linear regression studies showed consistent and statistically significant effects of the new schools on grades two-through-six persistence. During the first year of operation, on the average, each new school decreased dropout of boys at each site by 6 percent and

*The reader will note that by coincidence these percentages are the same as those on p. I-1 for enrollment increases.

girls by 12 percent. In the second year of operation, the impacts were of the same magnitude: 6 percent for boys and 17 percent for girls. (See Table B-17.)

- Over the two-year period after the opening of the new school, pesistence increased 12 percent for boys and 29 percent for girls.

Conclusion:

- USAID-funded schools in the first years of operation have significantly decreased the dropout of children in the attendance areas they serve.

Recommendation:

- Continue the construction of schools in educationally disadvantaged areas to increase the persistence of rural children.

* * *

Findings:

- As was the case for grade one enrollment, the sizes of the impacts on reducing dropout varied considerably from one site to another. (See p. B-15.)

- It was not possible in the extensive study to estimate the new school impacts on grades two-through-six persistence separately for the rural sites because a number of the rural village schools did not contain all five of these grades. (See p. B-20.)

- New schools have an impact on crowding in related schools. The transfer of boys to new schools eases crowding in related schools more than the transfer of girls since it is primarily the girls expected to drop out who transfer to the new schools. Girls who have travelled long distances to schools are more vulnerable to dropping out than are girls who live close to related schools. This vulnerability is reduced when they return to schools in their home villages and they remain enrolled. (See p. B-20.)

Conclusion:

- New schools increase the number of children who persist in schools above the already rapidly increasing trends in persistence that exist independent of new school construction.

Recommendation:

- Planners need to anticipate the much larger numbers of spaces that will be required in grades two through six and at the preparatory level as a result of increased numbers of persisting and initially enrolling children.

* * *

Effects of Target Groups' Persistence

Findings:

- Impacts of the new schools on girls' persistence in grades two through six of the extensive sample were somewhat greater than for boys, both in absolute and percentage terms. (See p. B-16.)

- Since the opening of the new schools, nine- to twelve-year-old target group children in the community sample attending school made up the following ratios of once-enrolled nine- to twelve-year olds:

  - Boys (9-12): 98 percent;

  - Girls (9-12): 90 percent;

  - Rural children (9-12): 93 percent; and

  - Economically disadvantaged (9-12): 87 percent. (See Table A-69.)

Conclusion:

- Persistence of enrolled age cohorts in the last grades of primary has reached such high levels that new schools after opening will only have a residual effect on persistence in grades four through six independent of already existing trends. Non-enrollment is a more significant constraint on developing a literate population than dropout.

Recommendation:

- USAID funds for construction be targeted primarily on ways to attract the child who would not otherwise enroll. Consideration of such issues as distance, type of location, size of school, costs, and other specific recommendations in the "Findings" will contribute to that goal.

* * *

VARIABLES WHICH INFLUENCE PERSISTENCE IN GRADES TWO THROUGH SIX

Dropout

Findings:

- Dropout is a complex phenomenon. Dropout levels in the school and community samples are extremely low at the primary level. Rates of dropout

  - increase with distance from a school (see Table A-60),

  - decrease for boys, increase for girls with increases in the economic levels of household (see Table A-32), and

- increase with age at a faster rate for girls than boys, (see Table A-10).

Dropout occurs most frequently for girls and boys in the last years of primary level, usually for boys as a consequence of failed examinations, and for girls for sex-role-related reasons. Parents perceive of school as having the two-tiered function of developing literacy skills in the early years, and building occupation capabilities through extended education over a much longer period. Threats by penalties on parents who withdraw children from schools do not eradicate dropout and often leads to falsification of school records by sympathetic administrators. (See Tables A-8, A-21.)

- Over half the parents in both the community and school samples identified school-related problems as the major reason for males to drop out and home-related reasons most frequently for females to drop out. Male dropouts repeat one or more grades to a disproportionate degree when compared with girl dropouts or children of both sexes in other educational statuses. (See Tables A-21, A-56.)

Conclusion:

- Though dropout rates are low overall, in the case of males especially, they are amenable to corrective changes in school policies and procedures. Mandating attendance has not eradicated the problem.

Recommendation:

- The MOE should conduct studies in the factors affecting dropout and repetition rates, and review policies related to student progression through the educational system.

* * *

Basic Education One-Through-Nine Schools

Finding:

- Many of the new schools intended for Basic Education Programs of nine years have filled up so quickly that it has only been possible to open classes to grade six level. Distance constrains persistence in school when children have to move out of their communities to attend the preparatory level. Parents will usually accept mixed preparatory schools that are close at hand over preparatory schools that are distant, even though the latter may be single sex. (See Table A-25 for recent increases in preparatory school enrollments.)

Conclusion:

- The need is still great for providing opportunities up to grade nine in local communities, and many children cannot be expected to complete grade nine without easily accessible facilities.

Recommendation:

- To the extent funds are available and the local populations are large enough to warrant such expenditures, build schools of larger size to assure the ability to expand to the preparatory level. Alternatively, select sites for new preparatory schools to minimize the distance for as many eligible children as possible.

* * *

Single Sex Schools

Finding:

- Case studies in areas where primary schools have gone from mixed to single sex show no evidence of increasing girls' enrollment, and in cases where single-sex schools have limited space, may serve to constrain enrollments. Single-sex preparatory schools, however, may encourage increases in girls' enrollments, especially in conservative and urban communities. At both levels, persistence in school may be increased by single-sex schools. (See Second Annual Report, pp. I-58 to I-62.)

Conclusion:

- Single-sex primary schools do not increase grade one enrollment of girls. If separation of the sexes increases persistence in school it can be accomplished through segregrated classes at higher grades of the primary level. Single-sex preparatory schools are effective in increasing educational participation.

Recommendation:

- USAID construction funds should be used for single-sex primary schools only in very exceptional cases where there is clear evidence that girls' enrollments will be increased by such schools. However, USAID construction funds can be profitably utilized to increase enrollments in single-sex preparatory schools.

* * *

CONSTRUCTION POLICY

Land Donations

Finding:

- Land in eight[1] of the ten sites surveyed intensively in the study is expensive and difficult to acquire for the purposes of school

[1]Two villages were situated close to desert areas where land was abundantly available.

35

contruction. However, villagers have succeeded, even in the poorest villages, in working out communal ways to acquire land. Governorate officials feel that requiring local communities to provide land has not excluded disadvantaged communities from participation in the project.

Conclusion:

- USAID funding of land purchases would not appreciably open up opportunities for disadvantaged communities. Such funding would be extremely costly and divert funds from school construction.

Recommendation:

- Continue the requirement that communities provide land for new school construction.

* * *

School Plans

Finding:

- School plans are unimaginative, utilize space in wasteful ways, and cannot be easily adapted to enrollment size or special uses. In some cases, plumbing is soon out of repair and can become a health hazard.

Conclusion:

- New school plans need to be utilized to better meet educational needs of Egyptian children.

Recommendation:

- USAID should encourage the trial use of the new school plans developed under the technical assistance component of the present project.

* * *

School Walls

Finding:

- Schools without walls are not considered secure enough for the holding of major examinations (education policy), for the beautification of grounds or for the development of permanent projects in agricultural courses. Damage to the physical plant is also considered to be greater.

Conclusion:

- Schools are not complete in the Egyptian context without walls and cannot carry out all their necessary functions.

Recommendation:

- USAID and MOE review their policies concerning funding walls around schools. One possibility might be to provide a central fund in each governorate to be distributed according to community need. Another might be to provide some funding for materials while the community would provide labor and remaining materials that are locally available. Because of the expense of constructing walls, a cost-sharing arrangement should be used.

* * *

STUDENT ACHIEVEMENT

SIXTH-GRADE EXAMINATION (LITERACY AND NUMERACY)

General Status

Findings:

- Well over 90 percent of all children in all sites passed the teacher made grades two and four examinations.

- In the intensive school total sample, the average pass rate on the sixth-grade examination was 81 percent. (See Table A-39.)

- There was large variation in the sixth-grade examination pass rates in the intensive sample schools, however. Five schools (24 percent) had pass rates ranging from 68 percent down to 54 percent. (See Table A-43.)

Conclusion:

- A few schools need help to improve their academic program.

Recommendation:

- Attention should be paid by the MOE, perhaps through the technical assistance program, to developing and implementing a system for identifying problem schools and improving their academic performance.

* * *

Target Group Achievement

Findings:

- There were no significant differences in passing rates on the sixth-grade examination between boys and girls. (See Table A-39.)

- There were small differences between the average passing rates in city, urban village, and rural village schools. (See Table A-40.)

- As compared to the city and urban village schools, there was somewhat greater variability in the pass rates among the rural schools in the intensive comparative sample. Two of the five had pass rates almost 25 percent below the average for the group. If these two are disregarded, the rural school pass rates are quite close to the others in the sample. (See Table A-48.)

Conclusion:

- On the average, rural children and girls generally are about as well served academically by their schools as are city children and boys, but a few schools need help to improve their academic program.

Recommendation:

- Continue the school building program as a means to increase literacy and numeracy in rural Egypt with special assistance provided to those schools which fall below the average pass rates.

* * *

Factors that Affect Student Performance on Sixth-Grade Examinations

Findings:

- Whether teachers and the headmaster are local, and the headmaster's years of experience as a teacher, all have positive effects on student achievement. (See pp. A-113 ff.)

- The effects on student achievement vary directly with the amount of homework given in science, Arabic, and mathematics. (See p. A-113.)

Conclusion:

- On balance, improving student performance on the sixth-grade examination can be accomplished by assigning local teachers to serve under local, seasoned headmasters who work with supervisors to ensure that stress is laid on factors in instruction that are positively related to learning, such as assigning homework.

Recommendations:

- The MOE continue to encourage the recruitment and training of teachers who come from educationally disadvantaged regions and to the extent possible assign them to teach in their own or neighboring village primary schools.

- Whenever possible, headmasters should be assigned to work in the schools in their communities and seasoned headmasters should be chosen to open new schools.

- An emphasis on improving the instructional program should be the central focus of school improvement programs, particularly in the rural schools.

* * *

Finding:

- The personality, confident leadership, and goal orientation of the headmaster are positively related to academic performance in the school, as is whether he or she has a program to improve the school that is focused directly on instruction and student learning and whether that program is implemented. (See p. A-115.)

Conclusion:

- Over the long term, strong, consistent instructional leadership by the headmaster will play a dominant role in having a high-achieving school.

Recommendation:

- Through establishing policy guidelines, the MOE should strengthen the instructional leadership role of primary school principals, particularly in rural schools, and set up inservice training programs for them taught by seasoned headmasters who are themselves successful instructional leaders.

* * *

Finding:

- Whether a school functions as a well-organized, coherent social unit with commonly shared goals, a sense of belonging, of pride in the school and of ownership by the staff and students, has a direct effect on student performance. (See p. A-114 ff.)

Conclusion:

- Strong, well-trained principals with instructional leadership skills, who implement a school improvement program directed at instruction and learning, and who maintain a strong sense of community in the schools can make a large difference in how well a school reaches its instructional objectives as measured by sixth-grade examinations.

  However, emphasis on instruction and learning, important as they are, will not by itself produce a consistently high performance from teachers or students. Schools are social organizations whose organizational dynamics, sense of purpose, and morale require constant and consistent attention.

Recommendations:

- A well-organized program of inservice training for headmasters be developed and implemented by the MOE on ways to arrange and maintain the social organization of the school and improve instruction. It should be taught by excellent headmasters of schools that serve as demonstration and inservice training schools. If practical, the resources of the technical assistance project might be used for these purposes.

* * *

<u>Factors that Do Not Seem to Have a Consistent Affect on Student Performance on the Sixth-Grade Examination</u>

<u>Finding:</u>

- Whether the school has one or two shifts, its size, whether it is located in a city, urban village, or rural area, had or had not received its full share of AID equipment, and was headed by a male or a female seems to have no consistent effect either negative or positive, on academic achievement as measured by the sixth-grade examination.

* * *

<u>Impact of Construction on Students Academic Achievement</u>

<u>Findings:</u>

- In the extensive study the new schools students scored as well on the sixth-grade examination as did those in comparison matched schools. (See Table B-19.)

- In the intensive school study, overall, there also were no statistically significant differences in passing rates on the sixth-grade examination between the new, comparison, and city schools. (See A-42.)

- There was great local variation within each category of school, however. (See Table A-43.)

<u>Conclusion:</u>

- The new schools are doing as well as the standard-setting city schools and the comparison schools in academic performance as measured by the sixth-grade examination.

<u>Recommendation:</u>

- Continue the school-building program to impact favorably on literacy and numeracy rates in rural Egypt.

* * *

FIFTH AND SIXTH-GRADE WORK-SAMPLE TESTS (PRACTICAL SKILLS IN ELECTRICITY AND CARPENTRY)

General Trends

Findings:

- Carpentry was more widely taught in the intensive sample primary schools than electricity (in 17 versus 14 of the schools). (See Table A-46.)

- Overall, average scores for carpentry and electricity, both grades, were 65 percent and 60 percent, respectively. (See Table A-44.)

- In 9 (64 percent) of the 14 schools that taught electricity, more than 60 percent of the random sample of students tested passed (scored 50 percent or better). (See Table A-45.)

- In 14 (82 percent) of the 17 schools that taught carpentry, 60 percent or more of the random sample of students tested passed (scored 50 percent or more). (See Table A-45.)

Conclusion:

- On the average, carpentry is the more successful sub-field of the industry course both in the number of schools that teach it and in the test results.

Recommendation:

- The MOE should develop and implement changes in curriculum and teaching in both electricity and carpentry to improve student performance.

* * *

Findings:

- On the average, only between 50 and 60 percent of the students could name all the common tools used in the skills test.

- Pass rates on the skills test ranged from 58 percent down to 29 percent for electricity and from 57 percent down to 33 percent for carpentry in the least successful schools. (See Tables A-48, A-49.)

- Fifth- and sixth-grade students were taught electricity in only 14 (67 percent) of the sample schools and carpentry in 17 (81 percent).

- In those 14 schools in which electricity was taught testing results were satisfactory (more than 60 percent of those tested passed) in only 9 (67 percent), whereas in carpentry they were satisfactory in 14 of the 17 in which it was taught (82 percent).

Conclusion:

- The quality of instruction and of program offerings should be improved, particularly in electricity, if skills teaching in industry is to yield the results planners hoped for in the Basic Education curriculum for primary schools.

Recommendation:

- The MOE, when developing and implementing changes in curriculum and instruction to improve student learning, should devote particular attention to making changes in how electricity is taught so that it can be offered in all the schools.

* * *

Target Group Achievement

Findings:

- Girls did less well than boys in carpentry and electricity in both fifth and sixth-grades, doing least well in electricity in grade six. In electricity the median score for boys was 70, for girls 50. In carpentry, the boys' median was 65; the girls was 55.

- On the average, the pass ratios for electricity and carpentry in the rural schools in which those subjects were taught did not differ significantly from those in the city schools.

- Carpentry was not taught in 4 (29 percent) of the 14 rural schools but was offered in all city schools. Electricity was not taught in 7 (43 percent) of the rural schools but in only 1 city school. (See Table A-47.)

Conclusions:

- On the average, in those schools in which the subjects are taught, rural children are served about as well as city children.

- Taken as a whole, however, rural children do not have the same opportunities for skill learning as do city children.

Recommendation:

- As was recommended previously, strenuous efforts should be made to increase the number of schools that teach both subjects.

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42

Factors That Affect Performance On the Practical Skills Tests

Findings:

- Carpentry was taught differently in most of the schools from electricity, with more emphasis on tool use and creating an object, even when the teacher did mostly demonstration teaching.

- Carpentry teachers report they do more teaching of how to create an object by example than they would like because of the need to conserve materials due to such small budget allocations for carpentry materials. Students waste materials, of course, in learning how to use tools and make objects.

- The teaching of theory in electricity appears to be adequate. Though we did not test for theoretical knowledge directly, we found most students able to explain how an electrical circuit worked, its various parts, and to speculate what might be wrong with a faulty circuit when they saw it diagrammed but many were not able to apply that knowledge to the practical problem of making a circuit, or repairing a faulty one.

Conclusions:

- Primary school students are developing knowledge and some of the practical skills called for in the curriculum in carpentry, and the theoretical knowledge but not the practical skills called for in electricity.

- Electricity students are less likely to develop practical skills needed to assemble electrical circuits of various kinds themselves or diagnose faults and repair them unless the teaching of electricity changes.

- The same fate will befall carpentry students unless something is done to allow them greater actual use of tools and materials to make objects and develop their skills.

Recommendation:

- Inservice training programs need to be redesigned and continued with an increased emphasis on how to help develop actual, demonstrable, practical skills and knowledge in both carpentry and electricity.

* * *

Materials Budgets

Finding:

- Thirty-eight percent of the schools report serious shortages in their materials budgets. Instead of the LE 40 for primary schools, they now report receiving amounts ranging from a low of LE 10, in one primary school, to a high of LE 40, with an average of around 17 LE.

Conclusion:

- Such underfunding of the materials budgets severely restricts the teaching of the practical skills in carpentry where the students have to work with wood in order to develop manual skills, dexterity, and practical knowledge. If the MOE is unable to supply an adequate materials budget to schools, particularly for subjects such as carpentry which use costly imported materials, they may have to follow one of three possible courses of action.

  - abandon the teaching of the subject entirely; or

  - abandon teaching its practical aspects--the "hands-on" portion of the subject--sticking to demonstration teaching and the teaching of the theoretical aspects of the subject, in which case they will only need a small demonstration set of tools and equipment for the teacher to use; or

  - (over the short range) supplement their materials budgets with AID funds while using technical assistance funds to rethink the industry course, its syllabus and recommended teaching practices to overcome the problem.

Recommendations:

- Follow the last course of action mentioned above. The use of AID money to supplement the materials budget will buy the time necessary to rethink and redesign the industry curriculum. The objective will be to make it a less-expensive consumer of expensive materials while retaining the important objectives of teaching students to work with their hands and to use and care for tools. Through such changes students can learn practical skills through designing and transforming raw materials into usable objects.

- USAID decline making further commitments for the procurement of equipment for industry until assured changes are made.

* * *

Common Characteristics of Basic Skills Instruction Across All Schools

Use of Tools in Electricity and Carpentry Classes

Findings:

- Primary school students reported that by-and-large in electricity classes they had more opportunity to learn to use tools (small screw-driver, wire cutter, small hammer) than in carpentry classes. The electricity tools used in grades five and six are fewer and simpler to use and do not require expensive materials in order to learn their use.

44

- Seldom did the observers see student tool use beyond the most rudimentary familiarization trial uses. Many industry teachers report a restriction in the use of tools in carpentry largely because of the lack of materials and their concern for its cost. Students waste materials (a natural concomitant of learning to use tools in carpentry). Materials budgets are low to begin with and are seldom fully allocated to schools, hence the need to conserve. (See p. A-127.)

- In teaching electricity, those schools with electricity have only the schools' 50 amperes 220 volt system as their power source, dangerous for students to experiment with. Even were it not dangerous, it is an uncertain source in some areas because of the need to divert electricity to industrial use during certain periods of the day. The use of flashlight batteries as a power source would greatly facilitate the teaching of electricity though no school seems to use them at the present. (See Report by H. Harrass, Appendix A, Annex II.)

* * *

Teachers and Teaching

Finding:

- Most teachers of electricity reported they did teach the practical. In doing so, however, many limited their teaching to the use of demonstration boards and illustrations of electrical circuits. Thus, students only observed a circuit and its parts, saw switches open and close with lights going on or off, etc., rather than actually using the tools and materials themselves in troubleshooting circuit problems or constructing electrical circuits to solve common wiring tasks, or repairing faulty electrical appliances.

Conclusion:

- Actual tools used by students in both carpentry and electricity to create objects, solve problems or perform routine repair, troubleshooting, or design problems is minimal, and consequently not as helpful at it could be in the development of actual practical skills..

Recommendations:

- The MOE should begin now to change the way electricity is taught through inservice training or abandon the idea of developing practical skills in this subject in primary school students.

- Ways should be found by the MOE to encourage teachers to promote the actual use of the equipment in real applications rather than only in demonstration teaching.

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Teachers and Teaching Time

Finding:

- Seventy percent of the industry teachers reported that the current number of class periods per week (two 45-minute periods per week) is suitable, but 96 percent wanted classes scheduled together, back-to-back, so they could have a one-and-one-half hour teaching period each week devoted to practical skills teaching. (See p. A-128.)

Conclusion:

- Providing a lengthy class period would enhance the teacher's ability to organize and manage the practical classes so as to allow the more efficient use of the limited teaching time they have.

Recommendation:

- MOE consider adopting the teachers' recommendation as standard practice and notify those responsible for scheduling classes in the schools of the new requirement.

* * *

Impact of New School Construction On the Teaching of Practical Skills

Workshops and Storage Space

Finding:

- Many schools have makeshift storage spaces and workshops for the use of USAID-financed equipment. This situation makes it difficult to use the equipment and to keep them in a state of good repair.

Conclusion:

- Adequate storage spaces and appropriate work areas are necessary if equipment is to have its intended impact on student learning.

Recommendation:

- New schools should routinely contain workshops and storage spaces so that USAID-financed equipment can be effectively stored and used.

* * *

Equipment Purchase and Distribution

Finding:

- The maldistribution of industry equipment reported on in 1984/85 had not been corrected in 1985/86. Fifty-six percent of the city schools

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had more than they needed. About 70 percent of the rural schools had less than they were supposed to receive. (See Table A-50.)

Conclusion:

- Having less than the amount of AID-funded equipment schools are supposed to have combines with the low materials allocation, particularly in rural schools, to restrict teaching more to theory and demonstration than to actual skills development through "hands-on" tool use and experience by students.

Recommendation:

- The MOE should redistribute existing equipment and devise and operate a system for its equitable distribution in the future, perhaps through using the technical assistance project.

* * *

EDUCATIONAL EFFICIENCY

General Trends

Dropout

Findings:

- Annual average primary school dropout rates had been declining in the five years prior to the opening of the new AID-funded schools, from 5.2 percent in 1978/79 to 3.2 percent in 1982/83.

- Preliminary data show the average annual dropout rates in the sample primary schools to be very low (1.6 percent) in comparison to the official MOE figure. (See Table A-13.)

- Our preliminary data show cumulative dropout before completion of grade five--the grade at which literacy is acquired--amounts to 8.4 percent. (See p. A-39.)

- The cumulative dropout over the six years of the primary school is 10.1 percent, however. (See Table A-12.)

- Well over half the reasons given for dropout are school related. (See Table A-17.)

Conclusion:

- Though dropout is a complex matter, in part attributable to personal, home, economic, and community factors, it is also in large part attributable to school-related factors such as examination failure, very strict school discipline, including the use of corporal punishment, for which school authorities have responsibility and over which they have some measure of control.

Recommendation:

- The dropout problem should be part of a more comprehensive program to improve instruction in the primary schools (see the recommendation following under "Grade Repetition").

* * *

Grade Repetition

Findings:

- Average grade repetition rates in the primary schools ranged from 1 percent in the second and fourth grades to 11 percent in the sixth grade.

- Repetition and dropout are interrelated problems. Forty percent of the dropouts have repeated one or more grades. (See Table A-15.)

- Thirteen percent of those who have repeated a grade dropped out.

Conclusions:

- Dropping out and grade repetition must be considered together as two major results of system inefficiency in the primary schools.

- Drop out and examination failure (hence repetition) are so closely linked that a program to improve instruction in the primary schools should also directly lower dropout rates.

Recommendation:

- The MOE should make use of the technical assistance program to design, develop, and implement a comprehensive school improvement program directed at the first five years of primary school. Current grade two and four examinations and grade repetition in those grades should be eliminated in favor of using diagnostic tests in the major fields to identify learning problems so they can be remediated.

* * *

Gross Productivity

Findings:

- The gross productivity of the sample's comparison schools (all rural) in 1985/86 averaged 63 percent, in comparison to the national primary school average in 1983/84 of 73.7 percent. (See Table A-59.)

- It varied considerably, ranging from a low of 50 percent in one school to a high of 80 percent in another.

48

- A projection of gross productivity for the sample's primary schools, based on 1985/86 dropout and repetition rates, gives a probable rate in 1991/92 of 70.7 percent. (See Chart 1 p. A-140, Appendix A.)

Conclusion:

- The combination of the six-year gross productivity rate plus relatively low sixth-grade dropout rates (2.2 percent), plus the continual population increases and enrollment increases, will continue to exert enrollment pressure on the preparatory schools.

Recommendation:

- The MOE should extend as many as possible of the primary schools to full nine-year Basic Education schools to accommodate the projected seventh-grade enrollment pressure.

* * *

Target Groups

Findings:

- Average annual dropout rates are about the same for boys and girls in the primary schools of the sample. (See p. A-39.)

- Repetition rates are greater for boys than girls.

- Average annual rural dropout rates are greater than city school dropout rates (2.2 percent versus .75 percent). (See Table A-13.)

- Examination failure is the most frequently stated reason for dropping out, especially for boys.

Conclusion:

- Though not a severe problem, dropping out is considerably more of a problem in the rural schools.

Recommendation:

- Any school instructional improvement effort undertaken by the MOE should concentrate resources on the rural schools.

* * *

The Economic Consequence of Dropout and Repetition

Findings:

- Taken together, the primary schools of the sample used 1,213 teaching years on those who dropped out and those who repeated one or more grades--at an annual operating cost of LE 82,775. (See Table A-64.)

- If the national average primary school dropout and repetition rate do not differ too much from our preliminary data, which we believe to be conservative, a program to decrease these wastage rates by 50 percent would yield an efficiency increase that would be the equivalent of having an added primary school pupil capacity of 242 schools operating at current efficiency levels.

- The cumulative economic consequences to parents of dropouts and repeaters, considering only their annual out-of-pocket costs for school, are of equal magnitude to those borne by the government. (See Table A-66.)

Conclusion:

- Though annual dropout and repetition rates are admirably low--a fact in which the Ministry should take pride--their cumulative economic impact Egypt-wide for the government and Egyptian families is quite large.

Recommendation:

- Consistent with former recommendations, a general program of school improvement developed by the MOE focused directly on improving the instructional program, diagnosing children's learning problems and remediating them, would in and of itself increase the schools' efficiency and productivity.

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TECHNICAL ASSISTANCE

Scope of Technical Assistance Activities

Background

- The Ministry of Education had never participated in a technical assistance contract and it was only after long discussion that an agreement was reached for a three-year, host-country contract. AID/Cairo, on the other hand, quite rightly believed a well designed technical assistance contract that was programmed to render assistance in key areas supportive of this Basic Education Program would not only be of benefit to the MOE but would also increase the benefits of the other two components of the AID program.

- For its part of the solicitation of interest in bidding, the MOE stated it wanted studies done in:

  - curriculum and the preparation of instructional materials, teacher training, educational planning, educational economics, school mapping, school administration, student flow, dropouts in Basic Education, and school building design.

- After award of the contract, the first five technical assistance work orders were authorized by the MOE in early June 1983, in the first week of the three-year contract. They encompassed all the studies requested by the MOE except for the school site mapping already underway as a separate project, and the study of school administration.

  - No. 1: Authorized and established the technical assistance organization and a "charter" for its operation;
  - No. 2: "Assessing the State of the Art of Basic Education." Basically an analytical study of the laws and philosophy of Basic Education, it concentrated on drawing up ideal models of curricula, model schools, teacher training;
  - No. 3: "Educational Economics of Basic Education." Also contained work on student flow and dropouts;
  - No. 4: "School Designs for Basic Education;" and
  - No. 5: "A Computer-Based Planning Model for Basic Education."

* * *

Finding:

- The contractor made every effort to get off to an early start and incorporated all but one of the studies requested as the first set on which it would work. Subsequently, five additional work orders were negotiated and approved.

  - Three in February 1985:
    - -- No. 6, "Development of Basic Education Teachers Inservice Training--Programs and Techniques;"
    - -- No. 7, "Handicapped in Basic Education;" and
    - -- No. 8, "Organization and Management."
  - Two in February 1986:
    - -- No. 9, "Experimental Schools;" and
    - -- No. 10, "Educational Supervision."

* * *

Finding:

- By May 31, 1986, the original end-date of the technical assistance contract, three of the nine technical assistance work efforts had been completed, Nos. 2, 3, and 4. A fourth, No. 6, was complete except for its final report. Work was in progress on three of the remaining five, No. 5, 7 and 8, and had not begun on the last two, Nos. 9 and 10. Consequently, the contract was extended for an additional year to allow for completion of the work. (See Figure C-3, pp. C-23, 24, 25.)

Conclusion:

- The technical assistance work programming was comprehensive enough in its scope to incorporate at least some work in almost every aspect of the Ministry's operations but overly optimistic in its estimates of the time needed to complete such an ambitious plan of work.

Recommendations:

- To the degree possible, the scope of work in subsequent technical assistance assignments should be narrower and focused on fewer areas of higher priority. Work should be concentrated on improving components of the MOE's organization and functioning that are key to increasing the efficiency and effectiveness of the Basic Education Program.

- The scope of work of future assignments should be broadened to include implementation of recommended changes within the MOE to ensure that the required and agreed upon changes in practice, procedure, and policy are "institutionalized."

* * *

Design and Operation of the Technical Assistance Delivery System

System Design

Findings:

- The design of the technical delivery system contained all the usual provisions for the elements one needs in such systems except for specific mention of the assessment of needs and any mention at all of the most important element--that of implementing or "institutionalizing" the recommended changes in practices, procedures, etc. resulting from the technical assistance itself. (See pp. C-4, C-27.)

- The expectations held by the MOE for the nature of the technical assistance effort was that the work would consist essentially of a set of "research studies" on topics already selected by the MOE prior to the contract awards. This expectation was mirrored in the design and conduct of the first three work orders, Nos. 2, 3, and 4. That is, they were "low client involvement" efforts with low potential for implementation--in effect basic status studies leading to general recommendations difficult to implement by themselves without a great deal of additional technical effort. (See p. C-6.)

57

Conclusion:

- In so far as the MOE and the contractor were concerned, in the early stages of the contract no formal provision needed to be made in the design of the system for additional needs assessment nor for implementation. Needs analyses could be dealt with by including the activities in subsequent work orders as stage one of the work. Implementation issues, if they ever arose at all, could be dealt with as either the last stages of a work effort or as follow-on activities.

Recommendation:

- Whether, how, and when there will be implementation of the changes recommended by technical assistance is an issue of key importance to AID. Hence it should be dealt with consciously and formally as a technical and policy programming and decision-making issue early on in agreement discussions, not dealt with by default if at all.

* * *

Findings:

- The formal organizational structure of the technical assistance system contained a technical arm, the Technical Secretariat, and an executive arm, the Executive Committee, which functioned as deliberative bodies with contractor management representation--the operations arm. The "charter" for the operation of the system laid out the rights, responsibilities, obligations, and a work flow and decision-making cycle. (See Figure C-1, p. C-5, Appendic C.)

- The structure contained no formal method, set of procedures, or other vehicle, however, to allow USAID's concerns, needs or desires to be considered.

- The formal organizational structure and its "charter" has survived intact three changes of Ministries of Education, three changes of First Undersecretaries, four reconstitutions of membership, and a change in the in-country management personnel who function as secretary, coordinator, and manager of all in-country activities.

Conclusion:

- The robustness of the organizational structure and its "charter" for the delivery of technical assistance is testimony to the quality and care with which it was designed to provide the formally constituted forums, the roles, and the hierarchy of authority in which important decisions of consequence to the MOE and the contractor could be discussed and agreed upon in a fashion that provided the necessary safeguards to two of the three concerned parties.

* * *

Recommendation:

- Future decision-making bodies and authority structures for the delivery of technical assistance should have formal provision made to allow AID's needs, concerns, and issues along with all others to be considered, deliberated, and acted upon as part of the normal operation of the system.

System Operations

Findings:

- The two more successfully executed and received of the three early work efforts were short term, clearly defined, and bounded efforts requiring little client involvement beyond the provision of adequate and timely data. They were also largely technical and cognitive in nature, applying technical analysis to the subject problems and required no implementation within the client organization as part of the effort. (See p. C-33.)

- Conversely, the least successful of the three was also short term, technical, and analytical in character, but was not so clearly defined or bounded in its scope and required much more client and counterpart expert involvement--which it didn't get.

Conclusion:

- Time and effort spent by the contractor and the Technical Secretariat in translating needs statements into operationally defined work efforts with clear objectives, and in setting up a system of work-in-progress reviews would go a long way toward ensuring more adequate work performance and higher client satisfaction.

Recommendation:

- Vaguely worded, general work efforts should be avoided, if at all possible. If the work can only be defined generally, the first stage should provide for the gathering of data and their analyses in order to more clearly define and bound subsequent stages of the work.

* * *

Finding:

- In general, five factors account for the major portion of the discrepancy between planned and actual work completions:

  lack of timely action by officials in the MOE. For example, the Academy's nominations of experts for the first five work orders were submitted to the MOE for approval on July 15, 1983. Neither approval nor any nominations by the MOE for counterpart experts was forthcoming until early December, thus causing the first two work orders to be substantially delayed. Work order No. 2, due to begin in late August, didn't get started until mid-December.

54

No. 3, due to start in October, was delayed until the next May--some eight months later. Appropriate clearances and approvals for the procurement of computers for Work Order 5, specifications for which were ready in February 1984, took so long in the various MOE and USAID offices that the Academy was prevented from sending out requests until April 1986--over two years later.

- lack of readily available and accurate data (e.g. Work Orders 4, 6, 7, 8 all required extensive data acquisition, synthesis, and analysis as the first stage in the work effort);

- need to have materials and reports in two languages. This increased time required for translation that had not been programmed in;

- change in the nature of the work over time from relatively simple two- or three-person efforts to more complicated six to ten or 20-person efforts with many more stages and higher client involvement. The more complicated efforts require much higher levels of management time, energy, sophistication, and interpersonal skills as planning, logistics, and complicated work designs and scheduling increased; and

- the lack of adequate provision by AID/MOE in the original scope of work for sufficient management time, energy, and sophistication--particularly in Egypt where the requirements for management time, skill, and sophistication in planning and managing complex operations grew as the contract progressed.

Conclusion:

- Some of the planning assumptions which guided the project's design and original formulation, such as the amount of effort that should be devoted to in-country project management, proved to be unfounded. Some problems in the system were self-correcting, having required only more experience, the development of trust among the parties, and procedural adjustments. Others required specific changes in the allocation of time and effort in project management to correct problems such as those resulting from the increased complexity of later work orders.

* * *

Finding:

- By late fall, early winter of 1985, increased time and more skillful and sophisticated project management had been put into operation. Subsequently, more Egyptian experts were involved in more technical and responsible roles in the work efforts; there was a higher level of project involvement by high-level MOE officials in substantive and coordinative roles in each work effort; and USAID/Cairo officials were being kept better informed and were more closely involved with the work. (See pp. C-26, 27.)

Conclusion:

- With time and experience, the people and organizations involved in comprehensive, multi-task, broad-scope technical assistance projects will learn new roles and responsibilities, adjust to new relationships, adapt and adjust procedures, and regularize operations. However, such projects benefit from the provision of a formal system of regular progress review and analysis so that adaptations or changed procedures can be reviewed and regularized, and other organizational or contractual issues and problems can be identified and corrected.

Recommendation:

- Future technical assistance projects should include a system of regular, formal, internal review and progress checks, and a formative evaluation component designed to provide feedback of results to all interested parties--the MOE, AID/Cairo and the contractor.

* * *

Impact of Technical Assistance

Findings:

- By the end of the technical assistance contract's original end date, May 31, 1986, there were no actual noticeable effects on objectives, procedures, policies, programs, or operations within the Ministry of Education, its governorate offices, the schools, Faculties of Education or teacher training institutes arising from eight of the nine substantive technical assistance work efforts (Nos. 2, 3, 5, 6, 7, 8, 9, and 10). (See Figure C-3, pp. C-23-25, Appendix C.)

- The results of Work Order No. 4, however, School Designs for Basic Education, were in the beginning stages of implementation by the MOE. At the MOE's direction working drawings were being made of new school designs and for modifying existing school designs to improve them in ways recommended in the Final Report of Work Order No. 4.

- Work Order No. 2, "Assessing The Art of Basic Education" (curriculum and teacher training), and No. 3, "The Economics of Basic Education," had been completed and had fulfilled their original purpose of serving as general purpose surveys, status studies, and providing general recommendations, some of which (from No. 2) surfaced again as new work orders or as aspects of new work orders.

- None of the other work orders had been fully completed, though No. 6, for inservice teacher training, had completed all but its final report.

Conclusion:

- Until the remainder are completed and their recommended changes have been implemented by the MOE, it is not possible to gauge noticeable or measurable effects of any of the technical assistance efforts in changes in rationale, objectives, or procedures for supporting, improving, or evaluating the basic elements of Basic Education. (See Figure C-3, pp. C-23-25, Appendix C, for a summary of actual and potential impact.)

Recommendation:

- USAID/Cairo and the MOE should assign responsibility for follow-up evaluation in the MOE and the schools of the effects of the completed technical assistance contract to the formative evaluation unit we recommend be established in the MOE under the technical supervision of the next technical assistance contractor. The data and information collected in the formative evaluations should be made available to an external evaluation contractor for use in mid-course monitoring and for an end-of-contract summative evaluation.

* * *

Findings:

- As of May 31, 1986--three years from the beginning of the technical assistance contract, 60 percent of the work orders had yet to be completed and have decisions made about the disposition to be made of their products. (See Figure C-3, pp. C-23, 24, 25.)

- All the work orders remaining to be completed are entering a "high involvement" phase, requiring training and the active consideration by the MOE of organizational changes of varying levels of complexity, from restructuring the entire range of educational services to handicapped children and staff training for those services, to a reorganization of the entire inservice teacher training operation in the MOE.

- More remains to be done in the completion of technical assistance in this last year than has been accomplished in the first three years of the contract and all of it requires the active involvement of high level MOE officials in order that it simply be completed--not to mention implemented in practice.

Conclusion:

- The probability is high that not all the work will complete the last three stages of the full cycle of technical assistance delivery--final technical review, action by the Executive Committee, and final disposition. (See Figure C-2, pp. C-15-18, Appendix C.)

Recommendation:

- During the year (June 1, 1986/May 31, 1987) AID/Cairo and the MOE work out some decisions on:

    - which work efforts should be implemented by the MOE without additional support;

    - which should be shelved (action deferred until a later date);

54

- which should be abandoned
- which should be impl[illegible] through follow-on technical assistance work supported [illegible];
- which require additiona[illegible]ical assistance work to reach a stage in which they can be [illegible]mentable;
- what new candidates for te[illegible] assistance exist; and
- a design for the general [illegible]ity and decision-making structure and the system of fo[illegible] progress reviews and formative evaluation to be inclu[illegible] the next technical assistance project. These should in[illegible] provision for greater USAID/Cairo involvement.

58

ADDITIONAL FINDINGS, CONCLUSIONS, AND RECOMMENSTATIONS

EQUIPMENT

Since the results of the Equipment Study, found in the Second Annual Report, Chapter III, were presented in the format then acceptable to USAID but different from that required for the Third Annual Report, for the reader's convenience, in this volume we have gone back through that report and recategorized and reorganized the results for presentation in the new format. All cross-references in the text are to Chapter III of the Second Annual Report.

Equipment Selection, Procurement, and Distribution

Finding:

- Science, industry, and home economics teachers reported that the kind, quality, and amount of equipment furnished was generally adequate to their needs. Agriculture teachers, however, reported that the type and quantity of equipment was inadequate and in some cases did not fit the curriculum. (III-24, 25, 26,27, 36, 37, 38.)

Conclusion:

- There are some problems with the equipment in each field but the most serious are in agriculture. Agriculture curriculum goals can not be fully met, particularly in the preparatory schools, with only the present type and amount of equipment.

Recommendations:

- Lists of equipment and their specifications should be reviewed by Egyptian supervisors or those close to the teachers who actually use the equipment and by AID-designated consultants familiar with the equipment and with Egyptian education to ensure that they fit the curriculum, are of direct use in instruction and are suitable for the level of the students.

- Special attention should be paid to the agriculture equipment list. It should be reviewed to eliminate some items that receive little or no use and other items should be added so that the curriculum needs can be better met.

Finding:

- From our schools observations we found that many of the new schools, in particular, had little or no music or physical education equipment. Many teachers and headmasters asked if it was possible to request these kinds of equipment. (III-37.)

Conclusion:

- To function fully as they should many schools have need of additional equipment other than that currently being provided.

* * *

Finding:

- Fewer than ten percent of the schools have received their full allocation in all three practical fields and science, as yet. Moreover, distribution practices were changed in some governorates so that partial packages or even individual items of equipment (three hammers, etc.) were distributed to schools rather than the complete set they require. Regional and area differences abound as well. City schools tend to have the most equipment (one medium-sized city school has enough carpentry equipment for six schools and 35 steam irons in the home economics room). (III-19, 20, 21, 37.)

Conclusion:

- More equipment is needed to complete the amount needed by schools in the three practical fields and in science. Current distribution practices in the governorates are ineffective, inefficient and unsystematic.

Recommendation:

- Consideration should be given now to expanding the commodities program to include other school subjects--music and physical education are two that need attention now--and to the area of instructional supplies (paper, chalk, pens, pencils, notebooks, etc.), provided this expansion is not done at the expense of completing the equipment purchases and distribution of the three practical courses, science, and audiovisual education. Further consideration should be given now to redesigning the equipment distribution and record-keeping system for the schools and governorates.

* * *

Equipment Maintenance, Repair, and Replacement

Findings:

- A large proportion of the industrial equipment is in a state of poor repair. There is little or no maintenance, and there are no maintenance, repair or replacement budgets. (III-16.)

- Many teachers in double-shift schools are reluctant or refuse to share their equipment with the teacher of the other school, due to the lack of budget for maintenance, repair, and replacement, and the system of teacher accountability for the equipment they have been assigned. (III-16, 17.)

Conclusion:

- Unless adequate attention is paid now to the question of proper maintenance, repair, and replacement of equipment and budgets are established for this purpose, large amounts of equipment will soon become useless, especially in carpentry and in sewing (home economics) where some fragile plastic parts for sewing machines are unobtainable in some areas of the country.

Recommendation:

- An explicit examination should be made of the official systems in use in the governorates and their schools for the distribution, assignment, redistribution, inventory (recordkeeping), maintenance, repair, and replacement of equipment to the end that efficient and effective systems can be designed, tested, and put into practice. Schools also should have only the equipment they actually need. The excess equipment in some should be redistributed to those that are short.

* * *

Findings:

- Some of the school furniture, desks and benches, for example, are now made in the government's technical schools, thus providing training for students, often extra income for teachers and some students (for extra summer production work), and saving hard currency.

- Egypt is currently dependent on USAID for instructional equipment and some instructional materials (maps and globes, for example). In fact, several million dollars has been spent on the purchase of maps alone (from foreign sources).

Conclusion:

- The expenditure of over 40 million USAID dollars for instructional equipment and materials for the primary and preparatory schools of Egypt, while extremely useful in and of itself, has not increased the country's capacity to produce any of these items, leaving it still dependent on hard currency purchases.

Recommendation:

- Consideration should be given now by the MOE and USAID/Cairo to the manufacture of instructional equipment and materials in Egypt, making use of both the public and private sector, so that equipment and materials can be procured from Egyptian sources in the future, so that the Egyptian economy might benefit, and that there be a reduction of the need for making foreign purchases in the future.

* * *

Materials to Use with Equipment

Findings:

- The effective use of most instructional equipment, such as stoves, mixmasters, sewing machines, hand tools, etc., requires an adequate supply of raw materials if students are to learn the practical skills for which the equipment is provided. Most teachers of the practical courses emphasize the teaching of the practical aspects of their subjects. (III-31, Table III-11.)

- In school year 1984/85, 38 percent of the primary schools and 64 percent of the preparatory schools surveyed reported receiving less than the correct amount of money (40 LE, primary, 60LE, preparatory per class) for materials purchases. There are variations in the allocations among schools (city schools get more, by-and-large, than do rural schools), among governorates, and between years. (III-17,18, Tables III-8, 9, III-36.)

Conclusion:

- Inadequate materials budgets are severely constraining the instruction of students in practical skills, particularly in high-cost materials courses like carpentry, therefore reducing the utility and need for the equipment.

Recommendation:

- Every effort should 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 be reexamined carefully by the MOE. (See also the recommendation resulting from the February/March 1986 field study visits to schools for the work-sample testing of students to assess practical skills development).

* * *

Teacher Inservice Training to Use Equipment and Teach Practical Skills

Findings:

- Of the 450 teachers responding, 42 had not attended an inservice course within the last two years. Only 9 of 68 headmasters had any inservice training within the last two years. Most of the teachers wanted more training as did 85 percent of the headmasters interviewed.

- Whole-group, rather than small-group or individual instruction, teacher talk, and demonstration teaching dominates the classroom. The predominant learning mode is for students to observe, listen, memorize, and recite on request to show mastery of the material. There is little problem-solving or student intiative in learning. Students were passive, always waiting for directions from the teacher before proceeding, except to copy materials from the blackboard into their notebooks. No inductive or inquiry-oriented teaching was evident, nor did we see much cross-discipline integration in instruction, e.g., use of math learning in measurement, in carpentry or in computing amperage or resistance in electricity.

Conclusion:

- The changes in teaching and learning at the heart of the basic education reform movement are not likely to occur unless a more active and vigorous inservice training program directed at instructional improvement is designed and implemented on a nationwide basis.

Recommendations:

- A revised, more effective, and more efficient inservice training system for teachers and especially for headmasters in instructional leadership should be devised and implemented on a nationwide basis. It should be an integral part of a larger system for developing and testing innovative methods of teaching. Effective Basic Education schools and successful teachers and headmasters should be used as trainers.

- A sub-system for communicating the results and methods, along with proven methods for implementing the changes through training programs, appropriate supervision, and an incentive system for teachers and headmasters should be developed and maintained.

* * *

Subject and Student Evaluation

Finding:

- The practical courses are pass/fail courses. The results of students' performance are excluded in computing overall grade averages. (III-32, 33, 41, 42.)

Conclusion:

- The practical courses and the learning for which they are intended are devalued in the schools by teachers, students, and we suspect, by parents. Nor do educational officials have any consistent feedback on students' performance by which to evaluate whether or not the objectives for which the practical courses were designed are being met.

Recommendation:

- A consistent, objective student-performance assessment system for the practical courses needs to be designed, tested, revised, and implemented on a nationwide basis. The results should have important consequences for students and teachers, so they will be taken seriously and be administered properly. They must contain objective ways of measuring the practical skills as well as knowledge, so they may be of use to school, governorate, and MOE officials in evaluating how well the courses are achieving their objectives.

* * *

Adequacy of Facilities

Finding:

- There is a clear and present need for workshops and adequate storage space and storage facilities in the schools. (III-9, 36, 40.)

Conclusion:

- The lack of workshops or adequate working spaces for teaching the practical courses, even in new AID-funded schools, severely inhibits instruction in these courses.

Recommendation:

- The MOE's current practice of constructing workshops for schools that do not have them should be continued and expanded. Workshops and special-purpose rooms should be included in new USAID-funded schools.

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SECTION II: DISCUSSION OF FINDINGS, CONCLUSIONS, AND THEIR IMPLICATIONS

SECTION II: DISCUSSION OF FINDINGS, CONCLUSIONS, AND THEIR IMPLICATIONS

INTRODUCTION

The object of the Study of USAID Contributions to the Egyptian Basic Education Program is to evaluate the impact of project-financed construction, commodities, and technical assistance on the access to and efficacy of primary education in Egypt. In addition, as a research study, it is intended to deepen understanding of the status of education in rural Egypt and the factors affecting the participation of children in educational programs so that the design of future projects might continue to be relevant to the needs of Egyptian populations. The impact of USAID contributions to educational programs is necessarily constrained or accelerated by factors not always within the control of the MOE or an outside donor. Nevertheless, rational program design requires that there be awareness of all controllable and uncontrollable factors and the extent to which they may affect project outcomes.

The Mission specifically sought to assess whether project-financed construction and equipment:

- increased the enrollment and persistence in school of children, age six to fifteen, particularly rural children and girls; and

- increased student achievement and the acquisition of skills.

And, whether technical assistance:

- established an empirical base for decision making or helped develop programs that increased the relevance, efficiency, and effectiveness of education.

METHODOLOGY

The evaluation comprises five complementary studies, the first four of which have been integrated in the body of this report: (a) an extensive study of enrollment, persistence and student achievement in a sample of new schools, their related schools and control schools in the five governorates (Bahira, Kafr al Shaikh, Assiut, Sohag, Qena) participating in the first phase of the project; (b) an intensive study of community factors affecting educational participation in ten sites of the five governorates; (c) a study of AID-financed equipment use; (d) a qualitative study of school factors affecting educational participation and achievement; and finally (e) a study of the impact of technical assistance on policy and programs in the MOE.

The extensive study is designed to assess the overall impact of the new schools on enrollment, literacy, and numeracy. Sites were chosen at random in each of the five governorates to form a group of 1983 new school sites (where schools opened in 1983), a group of 1984 new school sites, and a group of control sites where schools were planned but none were opened during the study.

66

To estimat d enrollment in the absence of a new school, a time-series analys used. Records of enrollment in all the nearby, preexisting sc each site were examined for each school year from 1978/79 to 198 projections for 1983/86 were based on these enrollment trends. Then enrollments were compared with these projections in a linear regress sis to determine whether the new schools increased enrollment bey ould be expected from past trends.

The intens unity study is designed to study the community and household fact ting the educational participation of children. The sample for the e sites was selected in a two-phase procedure. First, eight new scho nities from Upper and Lower Egypt were chosen on the basis of assum out the kinds of environments that provide positive and negative cond r educational participation. These factors include accessibility o ional opportunity, occupational structure, value placed in education, omic level of the village, and association with urban and rural co Those possessing characteristics supportive of educational pa ion were called "urban" villages and those with characteristics aging participation were called "rural" villages. In the first year tudy the effects were tested and proved historically to have had the a d impact on educational participation. Two additional villages were in conservative Assiut Governorate to study the impact of new school c on on girls' education.

Second, a h sample was chosen from each of these ten new school communities. nities were divided into naturally occurring segments and households ing children ages four to fifteen,[1] identified as equally as pos ross these segments as well as across a stratified selection of r illages making up a new school's expected attendance area. Question n educational participation were administered to these approximately 4 olds in each site (to no more than two families per household). I ion, questionnaires concerned with general village background were stered to community leaders. (See the <u>First Annual Report</u> for more arch design.)

In the past s of intensive study findings were designed to provide useful informat rapidly as possible even when the evidence was not complete. This Annual Report, for the first time, contains evidence from the complet files of the ten villages and thus supersedes the other reports with co s more firmly drawn from a larger sample base. In all there is educat nformation on 462 families in 405 separate households. These families a total of 3,967 members divided into two groups: 1,346 from the o neration; and 2,621 from the younger generation.[2]

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[1]This age range lected so that by the end of the study there would be at least one chi ne age range appropriate for Basic Education.

[2]The generation distinguished on the basis of what were considered to be different de making climates. The older generation includes the parent responden present day school-age children, their siblings, their parents and oth rly relatives living in the same house. The younger generation consis the parent-respondents' children, whether of school age or not.

The study of AID-financed equipment was designed in two phases. The first was intended as a descriptive and qualitative study to look in depth at those factors one could consider contributory variables to equipment use: the adequacy of the supply; the degree of logical connection between the equipment, its uses, and the instuctional goals and tests of the courses for which it was supplied; the amount of inservice training in equipment use, maintenance, and repair; the amount of encouragement and supervision in the use of the new equipment; the logistics of equipment storage; and the procedural rules for maintenance, repair, and replacement of equipment.

In phase 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 use; on constraints that might inhibit its use; and on administrative or logistical problems with regard to its use, storage, record-keeping, replacement, and repair.

Data from the survey conducted in November/December 1984 in the study of new equipment revealed that there were different amounts of equipment and different patterns of equipment use in the schools. The relationships of these different amounts and use patterns to student acquisition of knowledge and skills, to student persistence (the school's holding power), to enrollment, and to other major school characteristics were not yet fully known.

Therefore, the second phase of the study of the effect of new educational equipment was designed as a more general two-year study of the educational characteristics of a selected sample of new AID-funded rural schools, and of appropriate comparison schools, and was linked directly to the study of new school communities, which provides data on community and home characteristics and environments.

The sample consisted of ten school clusters, each containing a new school, a comparison school (one of the "related" schools), and the local city or markaz capital school. The new schools are in the sites of the intensive study of new school communities; the comparison school is one of the related schools in a neighboring community which many of the new school children had previously attended or would have to attend in the absence of the new school. The city schools were chosen as representatives of the general instructional patterns, practices, and standards of the region.

Data are secured from interviews with teachers, headmasters, and other administrative and supervisory personnel; from teacher questionnaires, from classroom observations and questioning; from interviews in dropout students' homes, where possible; from work-sample tests of practical skills and knowledge in carpentry and electricity in grades five through nine; and from school and governorate records on academic examination success rates, grade two, four, six, seven, eight, and nine. Though primarily a naturalistic and qualitative study, quantitative treatments of data are used where appropriate.

The technical assistance study 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 progam's effects, if any, were on the other institutions in Egypt's educational system--such as the schools of pre-service education programs and the Teacher Training Institute Programs; and to determine what impact the program would have on actual school practices. The study also analyzed the organizational, administrative, and policy and procedural aspects of the delivery of technical assistance within the project.

DISCUSSION OF SIGNIFICANT FINDINGS

The following discussion elaborates on the findings in the previous section where these need explanation or where they contain policy implications that may not be obvious. The reader is referred to the appendices for detailed explanations of the findings.

Enrollment

The study finds that over the last decade, and particularly in the last five years, the pace of grade-one enrollment increase has accelerated in rural Egypt for all children, but also for girls and economically disadvantaged groups independent of project construction. The school construction project has addressed the issues of increasing literacy and the access of all children by locating new schools in ways that attract disadvantaged rural groups.

In sample villages where new USAID-fund primary schools have opened, impacts of new schools on enrollment have been considerably above the original expectations for all children in general, but particularly for rural children and for girls. Virtually all six-year-old males in the new school sites and all but the most resistant girls are now enrolled. Studies of those remaining unenrolled girls, in most cases, show a family history of resistance to education for girls. Drawing these few remaining children into the system, therefore, requires a more drastic intervention of education officials to enforce compulsory education laws. Further construction in these new school communities other than that directed at keeping pace with population increases, will have little impact on encouraging the remaining children to enter school. The success of the project in helping to satisfy the demand for new enrollment and encourage the participation of educationally disadvantaged groups strongly argues for continuing the construction of new schools in areas where facilities are difficult of access.

Major Constraints on Enrollment

The study shows that the major constraints on enrollment have been distance or the inaccessibility of facilities, crowding, economic factors, and social norms. New school construction addresses the first two constraints by decreasing the effects of distance and relieving crowding in regional systems. Social norms are changing rapidly and no longer provide a significant barrier to the majority of females. Economic factors remain and may be becoming more important, but these may accelerate educational participation as well as constrain it, if education is factored in as one element in the occupation-preparation equation.

69

The MOE, with the support of USAID, should continue to assess the effects of locating schools within accessible distances of most eligible-age groups. Clearly, the school mapping program should continue and maps be kept up-to-date with locations of new schools added. The two-kilometer rule for spacing of new schools turns out to have been an excellent choice and should be continued. Indications are good that if schools are made accessible, virtually all but a small core of Egyptian children from resistant families can be enrolled in the near future unless economic changes alter the present picture.

Crowding

The most serious constraint on educational participation in coming years, will probably be crowding at the grade one level, and ultimately throughout the system. All signs point to critical levels of crowding in primary and preparatory schools in the future. Already a majority of the extensive sample new schools in the first year of opening are showing class sizes of 45 or more children in grade one classes.

In the two and three years after new schools opened, impacts on grade one enrollment dropped against projected enrollment. There are good indications to suggest that these decreasing impacts may in part be related to crowding. Thus, if grade one fills up in the first year, subsequent years admissions may be less than expected because there is no room for expansion. (A contributing factor is that when backlogs of children enroll, the first year impacts are increased.)

The pyramiding effect of grade one enrollment demand is evidenced also in the sample by the general characteristic that as grade level increases, class size decreases, except in the high repetition years of grades six and nine. This is not primarily because children drop out of school but rather because children who entered school several years ago constitute a much smaller group than those entering grade one now.

The constraint of crowding on enrollment is uneven and sometimes sporadic. If space permits two grade one classrooms one year, it may not the next when grade two now requires two classrooms. In some schools 35 students in a class may be considered crowded by school staff and steps may be taken to avoid further enrollment while in another, 60 students may occupy a classroom without excluding any child who registers.

It is reasonable, given the pressures of increasing school populations and limited MOE budgets, that schools continue to use solutions to crowding they have used in the past even though these are not optimum solutions and are burdensome to both parents and the schools: split-shifting (dividing the school into a morning and afternoon session with half the grades; for example 1, 2, and 3 attending in the morning and grades 4, 5, and 6 in the afternoon); double-shifting (splitting the school into two different schools which use the same building for one-half day school, rotating the sessions so each school gets to use the building for an equal number of morning and afternoon sessions); and flying classrooms (one class or more has no assigned classroom but meets outdoors and, when possible, in classrooms not being used when pupils are in the science laboratory, home economics room, industry workshop, or in physical education).

Our study shows there is no significant difference on grade six achievement scores between children who have experienced their learning in double-shift or single-shift schools. Though new schools can still buy time with these solutions, many old schools are already using them but have little capacity to expand unless they build additional classrooms or try triple-shifting. Intuitively we feel that this last solution is not desirable, though we have no hard data to support our intuitions.

USAID and the MOE should collaborate on studying creative solutions to present and future crowding problems in communities where facilities already exist.

Crowding appears to have a more substantial effect on girls' enrollment than boys' enrollment, and girls who are not kept out of school by distance may be kept out of school by crowding. There is evidence that locating new schools in areas where related schools are crowded may create new enrollment for girls who would otherwise have been prevented from going to school.

The main effect, therefore, of locating new schools in urban villages is likely to be to relieve crowding in related schools, thereby increasing enrollment somewhat for girls in these schools. In addition, girls who were prevented from attending school because of distance will also be able to enroll in the new village school located in their home villages. By contrast, the effect of locating new schools in rural villages where access to facilities has been difficult is to draw larger numbers of new students into the system who would not otherwise have gone.

The evidence shows that at present, building new schools in remotely rural areas will have a larger net effect in bringing about full primary school enrollments than building schools near crowded urban areas. However, planners must be sure to build schools in these rural areas large enough to accommodate first-grade enrollments in the near future, even though classrooms for the late primary years may not be fully utilized in the beginning.

An index of classroom crowding, comparable to the two-kilometer rule for distance, is useful. We suggest that the proportion of girls' enrollment to total enrollment in grade one, together with class size, is a good index of enrollment pressure. Planners might consider giving priority to construction of additional classrooms in rural sites where class size exceeds 45 students and girls' rates of total enrollment are less than 40 percent.

Persistence and Literacy

Prior to the project, persistence rates of enrolled children to the end of the primary level were extremely high. In the community sample, after the new schools opened, the rates of those continuing in the upper grades of primary school continued to rise in all the target groups as a result of more accessible schools. By World Bank estimates, children who have reached grade five in Egyptian rural areas, under normal conditions, have achieved a level of functional literacy.[1] Once children in our sample enroll, the majority

[1]Hartley, Michael and Eric Swanson. Achievement and Wastage: An Analysis of the Retention of Basic Skills in Egyptian Primary Education.

persist to these levels of functional literacy. Our study shows, therefore, that it is non-enrollment rather than a lack of persistence that reduces the numbers of those achieving literacy skills. This evidence pinpoints the need to focus efforts on enrollment in grade one as the first priority in developing a literate population. New school construction in areas where facilities have been inaccessible is clearly an effective way of increasing initial enrollment and raising levels of persistence.

The Fit of Education to Children's Needs

We are concerned that in struggling to keep up with quantitative demands, educational institutions will lose the capacity to adjust to new economic and social needs of the society. Already we see signs that parents are rethinking the occupational goals they envisioned as the benefits of an extended education. As educational degrees become commonplace, and as agricultural and manual labor wages increase in comparison to professional salaries, the perceived advantages of education beyond the primary level diminish. Parents tend to see education as two-tiered, with a level that provides useful literacy skills if a child persists through most of primary school, and a level that opens new occupational opportunities if a child persists to secondary or university level. Most parents consider the first level important and aspire to the second level, if a child shows good aptitude or when no other adverse social or economic circumstance intervenes. However, a number of parents are now claiming that education lacks relevance for children, especially when girls are expected to become housewives or boys are expected to become farmers or manual laborers.

To continue the present high level of demand and ensure that education meets individual needs, educational planners need to rethink how to make educational programs more relevant to the needs of children, particularly girls and agrarian rural groups.

The Fit of Education to National Goals

From a national standpoint, Basic Education has two major goals: the development of a literate population; and the transfer of basic skills to prepare children for further training in the specialized skills needed to develop an appropriately trained labor force. Compulsory education laws that mandate education to grade nine imply that anything less than grade nine completion constitutes human resource wastage for the nation.

At present, a child can be characterized as possessing any one of four levels of educational skill related to Basic Education: there is the illiterate or non-enrolled; the once enrolled who drops out before achieving functional literacy skills at the end of primary; the functionally literate who drops out before grade nine completion; and the diploma holder who completes grade nine. Major inroads have been made in reducing the numbers of those who never enroll, though enrollment campaigns are still needed to bring in the last resisters. Most children persist to levels of functional literacy once enrolled. To keep children in the system through the end of grade nine requires that they and their families be convinced that the returns are worth the costs of education.

72

Preparatory Level

Our study shows that once schools are available in local communities, almost all six-year-old children go to school. Seven years after new school construction, in about 1989, the first of the heavily enrolled classes will be ready for preparatory level. If one assumes that all present third graders will continue on to grade seven, then in the five governorates of the first phase of the project, grade seven places will have to increase in four years from 40 to 50 percent. Though this is a "worst case" scenario, the critical proportions of the problem become evident.

As more children enroll in school and persist longer, the preparatory level assumes greater importance in GOE plans to move toward a better and more appropriately trained work force. Preparatory level provides the critical connection between functional literacy skills and specialized training at the secondary and university levels. Though Basic Education was conceived as including both primary and preparatory levels, up until now most of the attention in Egypt has been focused, rightly so, on the primary level to keep up with rising enrollments and basic skill learning that must take place at that level.

Our study of USAID contributions was intended as a study of the nine grades of Basic Education. Our understanding was that USAID-constructed new schools would normally be built to accommodate nine grades. Though plans for schools that made up the samples often anticipated expanding the primary grades to include the preparatory level, in fact, it was the exception to find such an event occurring. This was largely because increasing primary-level school populations absorbed the additional classroom space and there were usually insufficient numbers of children available to fill the preparatory-level grades in the first years of new schools' operation. Thus, the only preparatory-level schools in our sample were those designated seven-to-nine schools from the beginning and these were insufficient in the aggregate to draw reliable conclusions or make accurate comparisons.

The team feels that the MOE, with support from USAID, should examine the issues related to the preparatory level of education in rural Egypt. From our experience, the issues are different at this level than they are at primary level. Factors affecting enrollment in grade seven, and persistence in grades seven through nine, such as economic level, distance, and accessibility of facilities, take on a different dimension when considered in the context of adolescence and the proven aptitude of primary school graduation. At this level, questions of education's relevance become acute for parents, and educator's may need to rethink the content of the course work.

If education to grade nine is to remain compulsory, then efforts to provide accessible facilities at the preparatory level must be taken seriously. Distance remains an important constraint on educational participation, particularly for girls. But one solution to this problem, expanding one-through-six schools to seven-through-nine schools, also raises other issues. Does preparatory education in a one-through-nine Basic Education school provide the same quality of education as a specialized seven-through-nine school which can afford to provide high cost language or science opportunities? Is the goal of keeping children in school through this level--enhanced by local schools--worth the costs in quality that may be necessary?

Policy makers must also consider the implications for student persistence if mixed-sex preparatory grades are added to already existing primary schools. Our initial evidence indicates that though parents would prefer single-sex schools at the preparatory level for their daughters, many would prefer the convenience of a mixed school closer at home that has sex-separated classrooms, if populations of preparatory students and resources are not large enough to support building separate-sex schools.

Student Achievement

Academic Examination Results

If student achievement on the regularly administered sixth-grade school examination can be taken as the measure of success of a school's program, then our study shows that the schools of rural Egypt are doing a good job of educating children, and that, on the average, the new schools are doing as well as their comparison and city schools. No statistically significant differences among boys, girls, rural, new or old schools were found. There were large differences in passing rates, however, among schools within these groups, in both the extensive and the intensive school studies.

Practical Skills Test Results

The results of practical skills testing, particularly in electricity, were less encouraging. Over half the schools (12 of 21) either did not offer electricity or had unsatisfactory results--a pass ratio of less than 60 percent. However, in carpentry this was true in only 7 of the 21 schools--comparatively speaking, more satisfactory results.

The problem of not being able to provide both electricity and carpentry classes for students is a rural problem. Only a few rural schools offered both courses while all but one of the city schools did. This disparity stems from one or a combination of three factors: lack of equipment; lack of a trained teacher; or no electricity in the schools. The maldistribution of items is the major reason for lack of equipment. Simple inservice training or the use of industrial school graduates as teachers could easily handle the lack of trained teachers. The problem of electrical service can be solved easily through a change to the use of flashlight batteries as a power source.

Comparison Between Academic and Practical Skills Test Results

An examination of the test results show little or no systematic relationships between the results of the academic and practical skills tests, except at the extremes of the range. That is, the worst school had the lowest percent of students passing in all tests. The best had the highest pass rates in all three tests, and results in the remaining schools varied greatly. More detailed analysis awaits the completion of the study in 1987.

Equipment and Materials

Does having more equipment affect learning? Carpentry is the subject in which one can see most clearly the interaction between the amount of equipment available and the amount of raw materials available for the class to use. A school with no equipment does not offer the course usually. In a school with a minimum amount of equipment and a little money for materials the teacher can teach the "theory," i.e., teach students the names of the equipment, demonstrate their use, give each student some familiarization training (hammer this nail, etc.). With a larger materials budget the teacher can do a more extensive job of demonstration teaching--making complete objects and can have some of the students learn by acting as helpers while the others watch. To involve all the students learning the practical skills by actually using tools and equipment, however, the teacher needs both a classroom set of tools and an adequate materials budget.

In this sense, then, one can say there is a threshold to the amount of equipment needed and its effect on student achievement. If there are no materials or only a small quantity, then a minimum set of tools will do and students learn "theory" but not practical skills. If on the other hand, the materials are available, then the teacher needs a full classroom set of equipment sufficient so that students will have an opportunity to learn both the "theory" and the "practical" skills and knowledge from actual experience. Having more than a full classroom set of equipment has no additional effect on student learning, as the excess equipment is not used but kept in storage.

Therefore, one can say that the level of skills learning most likely reflects the kind, quantity, and quality of the teaching the students receive and whether or not there are materials with which they are allowed to work, rather than simply the amount of equipment in the school.

School Efficiency

Dropout

Though dropout had been declining in the five years prior to the opening of new schools, the extensive study shows that USAID-funded schools significantly decreased dropout. Preliminary intensive school study data show the annual dropout rate in the sample schools to be very low, a fact for which the Ministry should be congratulated. The new schools showed somewhat lower rates than their older comparison schools but were not as low as the city schools of the sample (see Table A-13, p. A-39, Appendix A). The rate of variability was quite large, however, from school to school in both the new and comparison schools and by sites, as well (see Table A-14, p. A-40, Appendix A).

Grade Repetition

Grade repetition occurs as a result of examination failure in grades two, four, and six of the primary school. It is closely linked to dropout in that fifty percent of the dropouts do so for school-related reasons. The most frequent school-related reason given is examination failure.

Gross Productivity

The gross productivity of the rural schools in our sample was about 11 percent lower in 1985/86 than the Egyptian national average for school year 1983/84. We believe this to reflect the rural nature of the schools--five of the seven schools had productivity rates below 70 percent.

A projected hypothetical rate based on the average dropout and repetition for the total sample shows a probable rate six years from now in 1990/91 of 70.7 percent, still somewhat lower than the national rate of 73.7 percent calculated for 1983/84, but considerably higher than the current comparison school rate.

Economic Consequences

Though our preliminary data show the dropout and repetition rates to be low and hence their annual economic consequences per school to be low as well, when rationalized against the Egypt-wide total of primary and preparatory schools, they have considerably more economic significance. If the figures from our preliminary data are representative of the situation in primary schools throughout Egypt, then the G.O.E. is spending LE 38,834,154 teaching dropouts and grade repeaters each year.

A reduction of 50 percent in those two system inefficiencies in the primary schools of Egypt would be equivalent to having an additional 242 new schools operating at current efficiency levels. If a concomitant efficiency rise could be made in the preparatory schools, it could have the effect of saving additional wasted teaching years equivalent in LE to the cost of building an additional 277 new schools. (See Appendix A, page A-147, for a fuller discussion.)

Moreover, these efficiencies might well be realized as a concomitant of a national program of school improvement aimed at increasing instructional efficiency, the elements of which could be developed through the technical assistance program. We feel this is of particular importance for the preparatory schools, as previously noted.

Scope of Technical Assistance Activities

We have recommended that the "problem coverage in subsequent technical assistance work should be narrower and focused on fewer areas of high priority . . . concentrated on those components of the MOE's organization and functioning whose improvement are key to increasing the efficiency and effectiveness of the Basic Education Program . . ." and that the work ". . . should (be carried) through implementation."

It is probable that those in the MOE who were the architects of the MOE's planning and involvement in their first-ever technical assistance project devised a strategy of broad-scale problem coverage for at least four reasons, even at the risk that the work would of necessity be shallower in depth of concentration than they might have liked.

76

First, with no guarantee of a follow-on technical assistance contract in hand when devising the first set of problem areas for coverage, the planners quite naturally set forth the complete set with which they were genuinely concerned to assure that each receive at least some attention. Second, they viewed the technical assistance activities as a series of sequential, time-ordered research and development studies which would provide a full array of possible answers to vexing problems, all of which could be studied at leisure and considered for application--for implementation later when the efforts were finished, as usually happens with research and development study reports and their recommendations.

Third, by including this wide an array of problems they involved more departments, a wider range of Egyptian experts and of MOE officials, thereby potentially harnessing a much greater human and political resource base within the MOE to the change effort.

Fourth, whether intended or not, completing that large a number of work efforts--with all the planning, scheduling, logistical, and other problems that entailed, would (and has) taken up so much time that issues of implementation--of "institutionalization" of the results within the MOE would not be likely to arise during the contract period. This fact, coupled with the creation of the Technical Secretariat and the Executive Committee as the two forums in which those whose departments were most likely to be affected could conduct full-scale discussions in a formal, deliberative manner, probably helped assuage fears that the Ministry might be flooded with ill-thought or random change attempts.

Much of the need for this protection has dissipated as more key people in and outside the Ministry have become involved. Now many of them have invested themselves in the problems, have participated in thinking through alternative solutions, and thus have more "ownership" in the system. Moreover, at the end of the current technical assistance contract's time extension, the cafeteria of ideas for changes in policy, procedure, practices, and reorganization of functions should be complete and ready for implementation. The time should be ripe, therefore, for moving ahead with the next step. There may well be a limit, however, to the capacity of the organization to absorb change within any given period of time. System inertia and resistance to change are problems in any organization and loom even larger in large, complex organizations.

For this reason we recommend that decisions should be reached prior to the end of the contract on the disposition of the various completed work products and on new areas of work, so that: (a) programming for the next technical assistance contract can begin with dispatch and in a rational, logically determined manner; and (b) the activities necessary to preparing people for the changes to come can proceed within the MOE. Key people's time will need to be freed from their day-to-day work in order that planning can take place. Pockets of resistance due to system inertia, perceived threats to vested interests, and to personal and functional authority structures, will have to be identified and strategies devised for coping with them.

77

Some of the changes will undoubtedly also require additional assistance if full implementation and full-scale utilization of their potential for system improvements is to occur. Work Orders No. 5, on computer-based planning and No. 8, on reorganization of those functions which are of importance to the direction and support of Basic Education in the Ministry itself as well as in the governorates' education offices, come to mind as candidates immediately. Both No. 6, (inservice teacher training), and No. 7 (the handicapped), have recommended changes which will require reorganization of their directorates in entirety, and the redirection of efforts, energies, and large-scale training if they are to be successful. As such, they are likely candidates as well.

Perhaps No. 9 and No. 10--on experimental schools and educational supervision--may also be logical candidates for extended technical assistance, though it's much too early to tell at this time. In addition, there are candidates that have been suggested to AID/Cairo and the MOE by the evaluation team as logical recommendations for the solution of some of the problems they have identified in the schools and the MOE. In short, there is a long list of candidates for additional technical assistance which needs to be narrowed down to a realizable few.

Design and Operation of the Technical Assistance System

Design

Once the issues of implementation are faced and dealt with by the addition of that stage to the system's design and provision is made for USAID/Cairo's concerns and issues to be addressed, we see no need for further changes. It's a well-designed system, especially for dealing with important issues in a highly sensitive time and in sensitive areas. The need for full discussion and deliberation of issues in a forum of those likely to be most affected remains, as does the need for the system to be formal in character and ordered in nature. All parties to the activities need the protection thus supplied.

Operation

Of the five factors which in general accounted for the major portion of the discrepancies between planned and actual work accomplishment, the first two--the lack of timely action on critical issues in both the MOE and AID/Cairo, and the ready availability of data and its accuracy--will need constant attention and management.

The third, the need to have materials and reports in two languages, will continue. In fact, it increases in importance the closer the technical assistance activity gets to Ministry implementation. All the final reports should have a concise executive summary in Arabic for use with MOE top-level officials whose time is limited and whose understanding and support of the proposed changes is all important. This is a new reporting and translation need we recommend for consideration in the interest of helping to ensure implementation.

With regard to the last two, changes in the nature of the work and insufficient management time in the contract, we expect some of the work to change again, getting even more complicated as the socio-political-

78

organizational issues attendant upon the implementation of change in a large bureaucracy arise and must be dealt with. In our view more management time in Egypt by highly sensitive, sophisticated managers with experience in bringing about organizational change will be required than is currently devoted to the project.

We believe this to be a critical issue to which attention should be paid during the last contract year through discussions with the current contractor, reviews of progress, and discussions with the MOE. Time spent in such review and discussion now will bear fruit later, we believe.

The Impact of Technical Assistance

Technical assistance impact can and will only come about as a result of implementing the recommended changes in the Ministry and its Basic Education operations and support structures. Implementation, in turn, can and will happen only if desired by the relevant leadership in the MOE and AID/Cairo, if planned for, if managed, and if funded. The sooner more attention is paid to these serious issues, the better prospects there will be for implementation to begin. The important and difficult job of bringing about planned change is, after all, the next logical step. To avert it, to delay or to defer action is tantamount to having wasted the time, energy, money, and effort that has been put into the program to date.

A final issue and recommendation not contained in the findings section is to give some consideration to developing and using some short orientation and training seminars for the top leadership of the MOE in the changes recommended and what instituting them will entail. Their understanding and support is vital. To assume they have full knowledge on which they and others can and will operate successfully in this regard, in the absence of planned efforts to inform them, seems short-sighted.

PD-AAY-664

THIRD ANNUAL REPORT

OF THE

STUDY OF USAID CONTRIBUTIONS TO THE

EGYPTIAN BASIC EDUCATION PROGRAM

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

VOLUME II

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VOLUME II

APPENDICES

APPENDIX A: INTENSIVE STUDIES OF COMMUNITY AND SCHOOL FACTORS AFFECTING EDUCATIONAL PARTICIPATION

TABLE OF CONTENTS

82

LIST OF TABLES

LIST OF TABLES
(Continued)

LIST OF TABLES
(Continued)

86

LIST OF TABLES
(Continued)

PAGE

87

LIST OF TABLES
(Continued)

PAGE

98

LIST OF CHARTS

PAGE

41

LIST OF FIGURES

LIST OF FIGURES
(Continued)

I. INTRODUCTION

NOTE ABOUT GENERALIZATIONS DRAWN FROM THE COMMUNITY SCHOOL SAMPLES

The community and school samples are relatively small, intentionally limited in size so that we could gather more complete records and make more in depth analyses about the complex factors affecting educational participation in the countryside of Egypt. The samples were selected to reflect a range of contexts in which schooling takes place in rural Egypt but no effort was made to quantify the relative frequency with which each context occurs or the relative weight that should be assigned to it in the overall scheme of education. Thus, the conclusions drawn from the sample should not be taken authoritatively to represent the situation in all of Egypt. Instead they should be considered as a reflection of the variable effects of contributory and exogenous factors affecting education in different types of new school contexts. This approach is the most conservative and reliable.

The reader, however, can use his or her instincts with the material to draw broader generalizations. We have no reason, for example, to believe that the sites chosen are unrepresentative of the general situation in the countryside of Egypt. Where certain trends appear again and again in different site contexts, or in different school settings and show a strong relationship between a variable such as economic level and enrollment or between school characteristics and success rates in tests, it seems reasonable to assume that these relationships will be present across Egypt wherever these variables are found in a range of values.

Similarly, since we must take the data as it comes to us, some may be more reliable than others. Data on attitudes, as we have noted in the past, are much more suspect than verifiable data of behavior that has actually occurred. We have consistently relied more heavily on the latter and wherever possible have tried to find a behavioral analogue for attitudes. The size of the data pool being examined is also important. In the community sample, for instance, the data on those who enroll in the younger generation, provide us with a far larger pool of candidates for analysis than the number of six-year olds entering school in 1985 or the number of females of the older generation who completed grade nine. Conclusions drawn from the first material are certainly more reliable in the statistical sense than those drawn from the second. For this reason, rather than determine an arbitrary minimum size a data unit should contain ourselves, we have provided tables (at the end of this appendix) with numerical frequencies for our figures to allow the reader to draw his/her own conclusions about the reliability of the information based on the size of the data units and the type of information.

Furthermore, the school data are preliminary, and the conclusions we draw now should be taken as tentative and suggestive. We will subject these data and those to be collected in 1986/87 to further analysis, and will then be better able to confirm or deny our findings from this first year of study.

We feel in the community study that it is important to go beyond simple statistical analyses, and therefore we present our own explanations of why certain relationships occur. These explanations reflect our impressions from

92

discussions, and interviews, and knowledge gained in more than 20 years' experience in the Middle East. They are appropriately couched in tentative terms and may be accepted or rejected by the reader. We offer them in hopes that they may provide a richer understanding of how educational decisions are made by parents in a village, and will serve as a better basis for future project development.

NOTE ABOUT THE TRANSLITERATION SYSTEM

The transliteration of Arabic into English follows the MESA system found in the International Journal of Middle East Studies. An exception occurs when place names have other spellings with widely accepted usage, such as Sohag and Qena.

BACKGROUND OF INTENSIVE STUDIES OF NEW SCHOOL COMMUNITIES AND NEW SCHOOLS

AID Rationale and Objectives

The Basic Education project was developed with the objective of positively impacting on the Egyptian PQLI (Physical Quality of Life Index) primarily with regard to literacy. Measurable impacts were intended to be observed in expanding enrollments and in the increasing efficiency of educational programs.

The project assumption was that enrollments were constrained by:

- distance to school;
- overcrowded classrooms;
- mixed-sex classrooms;and
- incomplete or inadequate facilities.

Girls' enrollments in particular were assumed to be low, especially for those living in rural areas and for those who had reached age eleven or above. It was suggested that the low enrollments were a result of socio-cultural and economic factors, of a need for children's labor in the fields, and because maturing young women dropped out to prepare for marriage.

As a result of these assumptions, guidelines were developed for the location of new schools. Priority was to be given for construction in communities located more than two kilometers from a complete primary school, where a minimum size six-classroom school could be utilized fully by 1990. Second, priority was to be given to construction of additional classrooms in communities where female attendance fell below national enrollment levels for girls or where community norms require separate classrooms for girls. Finally, priority would be given to finishing incomplete schools, reducing severe overcrowding, and replacing sub-standard buildings. In addition, funds would be provided for constructing teacher accommodations in isolated rural communities. Funds, however, were not to be used to eliminate double session schools, which were considered a cost-effective way of increasing enrollments. The school construction project was expected to increase six-year-old enrollments by an average of nine percent.

The Intensive Study of New School Communities has been designed to test project assumptions and assess the impact of new school construction in project areas. Details on research design may be found in Section II of this report, or in previous annual reports.

The Intensive Study of New Schools is the second phase of the Study of New Equipment. As a means of increasing learning efficiency in the schools, particulary in the three basic education practical courses, science, and social subjects, AID funds were used to procure and furnish schools with instructional equipment, such as hand and power tools for use in teaching carpentry, electricity, and home maintenance in the new industry course.

94

Existing courses in agriculture, home economics, science, and social studies were also furnished a wide array of equipment, ranging from egg candlers, incubators and simple gardening tools to stones, sewing machines, electric mixers, irons, knitting needles, mobile science laboratories, chemicals, inexpensive microscopes, slides and slide projectors, maps, charts, and globes. In addition to slide projectors, schools also received overhead projectors and screens and a few other pieces of audiovisual equipment for general use.

The first phase of the Study of New Equipment is reported on extensively in this project's Second Annual Report, dated September 1985. For the general reader's convenience, the findings, conclusions and recommendations from that phase of the study are summarized in the findings, conclusions section of this report. Those interested in reading more about the study are directed to the Second Annual Report, "Chapter III."

The Intensive Study of New Schools, a two-year study which began in school year 1985/86, was designed as a qualitative study of school characteristics that, in combination with personal, home, and community factors, affect student achievement in academic and practical skills courses, and student persistence in school. Though beginning estimates are made of the gross productivity of the very small number of schools in the sample and inferences are drawn about their effectiveness in producing the learning goals for which they are responsible, no social cost/benefit calculations are attempted.* The study remains small-scale, intensive and qualitative in character. Further details in the study may be found in Section II of this report. The design is discussed in "Appendix A," Second Annual Report, September, 1985.

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*Some economists insist that the prospects of trying to quantify benefits, in fact, even to enumerate them in economic terms, are so dauntingly complex and depend on such a large number of assumptions difficult of verification that it is best simply to consider education grades one through six, (and even one through nine if they are not heavily vocational in character) to be generally beneficial to the society and to leave it at that.

II. SAMPLE CHARACTERISTICS

COMMUNITY SAMPLE CHARACTERISTICS

The complete community study sample comprises data from three project years, consisting of 462 families in 405 separate households of ten villages in five governorates of Upper and Lower Egypt. In all, there is data on 3,967 individuals, divided into generational levels to include 1,346 members of the older generation and 2,621 of the younger generation. Altogether, 415 families included children of both sexes; 22 included only boys and 25 included only girls. Thirteen families contained only children under age six. If the study continues into year four, as intended, these families will be included in the results as their children reach school age. (See Table A-1 for more details.)

The new school sites are classified into four rural and four urban village communities, each category divided equally between Upper and Lower Egyptian governorates. The remaining two sites in Assiut Governorate were specifically chosen to study girls' enrollments in conservative communities where permission had been asked to build all girls schools.

According to the criteria used for selecting the community sites, urban and rural sites were chosen to provide a contrast in educational environments as a consequence of the presence or absence of high values of characteristics assumed to encourage or constrain educational participation (see Research Methodology in Section II, Volume I of this report). Contrastive values are therefore expected in variables such as economic level of the household, distance from schools, and educational attainment in these two settings.

Upper and Lower Egyptian sites, on the other hand, were expected to show different patterns of educational participation because prevailing Egyptian belief considers the former more provincial, with historically later access to opportunities and a generally more conservative view of girls' education. Sites from both regions were matched with regard to urban/rural characteristics so that any different patterns would emerge independently. In fact, the differences between urban and rural sites have proved much more significant throughout the study than differences between Upper and Lower Egyptian sites. Table A-2 summarizes the salient characteristics of the sample by site category.

Economic Level of Household

Overall, household economic levels form a curve weighted toward the lower range, as one would expect from the disadvantaged nature of the communities selected for new school construction. Interviewers estimated economic levels of household according to a five point scale referenced on variations in rural Egypt rather than across Egypt. They drew their estimates from an assessment of variations in income level, property ownership, household furnishings, and other observable features, all of which depend upon a number of contextual evaluations including the size of family, the number of wage earners, the size of holdings, occupations, etc. The principal investigator for the community study constantly monitored interviews to calibrate researchers' assessments.

Table A-1:

Households, Families, and Generational Membership in the Sample

Governorate	Village	No. of House-holds	No. of Fami-lies	No. of Individuals										
				No. of Older Generation					No. of Younger Generation			Total		
				Male		Female		Total	Male	Female	Total	Male	Female	Total
				Live	Died	Live	Died							
Kafr al Shaikh	Roda	41	47	55	11	74	2	142	131	133	264	197	209	406
Bahira	Manshat al Awkaf	40	52	75	3	81	-	159	149	155	304	227	236	463
	Manshiya	40	52	66	9	84	-	159	139	153	292	214	237	451
	Kafr Nakla	40	47	57	11	71	-	139	132	127	259	200	198	398
Assiut	Ghanayim	40	40	42	2	42	1	87	111	134	245	155	177	332
	Bani Rafa	40	45	66	4	63	-	133	119	155	274	189	218	407
Sohag	Nag al Harif	40	45	62	4	68	-	134	141	109	250	207	177	384
Qena	Nag Khutaba	40	43	68	2	68	-	138	120	101	221	190	169	359
	Nag Dahi	40	43	52	2	64	-	118	122	105	228	176	170	346
	Qurna	44	48	67	1	69	-	137	127	157	284	195	226	421
	Total	405	462	610	49	684	3	1346	1291	1330	2621	1950	2017	3967

97

As expected, urban and rural curves of household economic level showed more variation than those of Upper and Lower Egypt with the differences most marked at the extremes of the scale. From the standpoint of the household economic base, therefore, Upper and Lower Egyptian sites have about the same ratio of families less-than-average and more-than-average. Urban sites have a higher ratio of more-than-average families than rural sites, where there are more families concentrated in the less-than-average range.

Distance of Families From New Schools

After new schools opened, 90 percent of the sample families lived within two kilometers of the new school and 70 percent within the one-kilometer range for which one would expect very high ratios of educational participation. For both urban and rural intensive site communities, distance has been reduced, if not eliminated, as a significant factor affecting participation for a majority of the children in the sample. In Upper Egypt more of the sample children live within the optimum radius of one kilometer than in Lower Egypt, but also more must travel over two kilometers to school. The two factors probably cancel each other out when the effects of distance on participation are measured in the two environments.

Educational Attainment of Sample Members

In the older generation, the low level of rural enrollments among males compared with urban males supports the argument that the characteristics of rural sites constrain and urban sites encourage enrollment. Education for women was barely starting in that generation and was unaffected at that time by much other than normative constraints. The disparity continues into the younger generation, with girls' enrollments feeling the differential effects of these two environments more than boys' enrollments. Thus, rural characteristics of a site appear to have constrained male enrollment more in the older generation and, to much less degree in the younger generation. Rural environments still act to constrain the enrollment of girls.

Upper and Lower Egyptian sites, as a totality, are basically the same in the sample with regard to levels of children's enrollment. For the purposes of the study, therefore, we can say that characteristic "Upper Egyptian and Lower Egyptian" factors affecting educational participation have been held constant, and any differences we now find should be primarily a result of some inherent difference in "urban" and "rural" factors.

Table A-2:

Salient Sample Characteristics by Site Category

Economic Level of Households:

Sites	Poor No.	%	Below Av. No.	%	Average No.	%	Above Av. No.	%	Affluent No	%	Total No.
Rural	39	(21)	49	(26)	70	(37)	24	(13)	5	(3)	187
Urban	15	(8)	48	(25)	73	(38)	38	(20)	16	(8)	190
Lower Egyptian	24	(12)	62	(31)	73	(37)	34	(17)	5	(3)	198
Upper Egyptian	30	(17)	36	(20)	69	(39)	28	(16)	16	(9)	179
Assiut	10	(12)	17	(20)	27	(32)	17	(20)	14	(16)	85
Total[1] households	64	(14)	114	(25)	170	(37)	79	(17)	35	(8)	462

Distance From New Schools:

Sites	0.5 No.	%	1.0 No.	%	1.5 No	%	2.0 No.	%	2.5 No	%	3.0 No	%	3.5 + km. No.	%	Total No
Rural	99	(53)	31	(17)	12	(6)	33	(18)	0	(0)	12	(7)	0	(0)	187
Urban	130	(68)	26	(14)	2	(1)	17	(9)	7	(4)	0	(0)	8	(4)	190
Lower Egyptian	115	(58)	23	(12)	14	(7)	39	(20)	7	(4)	0	(0)	0	(0)	198
Upper Egyptian	114	(64)	34	(19)	0	(0)	11	(6)	0	(0)	12	(7)	8	(4)	179
Assiut	29	(34)	6	(7)	0	(0)	27	(32)	6	(7)	7	(8)	10	(12)	85
Total[1] households	258	(56)	63	(14)	14	(3)	77	(17)	13	(3)	19	(4)	18	(4)	462

Educational Attainment of Sample Members:

Sites	Never Enrolled M No.	%	Never Enrolled F No.	%	Enrolled M No.	%	Enrolled F No.	%	Dropout Before 9 M No.	%	Dropout Before 9 F No.	%	Completed 9 M No.	%	Completed 9 F No.	%	Total M No.	Total F No.
Older Generation:																		
Rural	172	(69)	254	(86)	6	(2)	0	(0)	55	(22)	40	(14)	18	(7)	0	(0)	251	295
Urban	100	(40)	241	(85)	11	(4)	2	(0)	107	(43)	38	(13)	33	(13)	4	(1)	251	285
Lower Egyptian	127	(51)	226	(84)	9	(4)	1	(0)	80	(32)	40	(15)	33	(13)	2	(1)	249	269
Upper Egyptian	145	(57)	269	(87)	8	(3)	1	(0)	82	(32)	38	(12)	18	(7)	2	(1)	253	310
Assiut	47	(44)	75	(71)	2	(2)	1	(1)	42	(39)	27	(26)	17	(16)	2	(2)	108	105
Total[1] individuals	319	(52)	570	(83)	19	(3)	3	(0)	204	(33)	105	(15)	68	(11)	6	(1)	610	684
Younger Generation:[2]																		
Rural	68	(17)	213	(58)	244	(61)	121	(33)	51	(13)	24	(7)	36	(9)	10	(3)	399	368
Urban	36	(9)	192	(46)	259	(62)	173	(41)	70	(17)	41	(10)	52	(12)	12	(3)	417	418
Lower Egyptian	66	(15)	227	(52)	237	(56)	160	(37)	77	(18)	38	(9)	49	(12)	9	(2)	426	434
Upper Egyptian	38	(10)	178	(51)	266	(68)	134	(38)	44	(11)	27	(8)	42	(11)	13	(4)	390	352
Assiut	24	(12)	90	(38)	119	(60)	92	(39)	24	(12)	46	(19)	31	(16)	10	(4)	198	238
Total[1] Individuals	128	(13)	495	(48)	622	(61)	386	(38)	145	(14)	111	(11)	119	(12)	32	(3)	1014	1024

[1]Total includes the ten sites of the sample. Each other category includes four sites except Assiut which has two.

[2]Younger generation ages six and over, those under five enrolled, and those who have completed nine and are still enrolled.

SCHOOL SAMPLE CHARACTERISTICS

The purpose of the intensive school study is to analyze how well the new schools do in increasing literacy and numeracy, reducing dropout, and developing students' skills and knowledge in the practical subjects in comparison to a matched set of comparable village and city schools. We are also interested in analyzing how certain characteristics of the new schools may be associated with these outcomes, and how efficiently they function in comparison to the other schools in their set.

Hence, the sample consists of ten school clusters, each containing a new, a comparison, and a city school. The new schools are in the communities under study in the Intensive Study of New School Communities. Each comparison school is one of the related schools in a village matched with the new school community as to general social, economic, and other important characteristics. It is also the school the children of the new school community once attended. The city school, located in the markaz capital, is chosen to be representative of the highest standards of the area and consequently is the base against which the other two schools in the cluster are compared.

Table A-3 lists the schools in each cluster. Nag al Tarif has two comparison schools--the end product of splitting one school into two half-day schools which use the same building and serve children from the same village, often from the same families. The two rotate shifts each half year, one taking the morning, the other the afternoon for the first half of the year, then changing. Though the facilities used are the same, equipment for the practical subjects is not shared and there is a small difference in the amount each has, with Wadi Maluk having less. Both have teachers acting as headmasters and each has its own separate staff.

Hagar Danfiq, the comparison school to Nag Khutaba, has never received any equipment and does not teach the practical courses (it is a small, overcrowded school in an old building with no space available for teaching the practical subjects, and the building will soon be out of use entirely), so the school was excluded from the practical skills comparison but not the academic achievement comparison.

Similarly, upon arrival at the comparison school Muassasat Nida, the team discovered it had no equipment and no teacher of the practical subjects, so it also was excluded from the practical skills comparison. Banat al Atf, the comparison school for Kafr Nakla is situated in the city of Mahmudiya.

Table A-3:

Intensive School Sample
1985/1986

Primary Schools

Site	New	Comparison	City
Nag al Tarif	Nag al Tarif (UV)*	Al Gurna (UV) Al Wadi Maluk (UV)	Al Wadi Malikat
Nag Khutaba	Nag Khutaba (RV)*	Hagar Danfiq (RV)	Naqada al Bahariya
Nag Dahi	Nag Dahi (UV)	Sharqi Bagura	Al Isla al Zerai
Nag Harif	Nag Harif (RV)	Muassasat Nida Masaiya (UV)	Khalid Bin al Walid
Manshiya	Manshiya (RV)	Abqain (RV)	Yahya Zanqir
Manshat al Awkaf	Manshat al Awkaf (UV)	Sad Turki (UV)	Al Iman
Kafr Nakla	Kafr Nakla (UV)	Banat al Atf	

Preparatory Schools

Site	New	Comparison	City
Al Ghanayim	Al Ghanayim (UV)	Al Ghanayim Banin Gadida (UV)	---
	Banat Gadida (UV)	Al Ghanayim Banin Qadima (UV)	
Roda	Al Roda Adadiya (RV)	Abu Draz (RV)	Mutubis Banat Mutubis Banin

Beni Rafa Schools

Primary Schools

Site	New	Comparison	Schools
Bani Rafa	--	Sad Bin Abi Wakas (RV) Um al Muminiin (RV) Umar Bin al Khatab (RV) Bani Rafa (RV)	Al Tahrir Banin Al Gadida Banat

*UV: Urban village school; and RV: Rural village school. (See the Community Sample characteristics, page 5, Appendix A.)

For two years the team had been assured that the new school in Bani Rafa, a girls' one-through-nine basic education school, would be open in time for our visits. Unfortunately, such was not the case so no comparisons to assess the effects of the new school were possible. For that reason, the Bani Rafa schools and their two city schools (two because even though they are primary schools they are single-sex schools whereas the existing Bani Rafa schools are mixed) were excluded from any comparison. Academic and practical skills achievement, enrollment, and dropout data were collected but are stored for use in 1987 when, we are assured, the school will open.

The choice of the al Ghanayim site, a new girl's preparatory school, had been deliberate as part of a study of girls' education. That site, plus the Bani Rafa one-through-nine girl's school, and the single-sex schools in the markaz capital of Manfalut, would have given us the ability to study girls' education in a variety of settings and levels. Further, we could also contrast it with boys' education and historically with the education in mixed schools in the same sites.

We were assured that Roda, in Kafr al Shaikh, was a primary school. Upon arrival, however, we found it to be a preparatory school. Since it was too late to select a new site and new control/comparison sites, we left Roda in the sample and collected data, assuming we could compare it with the new al Ghanayim preparatory school for girls and with grades seven to nine of the new basic education school in Bani Rafa and in Kafr Nakla, the only other basic education school.

However, absent the new Bani Rafa school and its cluster, our data set is so small with only two new schools, giving us a ninth grade class of only 25 girls in one new school, that our preliminary data analysis can only be suggestive. We propose to augment these data in 1987 by including the Bani Rafa set and by studying more preparatory schools in the next five governorates of Giza, al Fayum, al Minya, Bani Suaf, and Sharkia.

The reader is cautioned, therefore, that unless specific notice is given to the contrary, the data, their analysis and interpretation, generally deal only with the primary schools in the comparative sample, that is, minus Bani Rafa.

There were 9,740 children listed as enrolled on the record books of the 21 primary schools in the comparative sample ([illegible] adjusted for dropouts) in November 1985. In the Bani Rafa and Manfalut schools of the total primary school sample there were 2,926 children, for a grand total of 12,666. In the preparatory schools of the total sample, there were 3,695 students, including the 496 in the Bani Rafa preparatory school.

These children were taught by a total of 492 teachers: 318 in the primary school comparative sample, 57 in Bani Rafa and Manfalut, and 117 in the preparatory schools.

Table A-4:

Degrees Obtained by Teachers in New, Comparison, and City Primary Schools, Intensive School Sample

Educational Status	New		Comparison		City		Total
	No.	%	No.	%	No.	%	No.
Middle Degree	21	(30)	16	(21)	47	(28)	
Above Middle	44	(63)	62	(89)	123	(72)	
High Degree	53	(7)	0	(0)	0	(0)	
Total	70	(100)	78	(100)	170	(100)	318

Table A-5:

Degrees Obtained by Teachers in New, Comparison, and City Preparatory Schools, Intensive School Sample

Educational Status	New		Comparison		City		Total
	No.	%	No.	%	No.	%	No.
Middle Degree	.6	(40)	12	(28)	4	(10)	
Above Middle	0	(0)	5	(12)	1	(3)	
High Degree	9	(60)	26	(60)	34	(87)	
Total	15	(100)	43	(100)	39	(100)	97

Note: A middle degee is a degree earned in a three-year teacher training institute program, the above middle is a five-year T.T.I. degree, and the high degree is a BA.

From our previous school observations, we find it unusual that 5 of the 70 teachers in new primary schools have high degrees though none do in the comparison or city schools. Having a high degree is a requirement for appointment as a teacher in preparatory schools, though as is the case here for 30 percent (35 teachers), less qualified persons are often appointed in the absence of qualified teachers.

These disparities may also be an artifact of the comparative ages of the teachers. As might be expected, the teachers in the new schools are the least experienced, followed by those in the comparison schools. The most experienced are to be found in the city schools. Eighty-nine percent of the new school teachers have less than 9 years experience (56 percent have 4 years or less experience), whereas 64 percent of the comparison schools teachers have less than 9 years experience (42 percent less than 4 years) but only 36 percent of the city schools' teachers have less than 9 years experience (17 percent with 4 years or less).

Of the 22 schools in the comparative sample, 6 were double session schools, and 3 were split-shift schools--schools in which one or two grades attend school in the morning and the remainder in the afternoon. In the village of Bani Rafa itself, none of the schools were operating on a regular full-day session. Four were on double sessions and 1 was operating on a split-shift system.

With regard to school facilities, 6 of the 7 new primary schools use regular classrooms as workshops for the industry course. This is an instance in which the demands of the curriculum (that industry be taught twice a week in grades five and six) may actually contribute to crowding in the absence of separate workshops, since the room is not available for general classroom use and is usually only used for four, 45-minute periods a week. In fairness, it must be acknowledged that 7 of the 22 schools use the industry room for their art room as well. (See the section on crowding, pp. A-64 through A-69, this Appendix.)

Four of the 7 have home economics rooms which are often shared with the agriculture course, since the agriculture products portion of the course uses kitchen facilities for making preserves, juices, jellies, pickling vegetables and fruits, etc. Of the 7 comparison schools, 5 have specially designed rooms for the practical courses. The remaining 2 make use of very small converted storerooms, one as a practical skills teaching room, the other only for storage of equipment and materials. Teaching of the industry and agriculture courses is done outside or in the corridors in this school, since the converted storeroom is so small.

In the preparatory schools, one of the two new schools had no workshop in 1985 but one was under construction, as was the completion of a third floor to provide additional classrooms. One of the comparison preparatory schools, which in years past taught carpentry and electricity in the corridors, now shares a new combined agriculture, home economics, industry, and art workshop with its neighboring primary school--an ingenious and economical solution to the need for special facilities in both schools.

Nineteen of the 21 primary schools have water but only 4 of the 7 new, 5 of the 8 comparison, and 6 of the 7 city schools have electricity, a total of 14 of the 21. One of the two new preparatory schools has electricity.

III. ENROLLMENT IN GRADE ONE

INTRODUCTION

A child who does not enroll in school obviously does not obtain the benefits that Basic Education is expected to bring whether those be literacy and numeracy skills, a pre-vocational grounding, a brighter future or an enhanced capability to cope with family responsibilities. Evidence is mounting that initial enrollment in grade one is the critical prerequisite in Egypt for developing a literate population.[1] Once the hurdle of initial enrollment is overcome, the vast majority of the enrolled persist through levels of functional literacy (estimated by the World Bank to be about the fifth-grade level for rural children[2]). From the point of view of national goals of Egypt, an illiterate individual represents a wasted human resource without the skills minimally required to be a productive citizen.

HURDLES OF ADMISSION

Enrollment in grade one may be considered the first and possibly the most important hurdle a child overcomes in the educational process. A number of screening processes occur before successful admission takes place. A middle class urban parent may find these procedures ridiculously simple but a rural parent sometimes find one or more of the steps impossible to comply with. First, parents must decide that they want to educate their children. These decisions are not always a matter of their own motivations and desires but may include the complex questions of distance, protectors, economic conditions, school costs, and local norms. Later in this section we report the answers we receive when we ask parents to identify the relevant factors affecting their decisions about school sending and we assess the extent to which these factors subjectively or objectively constrain enrollments.

Second, after parents are motivated to send a child to school they must familiarize themselves with registration procedures and gather the requisite papers to register the child. In rural Egypt where birth registration is sometimes still a casual affair, a child without birth certificate whose parents are not willing to seek alternative means of verifying age can be refused admission. Finally, there need to be sufficient places in grade one classrooms for the child to be admitted and if not in this year' class, then he or she must wait an additional year or seek a school farther from home. If for some reason the child waits until after his/her eighth birthday, then the chance for an education has been irretrievably lost. Thus, age of school entry may either reflect a casual or an overly eager attitude on the part of parents with regard to the education of their children. If entry is delayed

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[1] This is not to say that dropout does not exist in the Egyptian educational system or that the fit between educational programs and manpower development is satisfied by developing a literate population alone.

[2] Hartley, Michael and Eric Swanson. Achievement and Wastage: An Analysis of the Retention of Basic Skills in Egyptian Primary Education.

(or put forward) by educational officials, it may have the effect of dampening the motivation of parents who also have to contend with such questions as the distance to an alternative school, the young age of a child who might need to be accompanied, or relinquishing the work abilities of a child who is older.

SCHOOL ENTRY AGE

The large majority of children in the community sample who enrolled entered grade one at age six (88 percent), a few (6 percent) at age five, and a few (4 percent) at age seven. There was very little difference between the entry ages of boys and girls. Because parents tend to be vague about their children's ages, it is not certain whether these figures give a true picture of entry age. In other sections, data show a large number of children reaching grade levels one or two years behind what would be expected if they entered at age 6. There was either a tendency at an earlier time to enter school later, and parents are forgetful of the entry ages of children, or grade repetition occurred more frequently than is reported by parents. Observations in grade one classrooms in some rural schools suggest much greater range in age of entry than is reported. Registration of birth dates in some cases also can lag up to a year or more behind actual birth dates.

The age of entry has important implications for the researcher trying to determine whether a school has reached capacity in grade one yet or not. In theory, schools take all six- to seven-year-old children who apply, but in practice, school administrators either alone or as directed by district officials adjust the age of entry to the capacity of the school. They take children less than six if places are available or children six and a few months or more if classes become full. There is no overall definition of crowding (see sections on crowding). Depending on the size of the classroom, the number of students admitted can vary from 44 to 60, but from the team's observations, except with abnormally small classrooms, administrators begin to adjust age limits when grade one classrooms reach between 50 and 55 students.

A wide variation in grade one entry ages can, of course, have consequences for the educational program if the curriculum and teaching style are not flexible enough to adjust to different maturity levels. One consequence of age differences, parents noted, is the embarrassment caused to children near the end of primary school when some become physically mature much sooner than others and as a result drop out.

Reasons for Entering School at Other than Age Six

Parents reported that of children who entered school at an age other than six, 58 percent entered because extra places had become available, 13 percent had had no school available nearby and waited until a new school opened, 12 percent registered at a later age because the parents had been "neglectful" and forgotten to enroll them in the appropriate year, and 4 percent said there had been no place available in the school when the child was six-years old. If this evidence is reliable, there appears to have been very little constraint on enrollment as a result of places being unavailable (or one would assume there would have been more children waiting and entering at age seven). However, a later section shows evidence of severe crowding in some cases which at the present time most certainly is preventing some children from attending school. We are told that some parents who cannot enter their children at age six become discouraged and do not try to enter them the next year. Others who try to get a jump on the system, may try to enter children at age five in the Azhar religious system which usually does not fill up as quickly if there are competing secular schools.

The Intention To Educate Children Under Six

When parents of children less than six years are asked whether they intend to enroll their children, all the boys' parents and 95 percent of the girls' parents say they intend to enroll their children in grade one. Those few who did not (16), cited social conventions as the major reason for keeping girls home. A smaller number said their daughters would stay home for reasons of poverty and one said because of illness.

SAMPLE ENROLLMENT IN GRADE I

In the ten villages of the community sample, 291 (48 percent) of older generation males and 886 (87 percent) of younger generation males, age six and over, enrolled in grade one at some time. This represents a near doubling of the older males' rates by males in the younger generation. The corresponding rates for the older and younger generation females were 114 (17 percent) and 835 (52 percent), or a tripling of the rates in the younger women. Even though five of the villages of the sample are located near large towns or urban areas, the levels of children's enrollments in the entire younger generation were still well below published national levels before new schools opened.

Grade One Enrollment in Different Site Settings: Table A-6

Table A-6 shows enrollment rates when site statistics are aggregated into the categories hypothesized to show differential impact on educational participation: urban, rural, Upper, and Lower Egyptian villages.

Originally we hypothesized that urban villages possessed characteristics widely accepted as conducive to educational participation: long term access, even if distant, to educational opportunities, a sophistication that comes from good communication with urban areas, a heterogeneously mixed population economically and occupationally, and a densely concentrated group of inhabitants. "Rural" villages had characteristics toward the other end of the spectrum on all these values. Lower Egypt is generally considered more cosmopolitan than Upper Egypt which has lagged behind in many of the quality of life indices. Sample data, however, shows that the reality may be more complicated than accepted dogma suggests.

Table A-6:

Grade One Enrollment Rates By Site Settings

Site Category	Sex	Older Generation No.	Older Generation %	Younger Generation (6 years and over) No.	Younger Generation (6 years and over) %	Percentage Changes Between the Generations
Rural Villages	M	79	(31)	331	(83)	+ 52
	F	40	(14)	155	(42)	+ 28
Urban Villages	M	151	(60)	381	(91)	+ 31
	F	44	(15)	226	(54)	+ 39
Lower Egyptian Villages	M	108	(43)	360	(85)	+ 42
	F	41	(13)	207	(48)	+ 35
Upper Egyptian Villages	M	122	(49)	352	(90)	+ 41
	F	43	(16)	174	(48)	+ 32
Total Sample[1]	M	291	(48)	886	(87)	+ 39
	F	114	(17)	835	(52)	+ 35

[1]"Total sample" includes the Assiut females' sites or altogether ten sites. Each other category contains data for four sites.

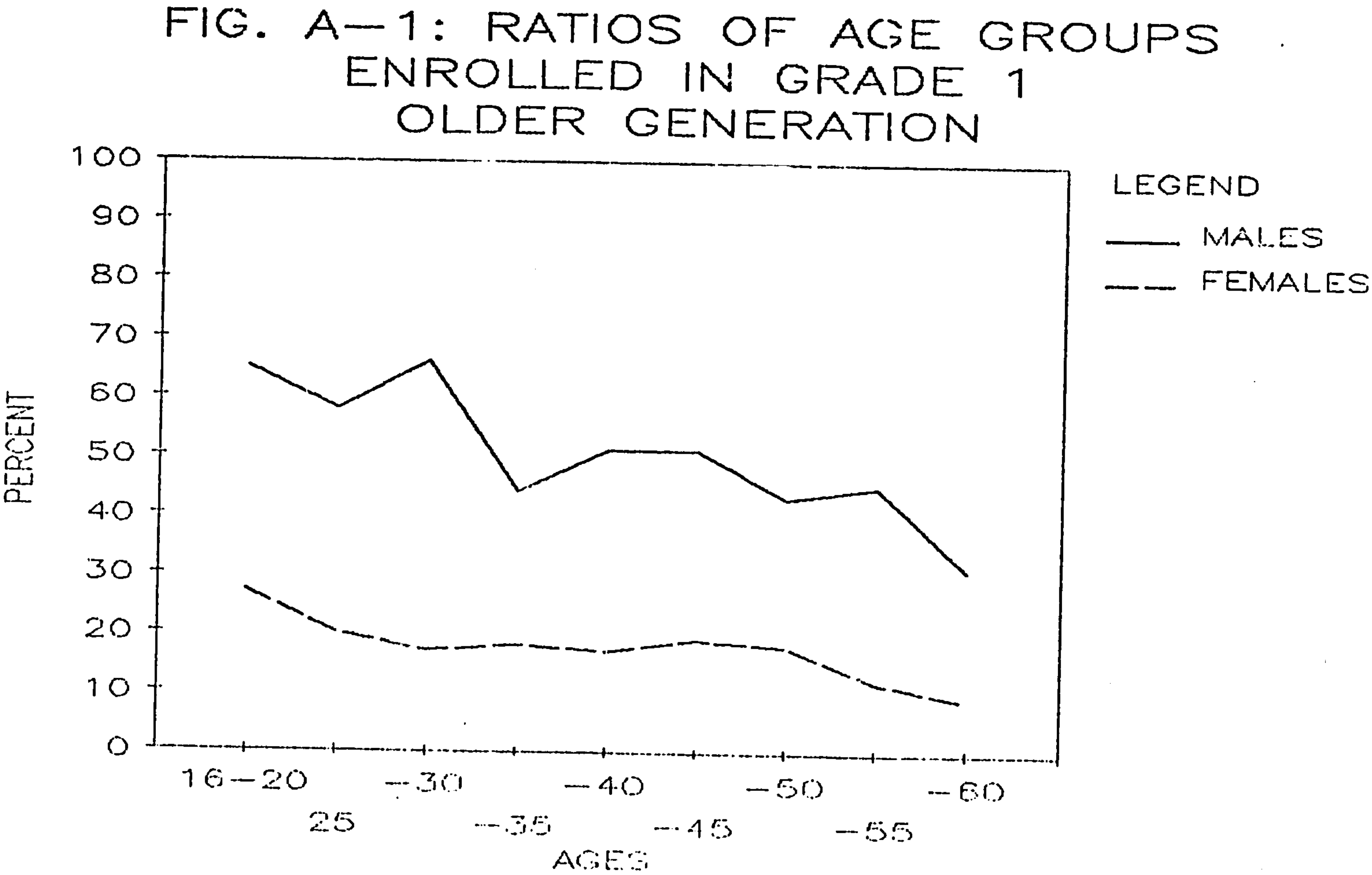
In the older generation, indeed, males were twice as likely to enroll in school in urban as opposed to rural villages, but females were not any more likely to enroll in one than the other setting. In the younger generation, there has been an enormous increase in rural male enrollments but not enough to offset the head start of urban males, with present high rates which are approaching universal levels of enrollment.

In the younger generation females, urban rates of enrollment increased much more than rural rates as a result, one might say, of a readiness factor created in part by the large number of boys attending school in urban settings. The out-of-school pool now, therefore, is made up largely of rural females, followed by urban females, and finally by rural males. This generalization appears to hold true for Upper and Lower Egyptian villages where there is basically no difference either in changed rates of enrollment between or within the generational levels. Thus USAID has accurately identified rural children and girls as the most educationally disadvantaged children to receive project benefits. In the critical out-of-school groups, all show by the recent increases in rates of enrollment that they are receptive to educational opportunities.

There is some evidence to suggest that a vigorous outreach program from the schools may also stimulate higher levels of enrollment. In a new AID-funded school in Upper Egypt, the school headmaster, who comes from one of the villages served by the school, provides teachers with lists of children who have reached eligible school age and sends them out to encourage parents to enroll eligible children. Some school officials of already crowded schools may be reluctant to mount such a program for fear they might have to disappoint parents if they have underestimated the demand and schools are crowded.

Historic Trends in Enrollment in Grade One

Our data on older generation males reflects the very short and uneven history of universally available educational opportunities in Egypt. The first serious attempts to provide educational facilities for a major part of the Egyptian population occurred first between 1956 and 1966 and then suffered a hiatus during the following decade of heavy military spending. From the late 1970's until the present, efforts have increased to distribute facilities equitably and to relieve crowding in already existing facilities.



Enrollment patterns in the sample's older generation males reflect the historic disruptions that affected the educational system (see Figure A-1). Periods of peak enrollment in grade one came during and just after the 1952 Revolution and during the period of rapid construction of schools when the fee system was abandoned (1962). The lowest enrollments came during the 1956 Suez Crisis and during the 1967 War with Israel. These events affected male enrollments in a consistent and regular way across all categories of sites. (See Figure A-2.) Older generation female rates of enrollments, on the other hand, (see Figure A-3) were irregular and appear to have been little affected by events of the times.

FIG. A—2: RATIOS OF AGE GROUPS
ENROLLED IN GRADE 1
OLDER GENERATION MALES
SITE SETTINGS

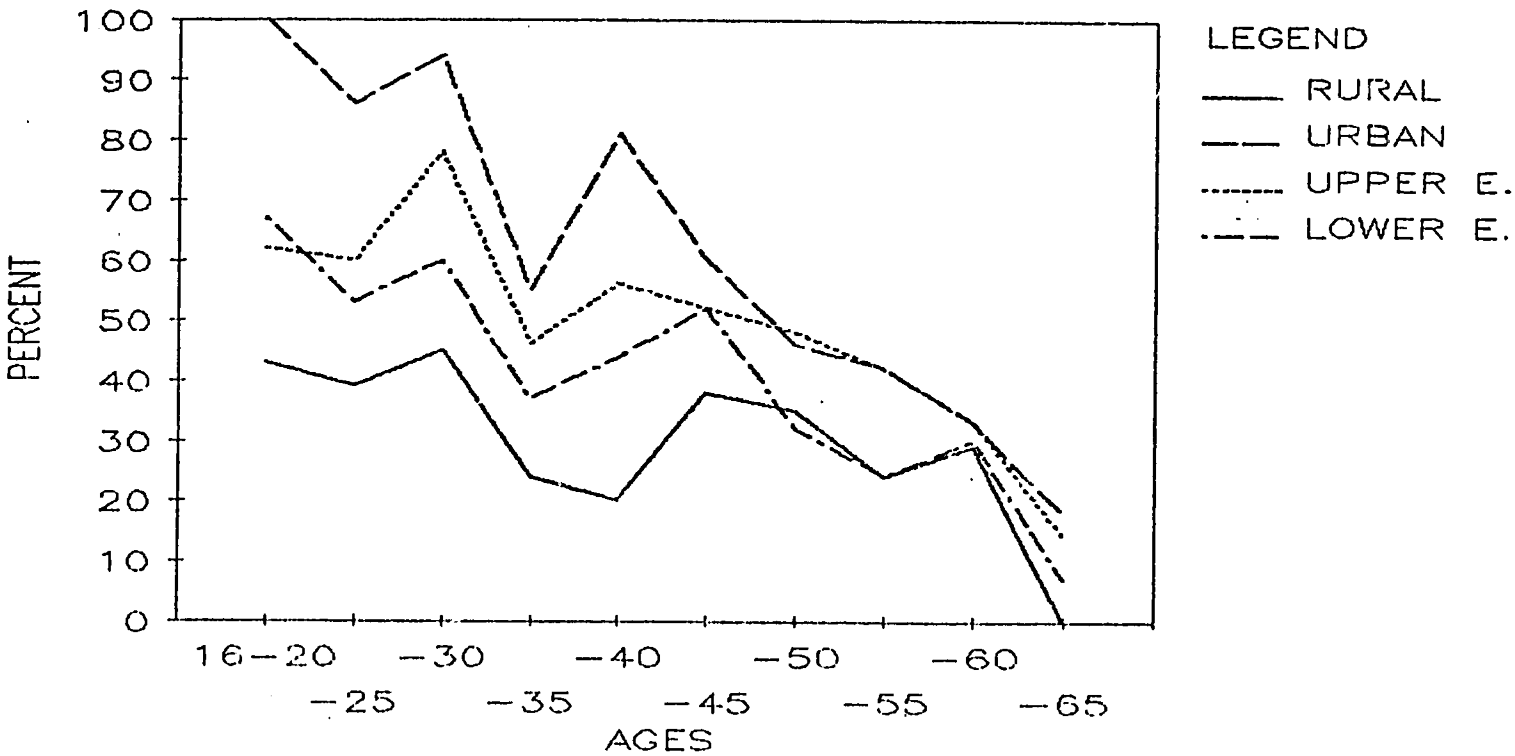


FIG. A—3: RATIOS OF AGE GROUPS
ENROLLED IN GRADE 1
OLDER GENERATION FEMALES
SITE SETTINGS

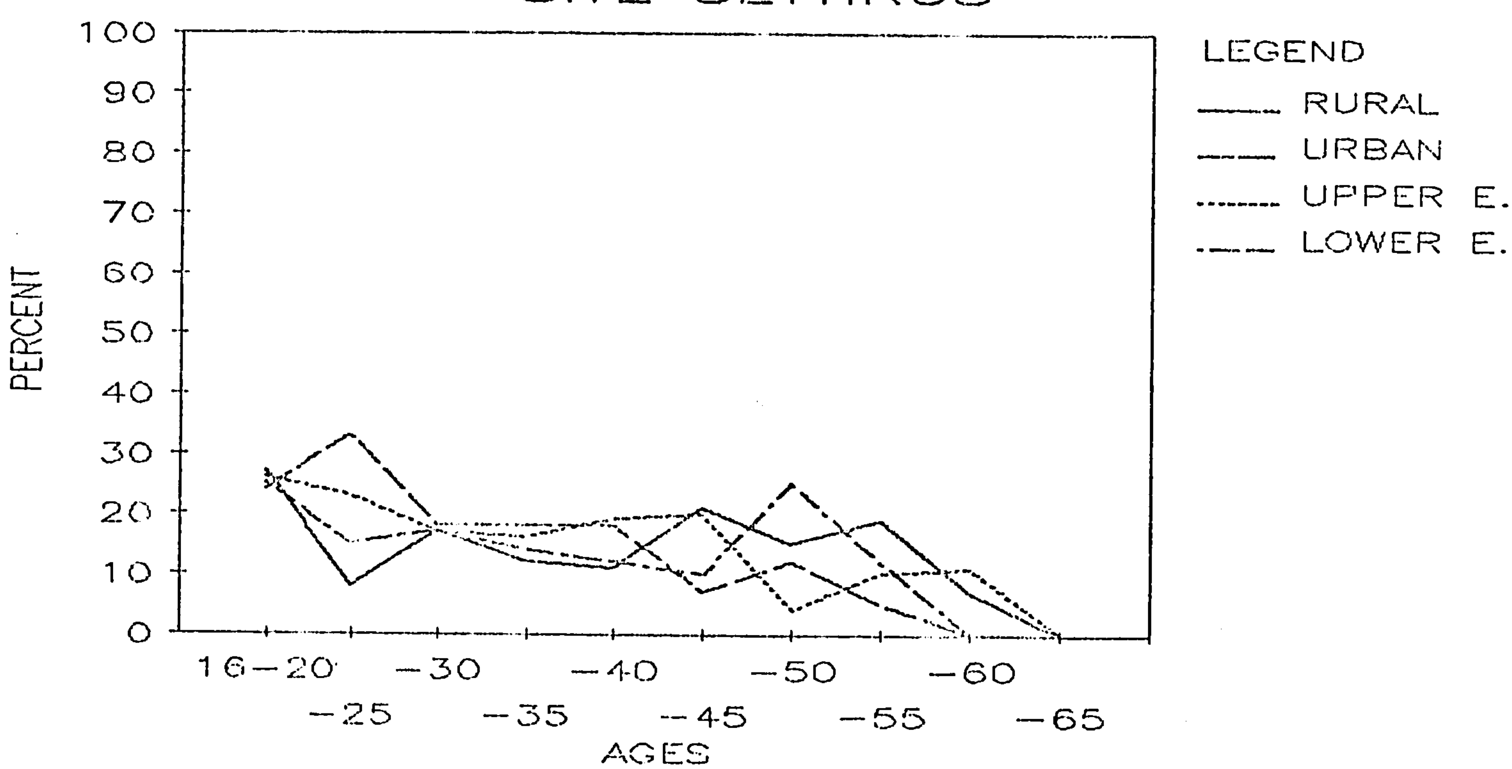


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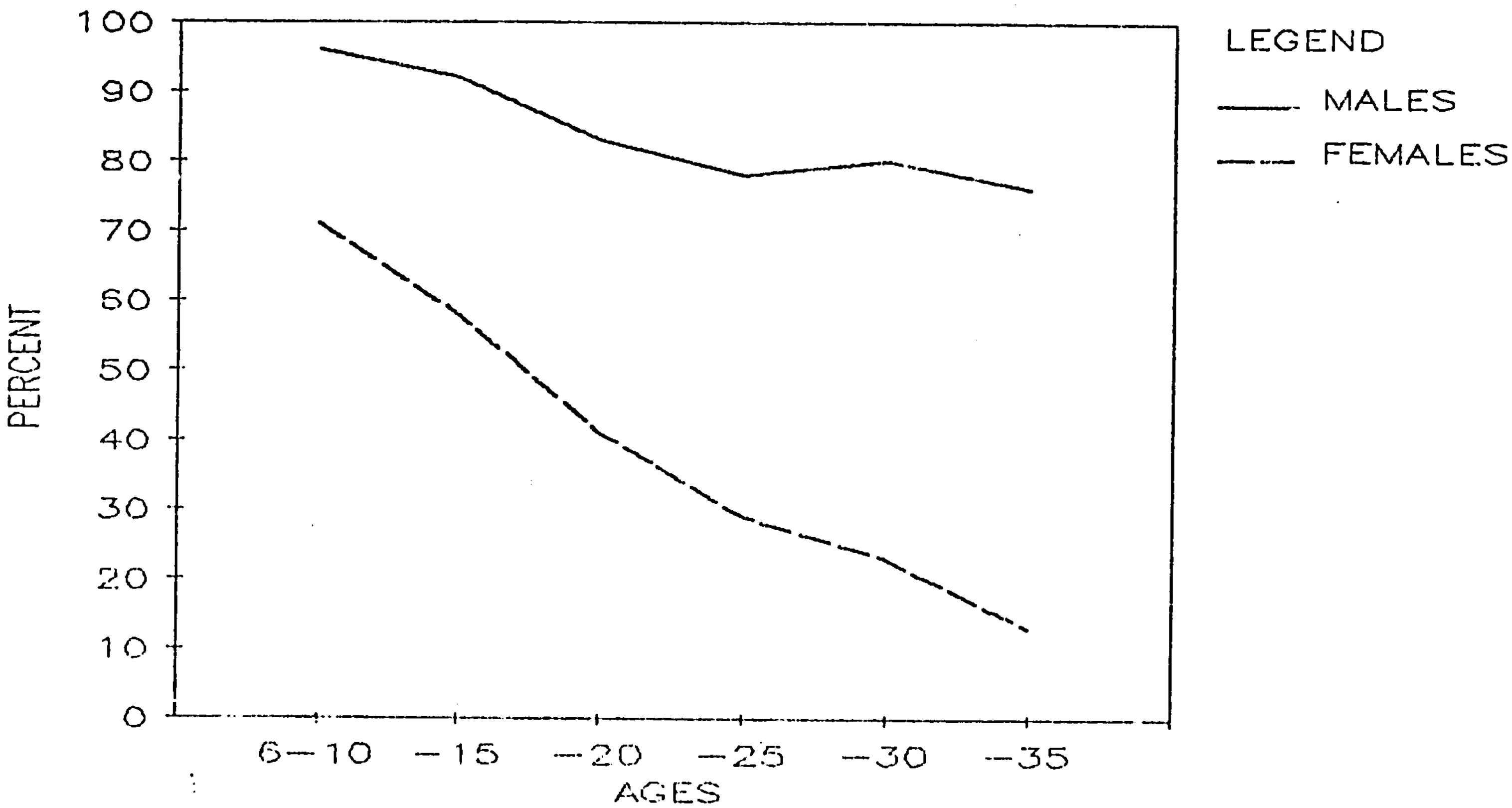
FIG. A—4: RATIOS OF AGE GROUPS
ENROLLED IN GRADE 1
YOUNGER GENERATION



In the younger generation of the sample (see Figure A-4) there is a much more regular and consistently increasing rate of educational participation for both boys and girls, with the disruptive events of the late 60's only slowing rather than causing declines in the trends. In the age group six to ten years, boys have attained a level of grade one enrollments (96 percent) that for all reasonable purposes may be considered universal levels of enrollment. Girls' levels of enrollment in this age group (70 percent) have still some way to go before the same claim can be made, but their important advances over the last two decades, increasing at a rate that is more rapid than the boys, indicates that it is only a matter of time until they too will have achieved these levels. A cautious estimate, if the present trend continues, is that they will have achieved universal levels in less than a decade in the sample sites as a whole, whether in Upper or Lower Egypt (see Figure A-5) (and probably much sooner now that facilities are available within the villages themselves).

FIG. A—5: RATIOS OF AGE GROUPS ENROLLED IN GRADE 1 YOUNGER GENERATION REGIONAL SITES

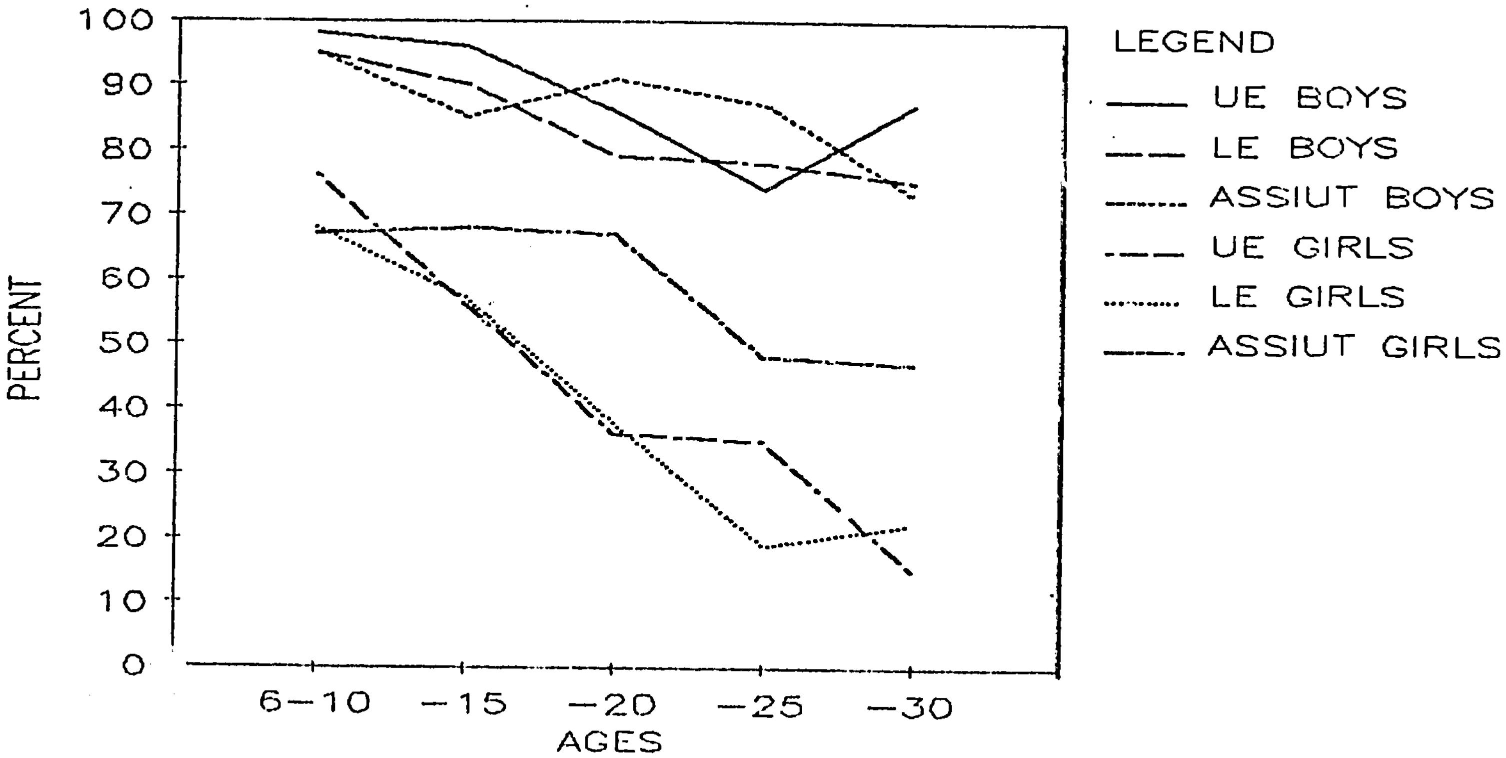
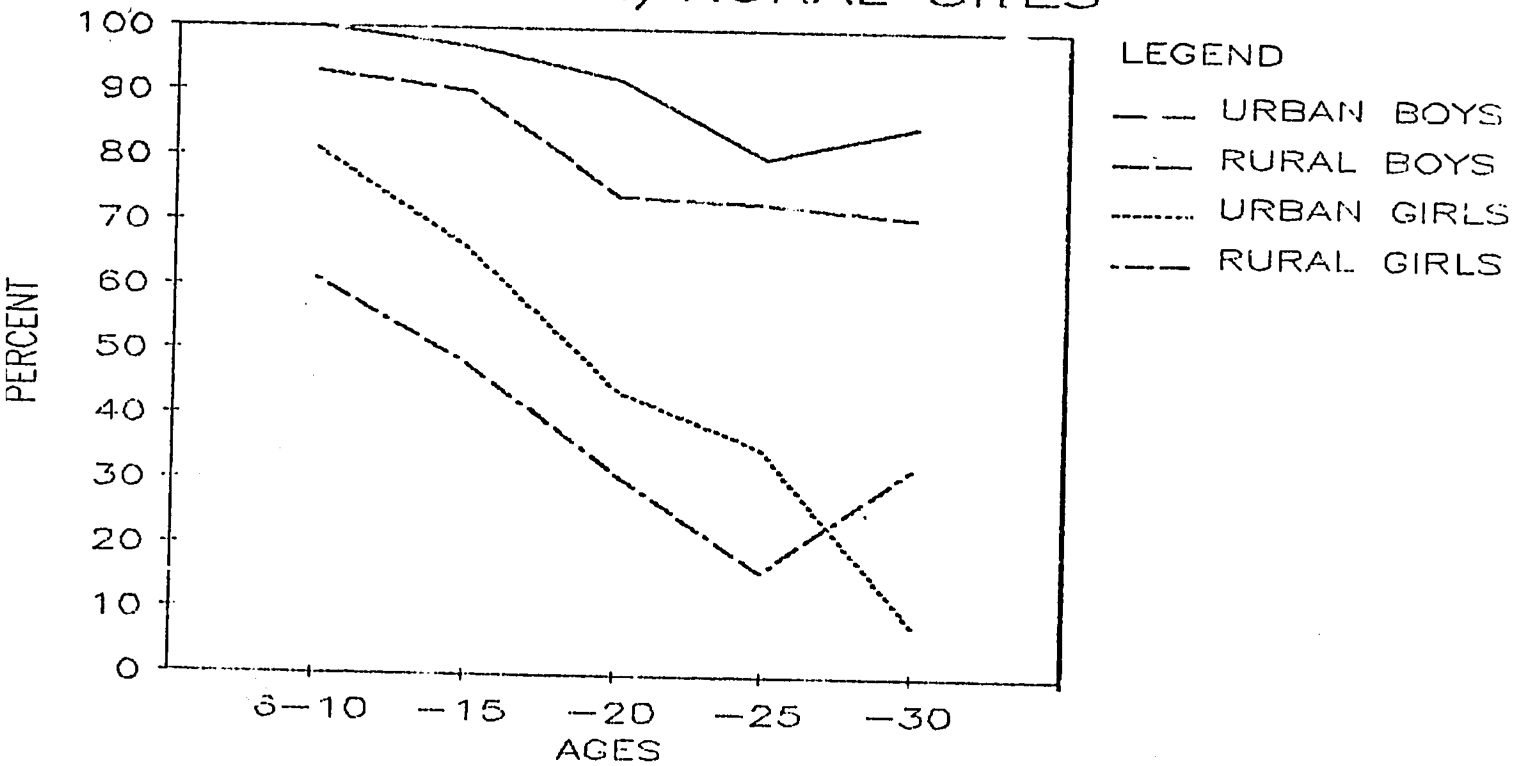


FIG. A—6: RATIOS OF AGE GROUPS ENROLLED IN GRADE 1 YOUNGER GENERATION URBAN/RURAL SITES



A somewhat less optimistic view is presented when the data are aggregated by urban and rural site (see Figure A-6). From this evidence one would expect, if conditions remained the same, that the six- to ten-year-old age group of girls in urban village sites would achieve universal levels of enrollment within roughly five to seven years and the rural girls to achieve it in a significantly longer period than the decade suggested above as an average for all the sites. Once new schools provide easily accessible facilities, however, a major constraint is lifted.

A final historical comparison between younger and older generations appears to vindicate our decision to divide the generations by decision-making climate (see Research Methodology section). Older and younger generation members in the few age groups that overlap have distinctly different enrollment patterns, suggesting that indeed decision-making conditions differ for the two groups. This is usually because the age groups that overlap tend to be the younger children of older parents, in one case, and the older children of younger parents in the other. Thus, the parents established their convictions about education for their first children at least a decade apart, and unless they changed these convictions over time, the decisions are likely to be different.

IV. PERSISTENCE

INTRODUCTION

The Basic Education Law of 1981 raised the mandatory age of schooling from age twelve, or grade six, to age fifteen, or grade nine. After entry in grade one, children move through the system subject to the administrative policies that determine promotion hurdles. At the end of each school year children take an exam. In grades one, three, and five children take local teacher-created examinations and are promoted automatically into the next highest grades. In grades two and four, a senior teacher of the school or the local educational district officials write the exam and children repeat a grade if they fail one of two of the major fields, Arabic and math. After repeating the year and failing again, children pass on to the next grade level. Examinations for grades six and nine are developed at the governorate level, and children who fail, repeat a year and are either then passed by law after a second failure, in the case of grade six, or dropped from the system in the case of grade nine. Examinations in grades seven and eight are again teacher created and children who fail repeat the year.

In all years where failure requires the repetition of a grade, a child may retake the failed subject matter of the final year-end exam again after the summer and if he or she succeeds in the exam at that time passes on to the higher grade without repetition. In grades two and four, failure after two years in grade allows the child to pass on to grades three and five respectively, as mentioned above, but this kind of promotion by law from grades six, seven and eight, since the 1985/86 school year, diverts the child into an alternate stream where remedial work provided in Arabic and math is augmented by instruction in practical courses, such as agriculture, carpentry, electricity, and home economics.

A child who succeeds in passing grade nine final examinations with high scores becomes eligible to go to general academic preparatory high school or to teacher-training school. Those with the next highest scores may enter technical-industrial schools, providing specialized training in agriculture, commerce, and industry. By setting eligibility standards, government officals can determine the ratio of those who enter academic or technical streams.

By law a child may drop out legally only upon completing grade nine or age fifteen. After age eighteen a boy becomes eligible for the military draft and can only continue at the preparatory level with special permission.

If a child is absent from school for fifteen days in primary or preparatory school, administrators notify the parents. If there is no satisfactory excuse, police authorities should be informed and the parents fined 10 L.E. Thereafter, for every fifteen-day period the child is missing from school without a satisfactory excuse, an automatic fine should be levied. In reality, these penalties may be used as a threat but are rarely carried out. A parent may be notified of a child's absence but it would be unusual for a school principal in a rural area to notify police and jeopardize his relations with local villagers, especially if the case is one where there are obvious mitigating circumstances, such as poverty or continued poor performance in school. The existence of such rules, however, do result in school records being falsified to prevent higher authorities from becoming aware that rules are breached. The rules also appear to have an effect on keeping children longer in the educational system.

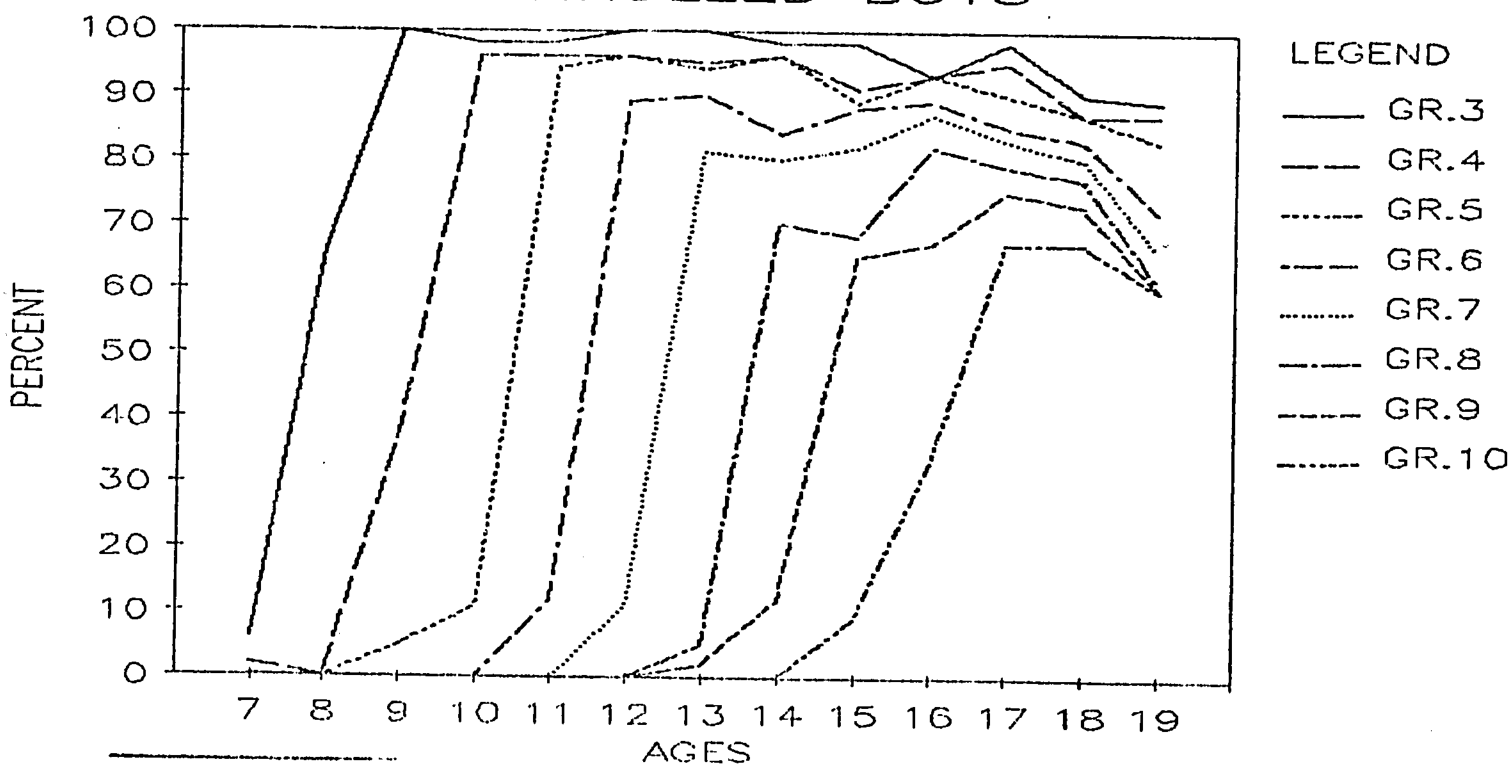
GENERAL SAMPLE PERSISTENCE IN SCHOOL

Persistence in school can be measured behaviorally in two ways: by the extent to which children achieve various grade levels; and by the extent to which they drop out of school--two sides of the same coin.

Grade Levels Achieved

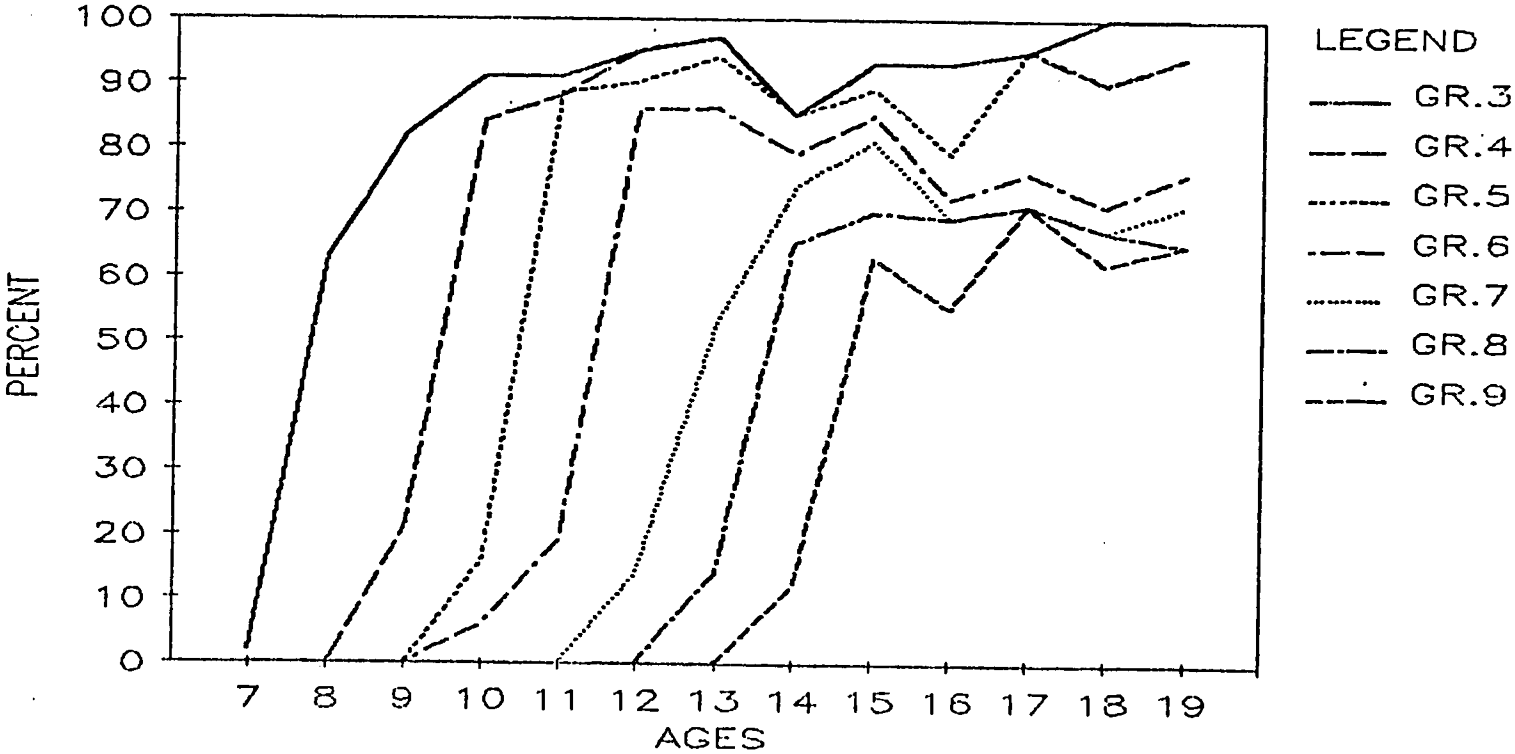
Figures A-7 and A-8 show the extent to which children of different age groups in the younger generation who have enrolled attained different grade levels. The figures show the very high level of enrolled children who complete all the primary grades. The data provide strong evidence of the persistence of enrolled children until they have achieved at least minimal levels of functional literacy. For example, according to the figures, 94 percent of 13-year-old once-enrolled males and 94 percent of 13-year-old once-enrolled females achieve the grade five level, considered by the World Bank to be a minimum level of functional literacy for rural children of reasonable intelligence levels.[1]

FIG. A—7: GRADE LEVEL REACHED BY AGE GROUPS 1985 YOUNGER GENERATION ENROLLED BOYS



[1]Hartley and Swanson, op. cit., Chapter 12, pp. 6 and 9.

FIG. A-8: GRADE LEVEL REACHED BY AGE GROUPS 1985 YOUNGER GENERATION ENROLLED GIRLS



The figures show other important characteristics about persistence in the sample. First, once-enrolled girls persist in the system at rates higher than one would expect given the disparity in ratios of boys and girls who never enroll. Second, as age level increases, grade level lags further and further behind the optimum level of efficient progress through the system, where an eight-year old would be expected to have achieved grade three levels, an 11-year old, grade six, and a 14-year old, grade nine. Part of this phenomenon is a problem of grade repetition but part may also represent a history of more variable school entry in the older age cohorts.

In the Egyptian system, nine years of schooling is considered by the MOE to provide a fundamental education, the minimum that a citizen needs to function successfully in society. In addition, a preparatory school degree carries with it the option of continuing on in academic or specialized types of training that lead to more specific occupational opportunities, and eventually, in some cases, at the end of technical or university training to a guaranteed job. Less than nine years of successful completion of studies provides varying degrees of skill in literacy and numeracy, useful in developing a literate citizenship with the capacity to cope better with general occupational activities.

Parents recognize this two-step nature of the Basic Education program, with the first step leading to basic literacy and the second as a stepping-off point to further types of training, leading to enhanced occupational opportunities.[1] It is unusual to find a parent of a young primary school age child who is not, at the very least, interested in the first objective of basic literacy for both boys and girls. They see the benefit of children being able to fill out their own government forms, being able to read the receipts from the agricultural cooperative or being able to read the Koran.

Parents are usually willing to keep children in school until the objective of literacy is realized, if no serious obstacles arise. But parents who are only interested in literacy become less enthusiastic about schooling after the fifth grade when literacy skills have been mastered to the degree perceived as necessary in the rural context. To reach the next level of parental aspiration--occupational preparation--requires a commitment to a much more extended period of education, and parents therefore must be willing to accept the lost opportunities costs of a child's labor and income. Crucial decisions of this nature often begin to be made at or after grade five, when commitment to continue schooling includes a commitment to pay the costs in time, effort, and financial resources (for special tutoring) of preparing the child for the difficult sixth-grade exam. This factor, plus the physical maturation of girls, knowledge that a preparatory school is distant, that children now have the physical capacity to do the labor of an adult, or that a child has not exhibited enough academic potential to promise future success, may produce conflicting feelings about whether to persist or not. Those who continue on to preparatory level usually are either naturally good students with few conflicting demands made on their time or they and their parents have not yet given up aspirations of acquiring the occupational advantages of extended education.

PARENTAL INTENTIONS TO KEEP CHILDREN IN SCHOOL TO GRADE NINE

Parents of course respond differently when asked to anticipate future educational goals for their children than they do when asked retrospectively to explain why their children did not attain the levels their parents anticipated. The first answers reflect their perceptions of what would be ideal and have little grounding in practical realities; the second are explanations of what went wrong with their hopes. Here we present parental aspirations and later contrast them with a record of school persistence in children of the recent past. The disparities between the two have implications for pressures on class space in the coming years but certainly not as dramatic as the gap between parents expressed values and the record of persistence would suggest.

Intentions to Educate Children Under Age Six

The parents of all male children under six say they intend to educate their children to the end of preparatory level. Parents of female children expect to educate 93 percent of the girls to the end of preparatory and

[1]Papanek and Ibrahim, 1982, p. 103, for example, report that it is only when females graduate from secondary school that significant proportions begin to be enumerated as "economically active."

2 percent to lower levels. The remainder do not intend to educate their daughters at all (see sections on Initial Enrollments).

Intentions to Continue Children Currently Enrolled

The parents of currently enrolled boys (507) responded that they intended to continue 99 percent of the boys on to the end of preparatory level and the parents of currently enrolled girls (336) responded the same for 97 percent of the girls. The reasons cited for not continuing children in the few cases (nine altogether) of resisters were highly individual and varied, but included, for the one male, mental retardation and, for the eight females, difficulty of access to distant preparatory schools, education's lack of relevance, costs, child labor needs, mental retardation, and illness.

When parents were asked a similar question about the feelings of their neighbors, 438 (95 percent) responded that most other community members intended to educate boys to the end of preparatory school, three percent said to the end of primary, and one percent said that "community others" did not care whether they educated their children or not. The rest would not express an opinion.

Asked about girls, 381 (82 percent) felt most villagers wanted their daughters to continue to the end of preparatory level, eleven percent said most would not continue their daughters beyond primary level, four percent said most did not want to educate their children at all, and the remaining two percent were noncommittal. Thus, people express the general norm for themselves and their community that children will continue on at least to the end of preparatory school. Most equate themselves with the general norm but a few see themselves as being ahead of their communities in the length of time they intend to educate their children.

THE BENEFITS PARENTS FEEL ACCRUE FROM EDUCATION

Most parents have not clearly thought through the reasons why they send their children to school, and answers have varied considerably about the benefits of an education during different field trips. The first field trip uncovered so many vague answers that many responses had to be discarded. In the second field trip, a category "to ensure their future" seemed to fit the bulk of these vague responses.

Questions about the future and about abstract potentialities are very difficult for many rural Egyptians to respond to, partly because they are superstitious about discussing future events and partly because they find the issues difficult and impossible to answer in one or two lines. An interviewer finds them looking for pat answers that they have assimilated from television, or from community conventions, such as, "Education is clean," or "It lights up the mind." Therefore, the responses to the question "What benefits do children derive from education" are highly suspect and are presented here mainly to show how parents differ with regard to boys and girls. (See Table A-7.)

Occupational preparation is considered a more significant benefit of education for boys than girls, and enhancing marriage opportunities is a more

Table A-7:

Benefits That Accrue from Education

Benefit	Males		Females	
	No.	%	No.	%
Education:				
Ensures their future	254	(67)	176	(69)
Prepares for an occupation	65	(17)	23	(9)
Improves marriageability opportunities	-		43	(17)
Teaches literacy and numeracy skills	30	(8)	25	(10)

Note: Data here taken from 1984 field trip.

important benefit for girls. A number of parents noted that investment in a girl's education benefits her husband-to-be's household rather than their own, and if the family is strapped economically this consideration may increase significantly. In one sense, investing in a girl's education supports her individual interests against the corporate interests of the household, while investing in a boy's education ultimately is thought to increase the economic benefits to the parental household.

CHILDREN WHO HAVE CONCLUDED THEIR STUDIES

Of younger generation members who have concluded their studies (264 males and 143 females), 152 (58 percent) males and 121 (85 percent) females were last registered in grades one through nine. The rest went on to higher grades. Table A-8 shows the numbers of those dropping out at each level for those who have concluded their studies. This data shows the relative frequency with which children of the sample dropped out at different grade levels (it is not a dropout ratio of the generation or of enrolled children). The table shows that by far the year of highest dropout in the community sample is during or after grade five for boys and girls. There are several probable reasons for this effect. Though grade five is not a major exam year, it precedes the sixth-grade year which is considered a difficult year because of the intense effort exerted in preparing for the final exam. Parents who are mainly interested in literacy skills for their children, who feel protective of their maturing daughters and who see certain of their children lacking aptitude for studies, find it convenient to withdraw their children at this point. Doing so conveniently saves them the costly private tutoring which many children require to pass grade six examinations.

Table A-8:

Last Grade of Registration for Those Having Concluded Their Studies

Sex	Last Grade of Registration										
	1	2	3	4	5	6	7	8	9	9+	Total
Males											
No.	11	9	18	12	49	18	8	17	10	109	264
Cum. %	(4)	(7)	(14)	(19)	(38)	(44)	(47)	(54)	(58)	(99)[1]	
%	(4)	(3)	(7)	(5)	(19)	(7)	(3)	(6)	(5)	(41)	
Females											
No.	11	14	10	12	35	22	1	6	10	22	143
Cum. %	(8)	(17)	(24)	(33)	(57)	(73)	(73)	(78)	(85)	(100)	
%	(8)	(10)	(7)	(8)	(24)	(15)	(1)	(4)	(7)	(15)	

[1]Three cases not included here were children who dropped out of the Kittab (religious schools).

By site category, boys' rates of dropout of those concluding their studies were all about 60 percent in rural, urban, Upper and Lower Egyptian sites. The rate, however, in the Assiut site was lower for boys. Females had a lower rate of dropout for those concluding their studies in rural areas (27 or 79 percent) than in urban areas (46 or 87 percent), possibly because the girls who went to school in remote villages were fewer and thus were more motivated. The different regional areas were virtually the same. Each site, however, showed quite individualistic patterns, probably produced by the unique features of each area. Most girls, for example, in Nag al Tarif dropped out at grade six because of the distance to preparatory schools in Luxor, while this factor was not so important to boys.

Dropout Before Completing Grade Nine: Historic Trends

One way to look at trends in the persistence of children is to compare the rates of dropout between the two generations and across age groups of the younger generation. Though the age groups are not always directly comparable because the younger groups have not, of course, had enough time to accumulate the same level of dropout as older groups, a comparison is possible when age is held constant as dropout rates are examined in different educational settings. Tables A-9 and A-10 summarize the dropout rate in the two generations and Figures A-9, A-10, A-11, and A-12 graphically present the contrast in dropout rate between different populations of children.

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Table A-9:

Dropout before Completing Grade Nine: Once-Enrolled Older Generation

Age Group	Males			Females		
	DO	%	Total Enr.	DO	%	Total Enr.
0-5	0	(0)	0	0	(-)	0
6-10	0	(0)	-	0	(-)	0
11-15	3	(43)	7	0	(-)	1
16-20	4	(24)	17	9	(75)	12
21-25	7	(28)	25	11	(79)	14
26-30	33	(70)	47	17	(100)	17
31-35	23	(56)	41	22	(100)	22
36-40	35	(74)	47	15	(94)	16
41-45	31	(86)	36	14	(100)	14
46-50	24	(96)	25	9	(100)	9
51-55	21	(95)	22	4	(80)	5
56-60	11	(100)	11	3	(100)	3
61-65	4	(100)	4	0	(-)	0
66-70	7	(100)	7	1	(100)	1
71+	1	(50)	2	0	(-)	0
Total	204		291	105		114

Table A-10:

Dropout before Completing Grade Nine: Once-Enrolled Younger Generation

Sites		6- to 8-year-olds			9- to 11-year-olds			12- to 14-year-olds			15- to 17-year-olds			18+ year-olds			Total		
		DO	%	T Enr.	DO	%	T Enr.	DO	%	T Enr.	DO	%	T Enr.	DO	%	T Enr.	DO	%	T
Rural	M	0	(0)	53	1	(2)	57	1	(1)	73	12	(19)	62	37	(44)	85	51	(15)	330
	F	0	(0)	41	3	(9)	34	5	(16)	32	4	(18)	22	12	(46)	26	24	(15)	155
Urban	M	1	(2)	49	1	(1)	70	10	(15)	66	10	(16)	64	48	(37)	131	70	(18)	380
	F	0	(0)	55	2	(5)	44	7	(14)	51	8	(27)	30	24	(55)	44	41	(18)	224
Lower Egypt	M	0	(0)	43	1	(2)	60	9	(12)	76	15	(23)	65	52	(45)	116	77	(21)	360
	F	0	(0)	48	3	(7)	42	8	(15)	52	6	(22)	27	21	(58)	36	38	(19)	205
Upper Egypt	M	1	(2)	59	1	(1)	67	2	(3)	63	7	(11)	61	33	(33)	100	44	(13)	350
	F	0	(0)	488	2	(6)	36	4	(13)	31	6	(24)	25	15	(44)	34	27	(16)	174
Assiut	M	2	(8)	24	0	(0)	21	3	(10)	30	2	(8)	24	17	(25)	69	24	(14)	168
	F	1	(3)	30	0	(0)	16	6	(21)	29	9	(36)	25	30	(65)	46	46	(32)	146
Total	M	3	(2)	126	2	(1)	148	14	(8)	169	24	(16)	150	102	(36)	285	145	(17)	878
	F	1	(1)	126	5	(5)	94	18	(16)	112	21	(27)	77	66	(57)	116	111	(21)	525

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FIG. A—9: RATIO OF AGE GROUP DROPPING OUT YOUNGER GENERATION ENROLLED CHILDREN

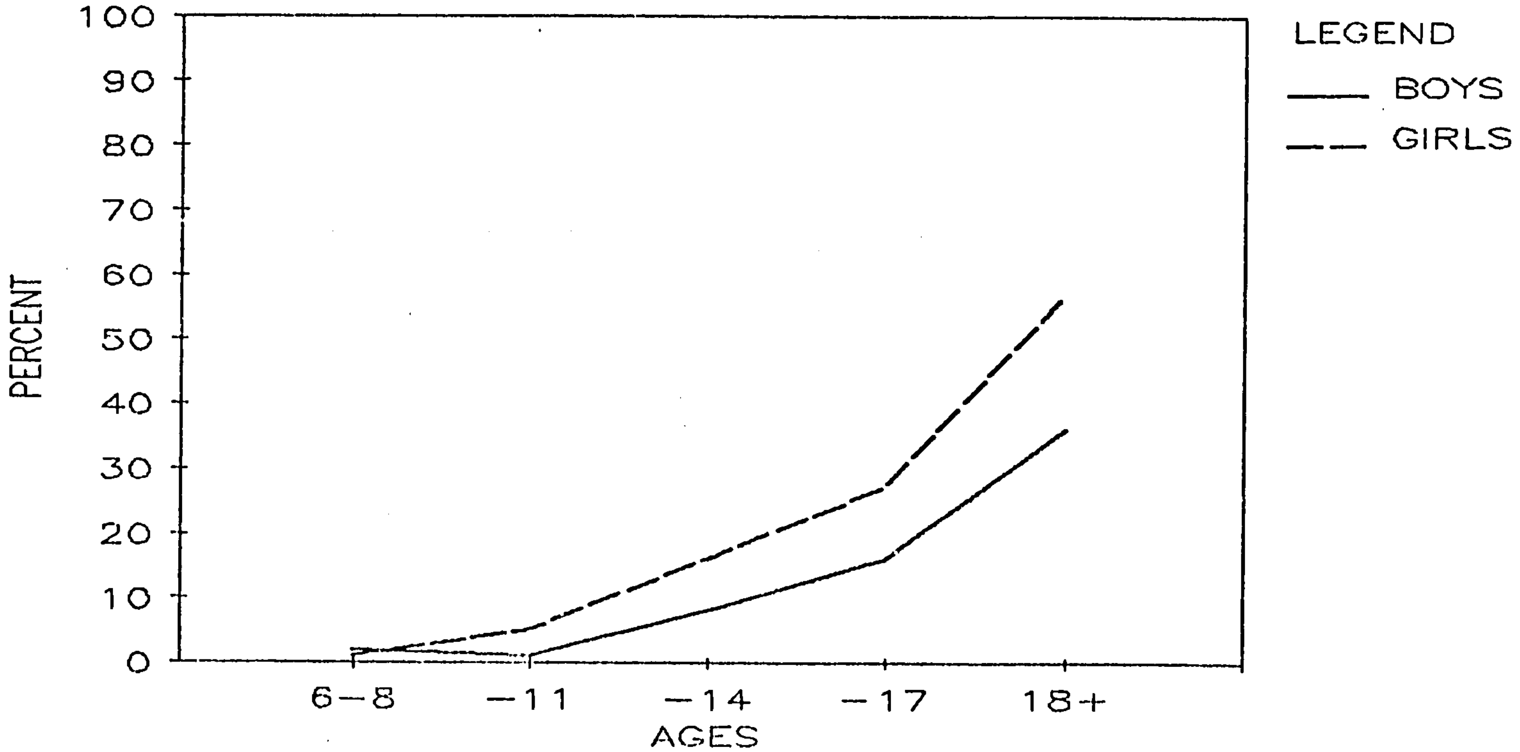


FIG. A—10: RATIO OF AGE GROUP DROPPING OUT YOUNGER GENERATION ENROLLED CHILDREN, URBAN/RURAL SITES

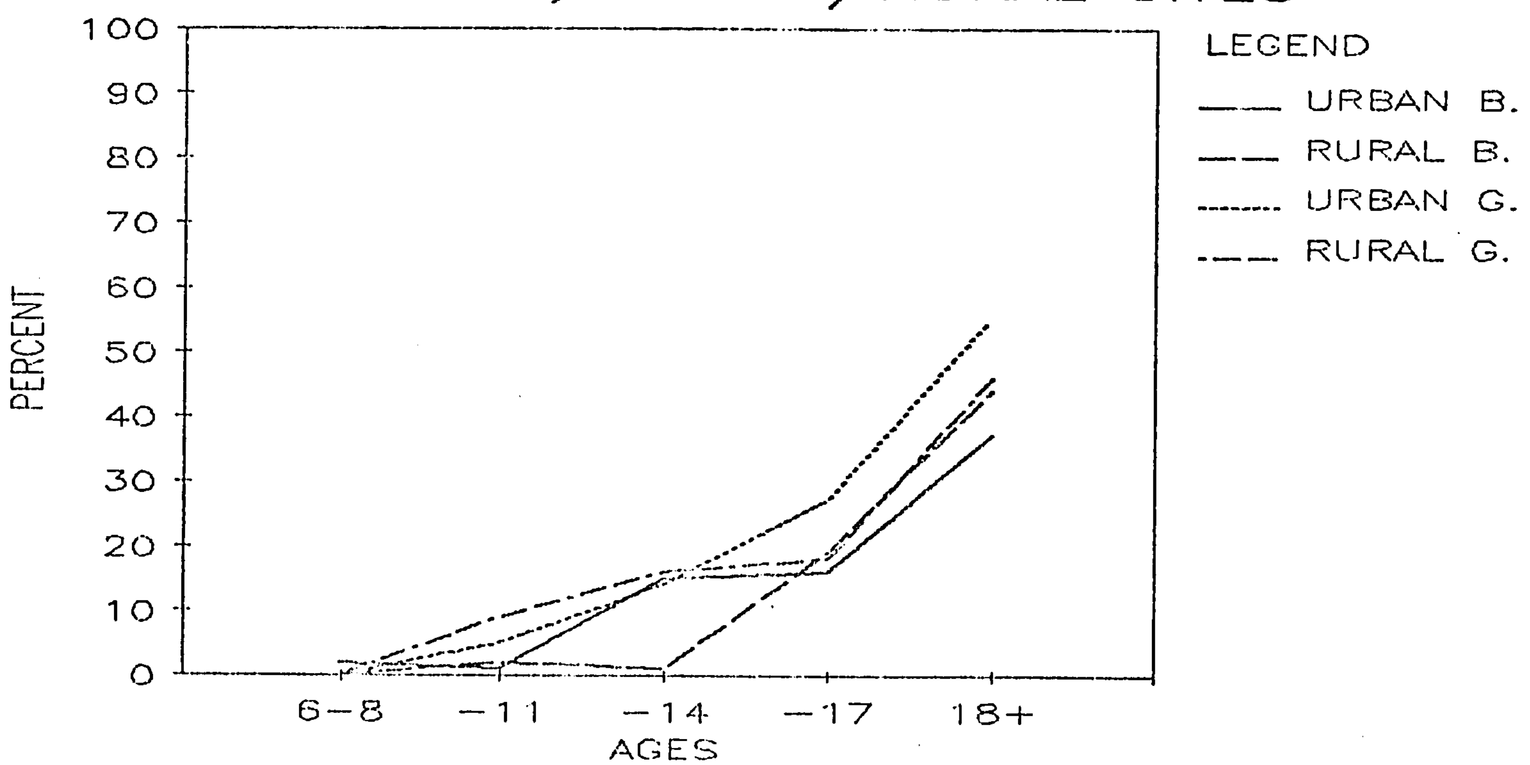


FIG. A-11: RATIO OF AGE GROUP DROPPING OUT
YOUNGER GENERATION
REGIONAL BOYS

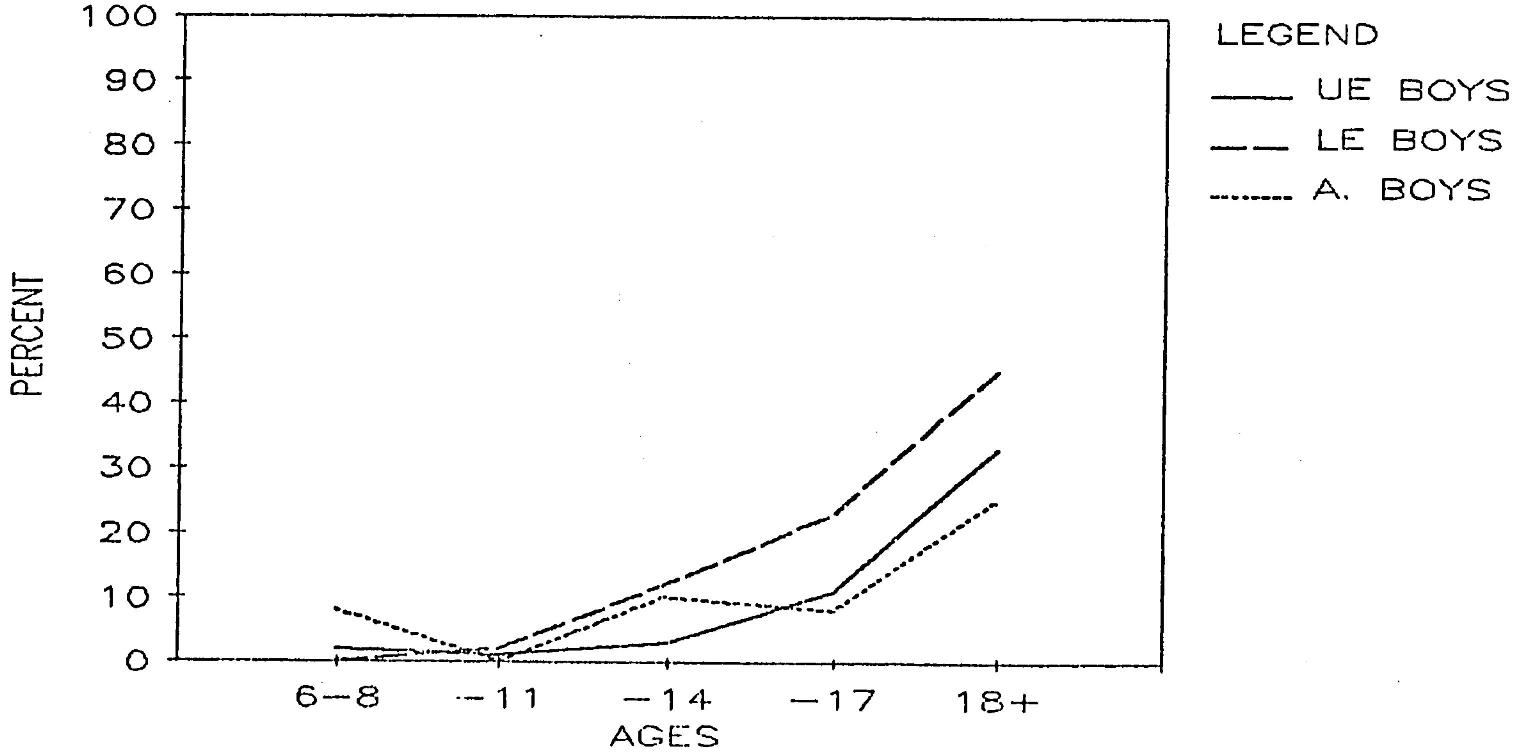
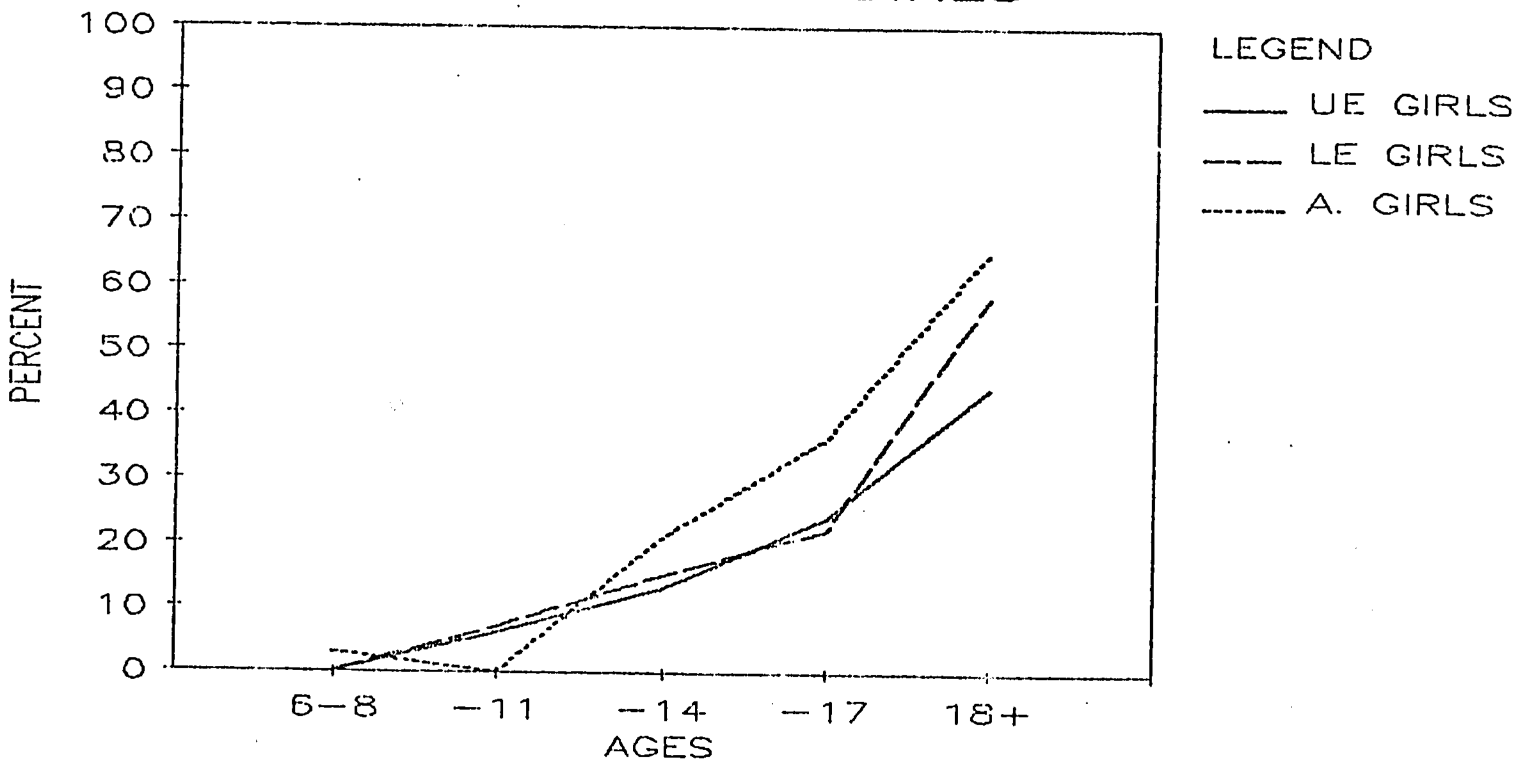


FIG. A-12: RATIO OF AGE GROUP DROPPING OUT
YOUNGER GENERATION
REGIONAL GIRLS



125

Table A-9 showing the dropout rates of once-enrolled older generation members is included even though the number of cases in each age grouping is extremely small. However, it seems clear that completion of grade nine, even among those who enrolled in that generation, was not a frequent occurrence until very recently for the males and not at all for the females.

By contrast, in the comparable groups in the younger generation (15- to 17-year olds, and 18 and over groups) two-thirds or more of the boys and about half or more of the girls in the age group completed grade nine.

Note in Table A-10 summarizing the data on younger generation children that almost equal rates of once-enrolled boys and girls drop out in all site categories except the conservative Assiut sites where there is more than double the rate of female to male dropout. Excluding this group, we can say that overall, once-enrolled girls of the younger generation sample have persisted at approximately the same rates as boys. This finding is also supported by data from the extensive study.

The lower dropout rates for rural sites in early years of the primary system is something country people point to with pride, claiming that urban children have more distractions and thus don't take their studies as seriously as rural children. Be that as it may, there is strong motivation in even the most remote rural villages to continue boys in school since extended education leading to more occupational opportunities seems to be the major alternative open in communities where land fragmentation has reached critical proportions.

Rural sites have slightly lower dropout rates than urban sites and Upper Egyptian sites have lower dropout rates than Lower Egyptian sites. Overall, in the rural areas, girls' dropout rates surpassed boys in the 12- to 14-year-old group, while in urban areas this occurred in the 15- to 17-year-old group. This suggests that parents differentiated their strategies with regard to persistence in school for boys and girls at an earlier age in rural and Upper Egyptian villages than in urban and Lower Egyptian villages. This conclusion supports the generally held view that the former types of sites are more conservative. What we find, however, is that they are no more conservative about female education with regard to initial enrollment in grade one, but tend to withdraw female children as opposed to boy children from school sooner.

A PARADIGM OF SPATIAL-TEMPORAL DIMENSIONS IN ENROLLMENT AND PERSISTENCE

Extrapolating from the historic data in this section and the illustrative examples of our individual sites, we can develop a model of how Egyptian education has progressed in recent years. (See Table A-11.)

Table A-11:

Paradigm of the Spatial-Temporal Dimensions of Enrollment and Persistence

Educational Participation	Sex	Graduated Levels of Involvement								
		1	2	3	4	5	6	7	8	9
Grade One Enrollment	M	0	+	++	+++	++	+	+	+	+
	F	0	0	+	++	+++	++	+	+	+
Persistence	M	0	0	+	++	+++	++	+	+	+
	F	0	0	0	+	++	+++	++	+	+

0 = no involvement
+ = modest increase
++ = substantial increase
+++ = high levels of increase

In this paradigm over time, a community starts out with few or no children in formal schools. Next, a few boys overcome the obstacles of distance and community norms to enroll in school, but may at first be easily discouraged and not persist long. As more boys begin to go to school, persistence levels also rise and the way is paved for the first girls to brave the obstacles of initial enrollment. Boys' enrollments continue to increase until only the most resistant remain out of school. At this point, increases in enrollment moderate down to a level of maintenance that corresponds with population increases. Girls' enrollments and persistence follow the same pattern with the only difference being a time lag. In this scheme, quantification of the time lag between one level and another, or between the behavior of boys and girls, is the essential unknown, dependent on the circumstances of sites that accelerate or constrain the process.

The model described in this way is one that moves across time, affected only by the requirement that one step proceed another in regular progression. In the Egyptian context the model also describes the phenomenon as manifested in the spatial dimensions of urban and rural sites. In this model, the city provides an example of the advanced stage of educational participation, followed by "urban" villages with conditions of easily accessible facilities, "urban" villages with specific constraints, through mixed-characteristics villages, to rural villages with available facilities, to ever more remote rural villages with fewer and fewer inducements to learn. In this spatial view of the model, the interval between levels of enrollment, like the temporal interval above, is difficult to quantify and depends on the special circumstances of sites.

More specific examples can be given from the community sample as follows:

Level 1: The educational participation rates of the sample's oldest members or from a remote related village so distant from school facilities that no one attends school.

Level 3: The educational participation of the sample's older generation as a whole in urban villages or present-day younger generation children in rural villages.

Level 6: The educational participation of urban village children ages six- to twelve-years old after a new school is in place for several years.

Level 9: The educational participation of children after universal education has been achieved. This level exists only in large cities in middle class neighborhoods. Enrollment increases continue at the level of population growth.

128

DROPOUT IN THE INTENSIVE SCHOOL COMPARATIVE SAMPLE

Dropping out of school is the obverse of persistence in school. We have defined dropping out as "The act of leaving school permanently prior to reaching either the official school leaving age or having completed the state of education mandated by law (age 15 or grade 9 completion)." (See "Note on Terminology," p. xiii, of this Third Annual Report.)

In the project paper for the Basic Education Project, it was assumed that the dropout rate in Egyptian schools might be affected by the construction of new schools and the provision of instructional equipment. The extensive sample does show a higher decline in the dropout rate in the new schools than in the control site schools. (See Table A-13.) The historical analysis of the community sample data supports this finding.

Both the extensive and community study data also show that dropping out was declining prior to the beginning of the school construction program. These findings are supported by estimates of dropouts by the MOE. In the five years prior to the opening of new schools in 1983, primary school dropout ratios had declined from 5.2 percent to 3.2 percent. Preparatory school ratios also declined over the same period from 1.02 percent to .66 percent.[1]

Data from the limited sample of schools in the intensive study of schools show that dropout in primary schools declined at an overall average of 1.6 percent in 1985/1986, exactly half of the MOE estimate for 1982/1983.

It should be kept in mind, however, that the dramatically low primary school figures, for which the Ministry is to be congratulated, are a ratio of annual dropout to enrollment and do not show the cumulative effect of dropping out on the cohort. As seen in Table A-12, the cumulative effect of even these low figures in the primary schools of the sample is 11.1 percent.

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[1]Benson, op. cit., p. 35.

124

Table A-12:

Dropouts, Combined Primary Schools, Comparative School Sample, School Year 1985/1986, Intensive Study of Schools

		1	2	3	4	5	6	Ready for 7th Grade
Male	Percent of first grade cohort	(100%)	(98.3%)	(95.6%)	(94.8%)	(93.1%)	(92%)	(89.3%)
	First grade cohort beginning of year	1540	1514	1472	1460	1433	1417	1375
	Dropouts	26	42	12	27	16	42	
	Sub-total	1514	1472	1460	1433	1417	1375	
Female	Percent of first grade cohort	(100%)	(97.7%)	(96.6%)	(95.7%)	(93.6%)	(90.9%)	(88.4%)
	First grade cohort beginning of year	904	883	873	865	846	822	799
	Dropouts	21	10	8	19	24	23	
	Sub-total	883	873	865	846	822	799	
Combined	Percent of first grade cohort	(100%)	(98.1%)	(95.9%)	(95.1%)	(93.2%)	(91.6%)	(88.9%)
	First grade cohort beginning of year	2444	2397	2345	2325	2279	2239	2174
	Dropouts	47	52	20	46	40	65	
	Sub-total	2397	2345	2325	2279	2239	2174	

The cumulative total for boys is 10.7 percent. For girls it is 11.7 percent. When we look at the percent who drop out before completing grade 5, the assumed level of functional literacy, we see that 8 percent of the boys and 9.1 percent of the girls will drop out before completing grade five, for a total of 8.4 percent of the first-grade cohort.

130

Table A-13:

Comparative Dropout*, New, Comparison, and City Schools, School Year 1985/86, Intensive School Comparative Sample

New Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
M	1181	201	24	2	(2.0)	(1.0)
F	691	352	12	2	(1.7)	(0.6)
T	1872	553	36	4	(1.9)	(0.7)

Comparison Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
M	2028	1288	44	35	(2.0)	(2.2)
F	1449	153	40	3	(2.3)	(2.8)
T	3477	1441	84	38	(2.2)	(2.4)

City Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
M	2722	669	23	13	(0.8)	(1.9)
F	1669	536	10	4	(0.6)	(0.7)
T	4391	1205	33	17	(0.75)	(1.4)
Grand Totals	9740	3199	153	59	(1.6)	(1.8)

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*Minus the schools in Bani Rafa, where the new school is not yet open.

[1]Of these dropouts, 36 percent dropped out during the school year, when a school program to identify and work with the potential dropout might have the most direct effect.

When we disaggregate the data by site, we can see the variability that exists within each category of schools and across the categories in the sites.

Table A-14:

Comparative Dropout Ratios by New, Comparison, and City Primary School Sites, School Year 1985/86, Intensive School Sample

	Site # 1 %	Site #2 %	Site #3 %	Site #4 %	Site #5 %	Site #6 %	Site #7 %
New Schools	-*	3.4	0	1.5	3.5	1.6	3.8
Comparison Schools	1.0 2.0**	5.2	2.3	3.0+	4.9	1.9+	1.8
City Schools	.1	1.5	.6	1.2	1.6+	.5+	-

*School began in October 1985 and had no dropouts by November.

**Two double session schools used as comparison.

+Double-session schools.

132

Dropout and Grade Repetition

The interrelationship of dropout, failure and grade repetition can be seen clearly in Table A-15, which shows the number of grade repetitions of the 40 percent of the dropouts who repeated.

Table A-15:

Number of Repetitions for all Dropouts*, Total Intensive School Sample**, School Year 1985/86

Times a grade is repeated	B #	% of total male dropouts	% of total dropouts	G #	% of total female dropouts	% of Total dropouts	T #	% of Total dropouts
1	71	(34)	(22)	18	(15)	(6)	89	(27)
2	27	(13)	(8)	9	(8)	(3)	36	(11)
3	2	(1)	(0.6)	3	(3)	(0.9)	5	(2)
T	100	(48)	(31)	30	(26)	(9)	130	(40)

*Total dropouts: 326; M: 209; F: 117

**Since this table was not calculated for comparing new, comparison, and city schools, we use the total sample.

Of those who repeated, 69 percent did so once, 28 percent twice, and only 3 percent repeated three times. The male dropouts account for the largest amount of grade repetition (77 percent). This fact is probably partly an outcome of the much larger percentage of boys enrolled. In the villages, as many as 96 percent of the boys are enrolled, as opposed to the lower percent of girls enrolled.

The larger boys' enrollment means more marginal, hard-to-educate boys are enrolled--those most likely to fail and to drop out, particularly if the schools use no diagnostic tools to identify these problem youngsters early and have no remedial or special help for them except repeating a grade. In many cultures young males are more difficult to teach because they are more physically active in the classroom, tend to be more assertive, to "act out" more than girls, often lead a more active sports and work life after school and on holidays, and therefore may study less or less intensively. All this, if true for young Egyptian males, may also help account for their higher failure rates in the primary schools. Mention has already been made of the preparatory school in the preceding section.

When we look at the opposite side of the coin, at how many repeaters drop out, we find that there were a total of 570 students (4 percent of the total sample) repeating a grade. Of that number, 208 repeaters were in the primary schools of the sample. Twenty-seven of them (13 percent) dropped out later. In the preparatory schools, of the 362 repeaters, an identical percentage dropped out--47 dropouts out of 362 repeaters (13 percent).

As one would expect, grades six and nine account for the largest number of dropouts from the repeater group. Of the primary school repeaters who dropped out later, 63 percent were in the sixth grade. Correspondingly, in the preparatory school, 49 percent were ninth graders.

From Table A-16, we can see that the 130 repeater dropouts account for 176 years of repetition, 110 years of which occur in the primary schools. Boy dropouts repeated grades six, four, and nine most, in that order, whereas girl dropouts repeated grades two, four, and six most--reinforcing the community study finding that girls tend to persist more and fail less in preparatory school than boys.

Table A-16:

Years Repeated by Grade, Dropouts, Total Intensive School Sample*, School Year 1985/86

Grades	B #	% of total male dropouts	% of Total dropouts	G #	% of total female dropouts	% of total dropouts	T #	% of total dropouts
2	18	(13)	(10)	14	(35)	(8)	32	(18)
4	29	(21)	(16)	12	(30)	(7)	41	(23)
6	31	(23)	(18)	6	(15)	(3)	37	(21)
7	17	(13)	(10)	4	(10)	(2)	21	(12)
8	15	(11)	(9)	0	(0)	(0)	15	(9)
9	26	(19)	(15)	4	(10)	(2)	30	(17)
T	136	(100)	(77)	40	(100)	(23)	176	(100)

*Uses total sample for reason given in Table A-15.

As the reader can see from Table A-17, the reasons as to why the students dropped out given by those in the school (the students' peers and/or their teachers), and those given in the home from family members (usually a parent or an older sibling), differ somewhat as to their ascription of the locus of origin of the problems.

Those in the school gave reasons in which the home can be seen as the primary locus of origin in 44 percent of the cases, the school in 40 percent. In the home, however, the reverse is true, with 54 percent of the reasons which would seem at first glance to originate in the school and only 26 percent in the home.

Table A-17:

Reasons Given for Dropping Out, by Source of Information in New and Related Schools*, School Year 1985/86, Intensive School Sample

Reasons	From schools (peers, teachers)						From homes (family members)					
	M	%	F	%	T	%	M	%	F	%	T	%
Illness	12	(7)	3	(4)	15	(6)	12	(13)	5	(10)	17	(12)
Sex role related	0	(0)	23	(30)	23	(9)	1	(1)	11	(21)	12	(8)
School-related problems	82	(49)	17	(22)	99	(40)	60	(65)	18	(35)	78	(54)
Family circumstances, lack of motivation, poverty, need to work	75	(44)	33	(43)	108	(44)	19	(21)	18	(35)	37	(26)

*No information was secured from students' homes in the cities due to the difficulty in the short period of time the team had in which to conduct this field study.

135

It is diffcult to parcel out these reasons into any rigorous and clearly bounded attribution of responsibility for the origin of the problem that precipitated the dropping out, however, for they are tangled matters. Many probably result from an interaction of school and home factors ("child does not want to come to school," "there is no birth certificate"); or are personal and perhaps in part also attributable to the home ("child is ill"). Others seem more clear ("child's work is required," "teachers hit the student"). The list of reasons obtained from content analysis of the responses is presented below.

Reasons Given for Dropping Out

*1. Failure (assumed because of failure before dropout, if no other reasons given)
o2. Child work required
3. Child married (child will marry)
o4. Child does not want to go to school
o5. Family break up (divorce, parent died)
o6. Child registered in grade one but did not come
*7. Child failed twice or there was no special class available
o8. Parent withdraws child for unknown reasons
o9. Father is abroad so child is needed at home
10. Distance to school
11. Left village to another school
+12. Illness
*13. Did not come to exam
*14. Child is not doing well in school
o15. Family is not interested in girls' education
*16. There is no birth certificate
*17. Teachers hit the student
18. The family is poor
*19. The child is older than his peers
20. No reason given
o21. The family does not care about the children
*22. The school has no room for the child

* - School is probably the primary locus of the problem
o - Family is probably the primary locus of the problem
\+ - Personal

In addition we looked at whether the teacher/pupil ratio might be affecting dropout in the new, comparison, and city schools.

Table A-18:

Average Teacher Student Ratios, in New, Comparison, and City Schools, School Year 1985/86, Comparative Intensive School Sample, Primary and Preparatory Schools

Primary			Preparatory		
New	Related	City	New	Related	City
1.45	1.46	1.45	1.41	1.35	1.35
1.33	1.42	-	-	1.36	1.36
1.39	1.38	1.41	-	1.43	1.38
1.20	1.44	1.54	-	-	1.42
1.34	1.25	1.41	-	-	-
1.39	1.38	1.53	-	-	1.42
1.47	1.53	1.53	-	-	-

R.: - 3465 R squared: .12

The correlation between dropout and teacher/pupil ratio was statistically significant but weak; the coefficient of determination of only .12 means that the teacher pupil ratio accounts for only 12 percent of the variance. The remainder is accounted for by the home, school, and personal factors and their interactions.

V. COMMUNITY AND HOME FACTORS AFFECTING EDUCATIONAL PARTICIPATION

IDENTIFYING THE VARIABLES

The community sample was designed so that we would be able to identify relevant factors affecting educational participation in three ways: first we took widely accepted notions of what effects educational participation and selected sites with these characteristics, both positive ("urban" villages) and negative ("rural" villages), divided equally between Upper Egypt and Lower Egypt. (See Research Methodology for more detail.) Second, we asked parents to tell us why their children did not enroll, or if they enrolled, what benefits they received from education. Third, we tested variables such as parents' education, occupation, birth order, etc., which were not identified explicitly by parents but which might prove relevant in predicting the likelihood of a child's participation in educational programs. In this way we felt we would identify the major contributory factors and, through the data gathered in household interviews, test the extent of their impact on school-age children generally as well as on special groups of target children.

In this section we first identify the factors considered relevant by the parents; then, we examine how they affect the educational participation of children. Throughout, data is disaggregated in a way that shows how parents in different types of sites rate the relative significance of various factors, and how the environments themselves produce different effects on children's school-going behavior.

REASONS FOR NOT ENROLLING

Tables A-19 and A-20 summarize the reasons parents give for children not having enrolled in the older generation or for not enrolling their own children.

In the older generation, the major reasons that children were not enrolled were the same for boys and girls: the distance to school facilities, and the perception that education was not relevant for rural children. As one would expect, distance was paramount in the more remotely rural villages and less important in urban villages, and it was more important in Upper as opposed to Lower Egyptian villages. Education's lack of relevance was ranked equally as important as distance in Lower Egyptian villages, while Upper Egyptian and rural sites gave strong significance to the costs of schooling.

The major differences in the reasons expressed for not enrolling boys and girls of that generation were that parents generally considered the constraints on boys to be the costs of schooling and the need for the child's labor, and on girls it was social custom. Note however that people are expressing their opinions about what happened in the past and thus may be influencing their comments by views presently accepted.

One way to look at these responses is to consider them the parents' views of changing attitudes toward education. This comes clear in the elaborated responses during the interviews. A parent might say, "In those days people were poor and could not afford to send boys to school," trying to explain the

Table A-19:

Reasons[1] for Non-Enrollment: Older Generation

Reasons for not Enrolling	Rural Sites		Urban Sites		Females' Sites		Upper Egypt Sites		Lower Egypt Sites		Sample Total[2]	
	M	F	M	F	M	F	M	F	M	F	M	F
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %
No school available	79 (46)	117 (45)	29 (29)	52 (22)	13 (28)	4 (5)	56 (44)	86 (38)	52 (36)	83 (31)	121 (38)	173 (30)
School too far	3 (2)	2 (1)	2 (2)	5 (2)	0 (0)	0 (0)	1 (1)	2 (1)	4 (3)	6 (2)	5 (2)	8 (1)
Costs of schooling or poverty	37 (22)	40 (16)	25 (25)	28 (12)	12 (26)	7 (9)	49 (39)	48 (21)	13 (9)	20 (7)	74 (23)	75 (13)
Education not relevant	32 (19)	47 (19)	28 (28)	74 (31)	14 (30)	19 (25)	10 (8)	17 (8)	50 (35)	104 (39)	74 (23)	140 (25)
Need for child's labor	13 (8)	5 (2)	11 (11)	5 (2)	7 (15)	4 (5)	9 (7)	5 (2)	15 (10)	5 (2)	31 (10)	14 (2)
Custom	0 (0)	32 (13)	0 (0)	75 (31)	0 (0)	41 (55)	0 (0)	64 (28)	0 (0)	43 (16)	0 (0)	148 (26)

[1] Reasons that comprised a ratio of less than 2 percent in all categories were not included.

[2] Sample total includes either urban/rural sites or Upper Egypt/Lower Egypt sites and not both.

131

Table A-20:

Reasons[1] for Non-Enrollment: Younger Generation

Reason for not Enrolling	Rural Sites		Urban Sites		Females' Sites		Upper Egypt Sites		Lower Egypt Sites		Sample Total[2]	
	M No. %	F No. %	M No. %	F No. %	M No. %	F No. %	M No. %	F No. %	M No. %	F No. %	M No. %	F No. %
No school available	8 (12)	24 (11)	0 (0)	10 (5)	1 (4)	1 (1)	1 (3)	18 (10)	7 (11)	16 (7)	9 (7)	35 (0)
School too far	6 (9)	19 (9)	3 (8)	10 (5)	0 (0)	0 (0)	2 (5)	14 (8)	7 (11)	15 (7)	9 (7)	29 (6)
Costs of schooling or poverty	13 (19)	36 (17)	9 (25)	44 (23)	10 (42)	15 (17)	15 (39)	46 (26)	7 (11)	34 (15)	32 (25)	95 (19)
Education not relevant	13 (19)	38 (18)	15 (42)	47 (24)	6 (25)	19 (21)	11 (29)	38 (21)	17 (26)	47 (21)	34 (27)	104 (21)
Need for child's labor	14 (21)	32 (15)	5 (14)	13 (7)	4 (17)	9 (10)	3 (8)	8 (4)	16 (24)	37 (16)	23 (18)	54 (11)
Custom	0 (0)	43 (20)	0 (0)	52 (27)	0 (0)	38 (42)	0 (0)	42 (24)	0 (0)	53 (23)	0 (0)	133 (27)
Child doesn't want to go	2 (3)	3 (1)	1 (3)	4 (2)	0 (0)	4 (4)	0 (0)	0 (0)	3 (3)	7 (3)	3 (2)	11 (2)
No birth certificate	5 (7)	8 (4)	0 (0)	1 (1)	2 (8)	1 (1)	1 (3)	2 (1)	4 (6)	7 (3)	7 (5)	10 (2)
The school refused the child	2 (3)	1 (0)	0 (0)	3 (2)	0 (0)	0 (0)	0 (0)	3 (2)	2 (5)	1 (0)	2 (2)	4 (1)
Child was ill	4 (6)	3 (1)	3 (8)	7 (4)	1 (4)	2 (2)	5 (13)	7 (4)	2 (3)	3 (1)	8 (6)	12 (2)

[1]Expressed as ratios of non-enrolled. Not reported if less than two percent in all categories.

[2]Sample total includes either urban/rural sites or Upper Egypt/Lower Egypt sites and not both.

circumstances that made people "backward." They often neglected to say, unless pressed, that educational opportunities were limited and that it was not common for any but a few selected individuals to pursue Koranic learning or modern education when it existed. The explanation for the "backward" attitude about girls was that people were not enlightened in those days so no one educated girls.

Differences by regional category show a picture of Upper Egypt two or three decades ago that was poorer with fewer facilities and a strong sense of conservatism about girls' education. Lower Egypt at the time had more accessible facilities but general apathy toward education in the agricultural areas of the sample. People were also not as inclined to think girls should be kept home.

In the younger generation the number of those who remained unenrolled dropped considerably from 52 percent of males and 83 percent of females in the older generation to 13 percent males and 48 percent of females. Many of the reasons given for why the older generation did not enroll remain important in the younger generation while others are different. Distance of facilities is no longer an important factor for either boys or girls, but education's lack of relevance remains an important factor in all sites, but significantly more important in urban[1] as opposed to rural sites. By lack of relevance parents generally mean that a child can carry out its anticipated adult role, occupational or as parent/spouse, without the benefits of schooling. Rural parents usually see a relevance to education when it provides access to the few alternative occupations their children have outside of agriculture. Urban parents in some sites find more relevance in the kinds of training that lead to high-paying skilled work.

The costs of schooling and the poverty of the family have remained important into the younger generation. In the Assiut communities this reason has risen significantly as a factor in grade one enrollment. The same is true for child labor needs across the range of site categories, especially in Lower Egypt, with more than double the importance now being given to this factor in that setting. Both types of economic factors are generally more relevant to the enrollment of boys, probably because, as one senses in the interviews, parents feel they needed a fairly strong justification for why boys stay home. Girls, especially the older ones, can be kept home for normative reasons such as 'nobody educated girls 10 years ago,' without the same feeling of embarassment. With younger girls parents are more likely to translate the normative reason into one of educational relevance, 'a girl really does not need an education to be a housewife.'

A small but potentially significant cluster of reasons which did not appear in the older generation are specific problems of the younger generation: registration (no birth certificate, and the school's refusal of the child); ill children, which often means a handicapped child or one who missed registration because of temporary illness; and child refusal, which may be a euphemism for a young child's fear of discipline or other negative aspects of school that they hear reported from older children.

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[1]Urban sites, however, contain very few males who are not enrolled.

ENROLLMENT OF CHILDREN UNDER BETTER CIRCUMSTANCES

When parents were asked if they would have sent all their children to school if circumstances (whatever reason they gave for not enrolling the child) had been different, 224 (85 percent of unenrolled children's parents) said they would have sent all their children. When the remaining fifteen percent were asked whether they would have sent boys, eleven percent said they would have sent boys and not girls, and three percent said they would not have sent either boys or girls under any circumstance. When asked about their girls, fourteen percent said they would not have sent them and one percent said they would have sent the girls if circumstances were different. These statements show the very small numbers of parents willing to express a hard stand against the education of boys and girls.

REASONS GIVEN FOR DROPPING OUT BEFORE COMPLETING GRADE NINE

Table A-21 summarizes the reasons given why younger and older generation members dropped out of school before completing grade nine.[1] In the older generation, most of whom have finished their schooling, 204 (70 percent) enrolled males and 105 (92 percent) enrolled females dropped out before completing grade nine. In the younger generation, age six and over, 145 (16 percent) enrolled males and 111 (21 percent) enrolled females have dropped out up until now, though 622 (70 percent) enrolled males and 386 (73 percent) enrolled females as yet have not completed their schooling.

For older generation males, the most significant reasons why a child dropped out of school were economic reasons, followed by education's lack of relevance (usually to farmers), and finally the lack of accessible facilities and a child's refusal to go to school. Younger generation males dropped out primarily because of problems in school, failed examinations, or a child's refusal to go anymore, usually as a result of bad experiences in school, such as poor performance and school discipline problems.

The rationale behind the younger generation males' dropout points out a new attitude toward schooling for males. Parents are willing to forgo the child's labor, and suffer the economic costs of schooling for males, probably because of the economic and occupational benefits that are now recognized as the rewards of education. They also now expect their male children to continue on to ninth-grade level unless the child does not show aptitude for learning or some other serious circumstance intervenes.

In the case of older generation females, the main reason for dropout was normative and occurred usually around puberty because a family felt a girl had acquired all the education she needed. As far as parents were concerned education was not directly relevant to a girl's future role, and she needed

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[1]Grade nine is used as the basis of comparison because it now represents the end of the compulsory level of schooling. When the older generation went to school and until 1981, however, compulsory education only extended through grade six.

Table A-21:

Summary of Dropout Reasons in the Older and Younger Generations

Reasons	Older Generation				Younger Generation			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
* No school available	26	(13)	2	(2)	0	(0)	1	(1)
+ Costs of schooling/ family poverty	47	(23)	12	(11)	10	(7)	6	(5)
+ Education's lack of relevance	35	(17)	13	(12)	5	(3)	5	(4)
+ Need child's work	43	(21)	15	(14)	12	(8)	30	(27)
* Child's refusal to go°	23	(11)	10	(10)	44	(30)	17	(15)
* School distant	8	(4)	5	(5)	4	(3)	7	(6)
* Failed examinations	15	(7)	9	(9)	60	(41)	18	(16)
+ Chance to marry	0	(0)	14	(13)	0	(0)	9	(8)
+ Custom	0	(0)	22	(21)	0	(0)	13	(12)
+ No birth certificate	1	(0)	1	(1)	0	(0)	1	(1)
+ Mental retardation or illness	5	(2)	0	(2)	7	(5)	2	(2)

* For purposes of this analysis these are considered to be problems which have their locus in school failures.

\+ For purposes of this analysis these are considered to be problems which have their locus outside the school.

° Child refusal to go to school anymore is usually related to discipline problems or poor performance in school.

time to prepare for eventual marriage. A secondary but still important reason for dropout among older generation females was the need in many households for a girl's help with chores and caring for younger siblings, which most parents felt in any case was a better training for her future role as a housewife.

According to parents the main reason younger generation females are removed from school is to help in household labor. In this generation the need for girls' labor becomes markedly more important than need for boys' labor. This change again reflects the importance now placed on the education of boys. If families must tighten their belts they use girls to fill the gap rather than boys, whose future occupations depend much more heavily on their levels of education. In terms of family labor girls also provide more flexibility. Household tasks cannot be easily performed by boys because of role segregation, yet male-designated agricultural tasks can in the last resort be carried out by females. Failed examinations and a child's refusal to go to school are also important reasons why girls of the younger generation drop out but are much less likely than for boys to be articulated as the necessary reason for dropout.

If the reasons for dropout are separated into problems originating from a locus in the school and problems originating from a locus in home or community (see Table A-21), then it appears that dropout causes for males have moved from primarily home/community based in the older generation to primarily school based in the younger generation. For females of both generations, however, a substantial proportion of the reasons for dropout have remained embedded in home and community-based problems. Tables at the end of the appendix break down dropout reasons by site category for each of the generations.

In the older generation, for the most part, differences between the reasons given why urban and rural children dropped out were insignificant. In both, the major reasons given for boys were the costs of schooling or the poverty of the household, and for girls, it was custom. Males were more likely to refuse to go to school in rural communities and were more likely to be needed at home to help out, or failed examinations in urban communities. Girls were needed to help out at home more in rural communities and were also more likely to have failed examinations before dropping out.

Much greater disparity appears in the reasons given in Upper and Lower Egyptian communities for why older generation members dropped out. For boys, costs of schooling or poverty were major in Upper Egypt while schools' lack of relevance was more significant in Lower Egypt. For girls, custom was a major reason overall but was a stronger force in Upper Egypt. In Upper Egypt other reasons related to the special nature of female roles, such as the chance to marry and the accessibility of schools, also tended to be more cogent reasons for asking a girl to drop out. One feels from listening to interviews, however, that these factors are almost as relevant in parts of Lower Egypt but tend not to be couched so explicitly in ways that are recognizably traditionalist. The Lower Egyptian traditionalist will say education was not relevant to the girl, the girl's labor was required, or that the girl refused to continue instead of blaming the cause on custom, even though basically the reason is still sex related.

In the younger generation, the numbers of dropouts are lower because many children have not yet completed their education and for this reason the breakdown by site category can only be considered suggestive. In this generation males in rural, urban, Upper and Lower Egyptian sites dropped out mainly because of failed examinations with the tendency strongest in Upper Egyptian sites. The second major reason in all site categories was the child's refusal to go to school any longer, a reason that for boys usually reflects a bad experience in school related to poor performance, discipline or problems with peers. Other reasons given for male dropout occurred infrequently and carried considerably less weight. Thus the major reasons for why boys dropped out in all site categories had their locus in school-related problems.

Younger generation girls varied considerably by site category in what was the most significant factor affecting their participation. In rural and Lower Egyptian sites the major reason given was that the girl refused to continue either for school-induced reasons or for lack of motivation. In Upper Egypt the main reasons given were the chance to marry or the fact that schools were inaccessible, both factors that tended to affect preparatory-level participation. In urban sites the main reasons were spread equally across four rationales: the need for the girl's work; the child's refusal to continue; a chance to marry; and inaccessible facilities.

Summary of Parent-Identified Factors Affecting Educational Participation

In both generations we see the classic division of economic/occupational reasons affecting the educational participation of boys and normative customs affecting the participation of girls, with both tendencies exaggerated in Upper Egyptian as opposed to Lower Egyptian communities. The main difference between the generations was in the way that these factors were manifested. In the older generation, a male's future was not necessarily bound to an education, and in many rural areas, an education was a luxury most agricultural households could not afford; the boy stayed home. Now the connection between a boy's future and an education is more firmly made and he is likely to continue unless he shows no aptitude or unless an extenuating circumstance arises. Girl's may be asked to assume the economic burdens of the household simply because their long-term rate of economic return is not so great.

An older generation female rarely participated in the educational process because of community-held views of women's roles set firmly in housewifely and motherly duties, to which education seemed only remotely relevant. In the younger generation, a much greater ambivalence exists which allows many parents to send girls with some hope that they will prepare for future occupations while others keep their daughters at home. The fact that a substantial number of urban villagers, who are the most supportive of schooling for girls, can rationalize not sending girls or withdrawing them early, shows that the question of the relevance of education to female needs has not yet been resolved.

THE EFFECTS OF VARIABLES ON EDUCATIONAL BEHAVIOR

The variables considered by parents to have the most impact on the educational participation of children can be aggregated into four categories: those related to the accessibility of schools (availability and distance); economic factors; normative factors concerning sex role behavior; and factors related to problems in the school. In this section we will assess the impact of these variables, to the extent it can be measured, on enrollment and persistence of children in the educational system. The results will be reported also by the educational settings of urban, rural, Upper and Lower Egyptian villages.

The Effects of Distance on Educational Participation

Distance and the general lack of availability of schools were cited as significant factors affecting the educational participation of the older generation and the older members of the younger generation. At present new schools have virtually eliminated the problem of distance for children in communities surrounding them. Nevertheless, because of the concern in locating future project construction, the present community sample can yield useful historical information about distance effects on educational participation.

Initial Enrollment

Parents of the younger generation were asked to estimate the distance to school at the time their children should have entered school. Table A-22 and Figure A-13 shows the ratios of those enrolling in school from different distances. If all children of the attendance area lived within the given radius one would expect to find these ratios of children enrolled. From the figure it appears that boys' initial enrollments are modestly constrained by the effects of distance. By calibrating the distances in more detail this year and providing data on all ten of the intensive site villages, we can narrow the critical threshold of distance to between one-and-one-half and two kilometers.[1] This critical threshold is the distance at which the enrollments of both boys and girls (more seriously in the case of the latter) begin to drop off.

The effect of distance on grade one enrollment is magnified if we look at the ratio of those who enroll at each discrete distance (see Figure A-14). Boys' critical distances remain the same but the girls' threshold begins to appear earlier at between one and one-and-one-half kilometers, and by two kilometers less than half the girls living at this distance enroll in school.

The effects appear more exaggerated in this second figure because the attendance area of a school usually is less populated the further one moves

[1]Last year we reported the threshold distance at between one and two kilometers.

146

FIG. A—13: RADIUS AND RATIO OF ENROLLED YOUNGER GENERATION

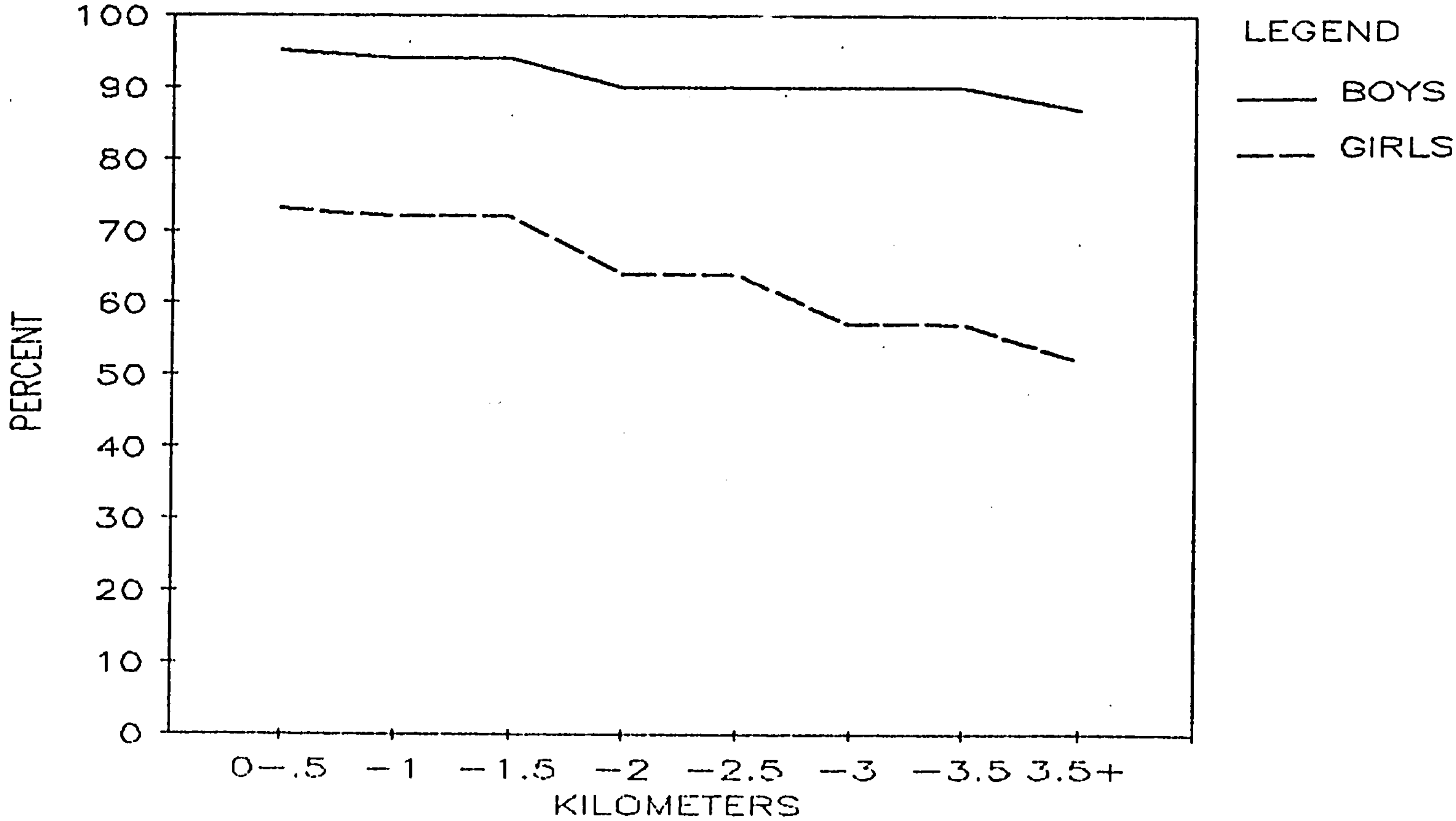
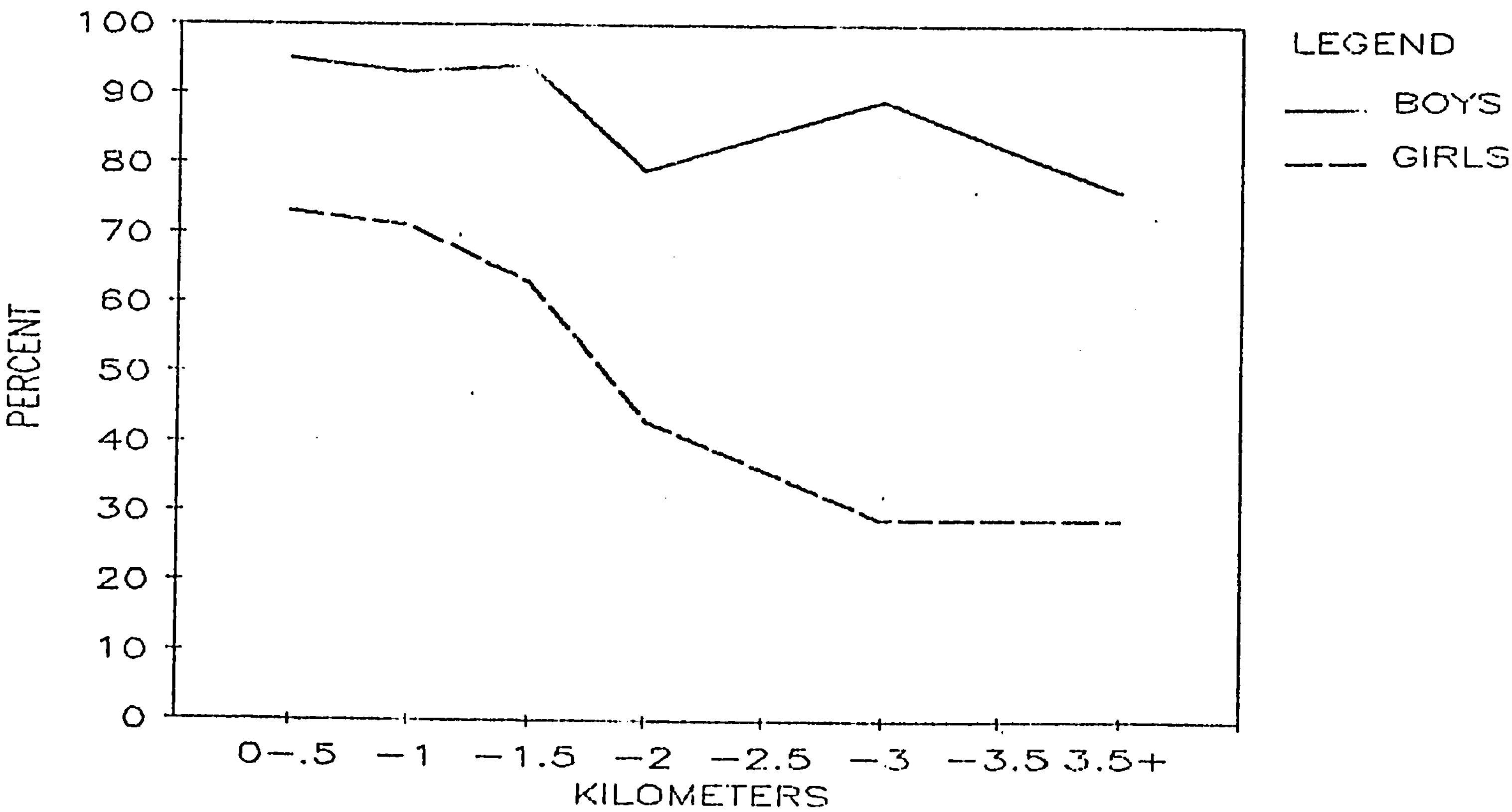


FIG. A—14: DISCRETE DISTANCE AND RATIO OF ENROLLED YOUNGER GENERATION



147

Table A-22:

Distance and Enrollment in Grade One

A school will attract this ratio of children within this radius[1]					A school will attract this ratio of children within these discrete distances				
Distance of School	Enrolled: Males No. %	Enrolled: Females No. %	Younger Generation Total M	Younger Generation Total F	Distance of School	Enrolled: Males No. %	Enrolled: Females No. %	Younger Generation Total M	Younger Generation Total F
0.5	359 (95)	269 (73)	379	370	0.5	359 (95)	269 (73)	379	370
1.0	428 (94)	329 (72)	453	454	1.0	69 (93)	60 (71)	74	84
1.5	460 (94)	344 (72)	487	478	1.5	32 (94)	15 (63)	34	24
2.0	602 (90)	428 (64)	666	675	2.0	142 (79)	84 (43)	179	197
2.5	608 (90)	433 (64)	672	685	2.5	6) (89)	5) (29)	6	10
3.0	737 (90)	473 (57)	817	830	3.0	129)	40)	145	145
3.5+	886 (87)	529 (52)	1014	1024	3.5+	149 (76)	56 (29)	197	194
					Total	886 (87)	529 (52)	1014	1024

[1]This assumes that the sample is representative of school samples generally and that schools serve attendance areas that are densely populated near the center of the site and thinning on the peripheries. The ratio is cumulative.

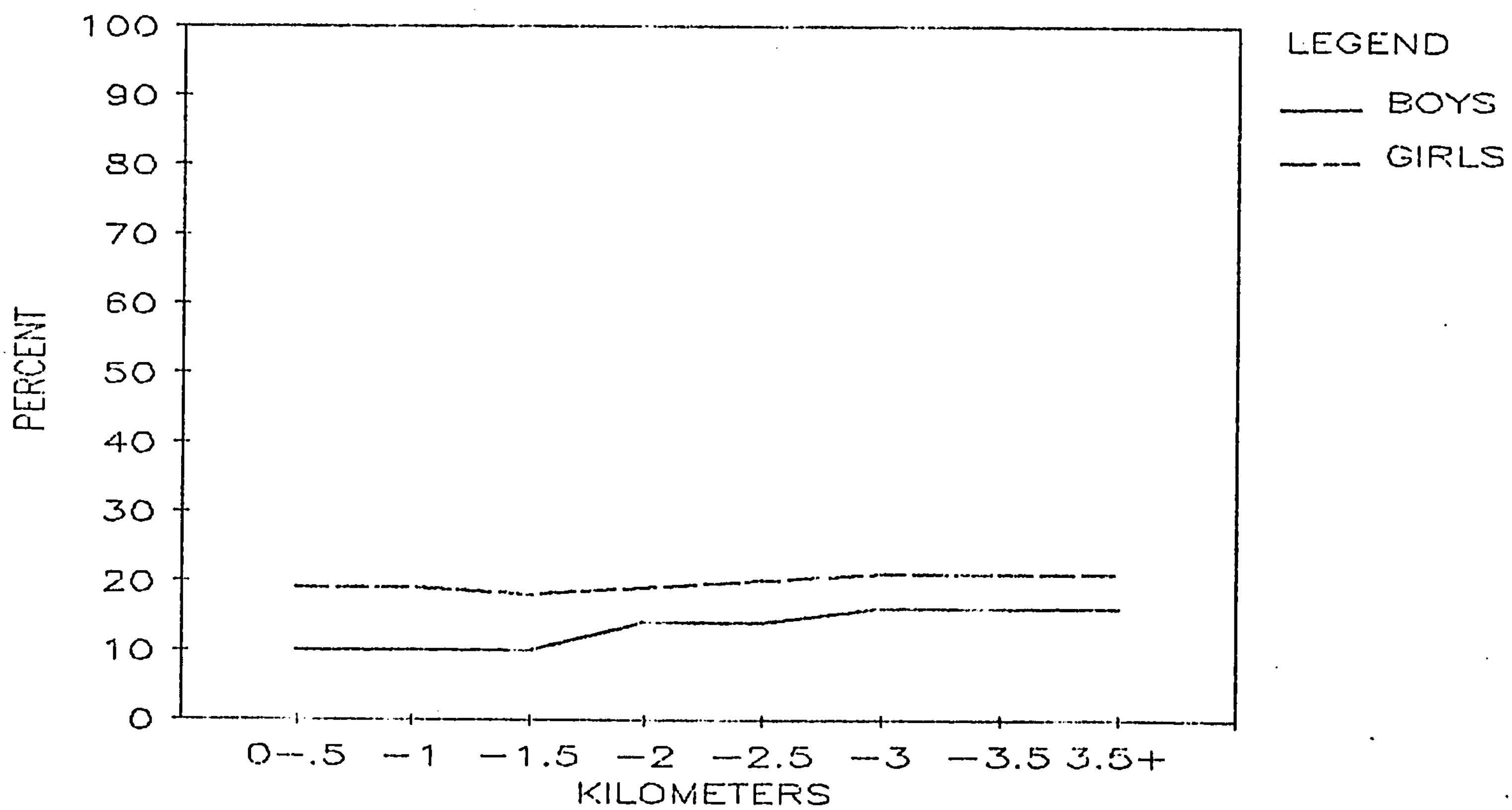
away from the school. As a result there is less impact by these smaller distant groups on the cumulative ratio as seen in the earlier figure. The first figure showing cumulative ratios is the more useful in determining rough projections of the kinds of enrollments a new school will attract if, as is usually the case in Egypt, a new school is located in or very close to a densely populated area, and is expected to serve not only that population but a quickly thinning hinterland. The second figure is one that would be more predictive if populations of an attendance area were spread out in homogeneous concentrations across several kilometers of space.

Note that at three kilometers boys' ratios of enrollment increase in Figure A-14. This is because in some of the sites the only schools available existed three kilometers away from children's homes. The choice for parents in these sites became one of whether to educate their children or not, and in many instances, education was chosen as more important than distance for the boys, but not for the girls. The effects of distance continued in regular relationship to affect the girls' enrollments out to about three kilometers and then stabilized at a hard-core group of motivated schoolgoers.

Persistence

From Figure A-15 again we see what would happen to dropout rates if we place a new school within different distances of the homes of children in an attendance area that is concentrated near the school and thinning out at

FIG. A--15: RADIUS AND RATIO OF DROPOUT
YOUNGER GENERATION



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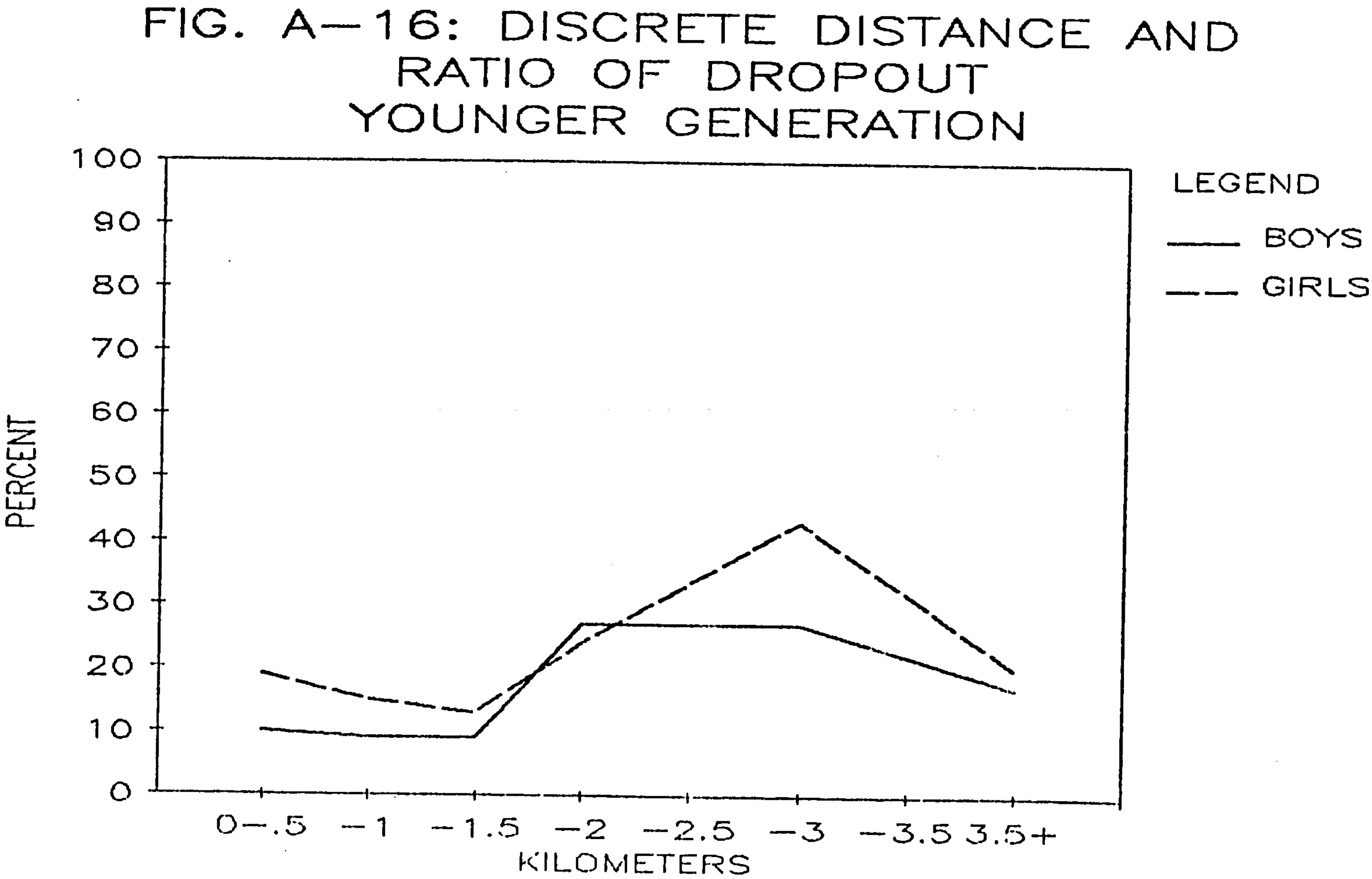


greater distances. In such a situation dropout rates appear to stay relatively stable to between one-and-one-half and two kilometers' distance, and then are elevated only slightly.

Table A-23 and Figure A-16, showing the ratios of those who live at discrete intervals who drop out, demonstrates a more significant, though not completely, regular impact of distance on dropout. Up to one-and-one-half kilometers, there appears to be little impact of distance since boys and girls who have overcome the initial hurdle of distance by enrolling, are not as likely to find the problem significant thereafter, at least now until the issue arises again at preparatory level. Between one-and-one-half and three kilometers, dropout rates reach their zenith for girls and, even more dramatically, for boys. It is possible, though not confirmable with present data, that there is a relationship between distance and regular attendance, in turn affecting performance and grade repetition (which we shall see later is a leading antecedent of dropout for boys). Idiosyncratic to the sample sites is the community of Manshat al Awkaf where primary and preparatory schools have been located about three or more kilometers away and where industrial opportunities in the past have encouraged children to drop out and go into training after grade six. This accounts for at least part of the exaggerated effect on boys' dropout rates at three kilometers.

Dropout rates in Figure A-16, also decrease at three plus kilometers and this may again be an effect of a different set of choices. Children living this distance almost all go to grade levels higher than six, where aspirations to continue may be stronger, and many weaker students may have already left the system.

150

Table A-23:

Distance and Dropout

Childrens' Dropout Rates at Different Distances from Schools						
Distance from School	Dropouts				Enrolled Children	
	Males		Females		M	F
	No.	%	No.	%		
0.5	36	(10)	52	(19)	359	269
1.0	6	(9)	9	(15)	69	60
1.5	3	(9)	2	(13)	32	15
2.0	39	(27)	20	(24)	142	84
2.5	2)	(27)	3)	(38)	6	5
3.0	34)		14)		129	40
3.5+	25	(17)	11	(20)	149	56
Total	145	(16)	111	(21)	886	529

Educational Settings

Figures A-17, A-18, A-19, and A-20 show the effects on enrollment and dropout of placing a school at different distances in different educational settings. Even though the level of initial enrollment is consistently higher in urban as opposed to rural sites the rate of effect appears to be the same for boys in both types of site, and girls in both types of site. Differences are of course apparent between the sexes but both have a critical threshold at about the same one-and-one-half to two kilometers. The same comments hold true for Upper and Lower Egyptian sites though there is not as much disparity in levels of enrollment between types of site and there is a slightly different pattern for both.

151

FIG. A-17: RADIUS AND RATIO OF ENROLLED YOUNGER GENERATION URBAN/RURAL SITES

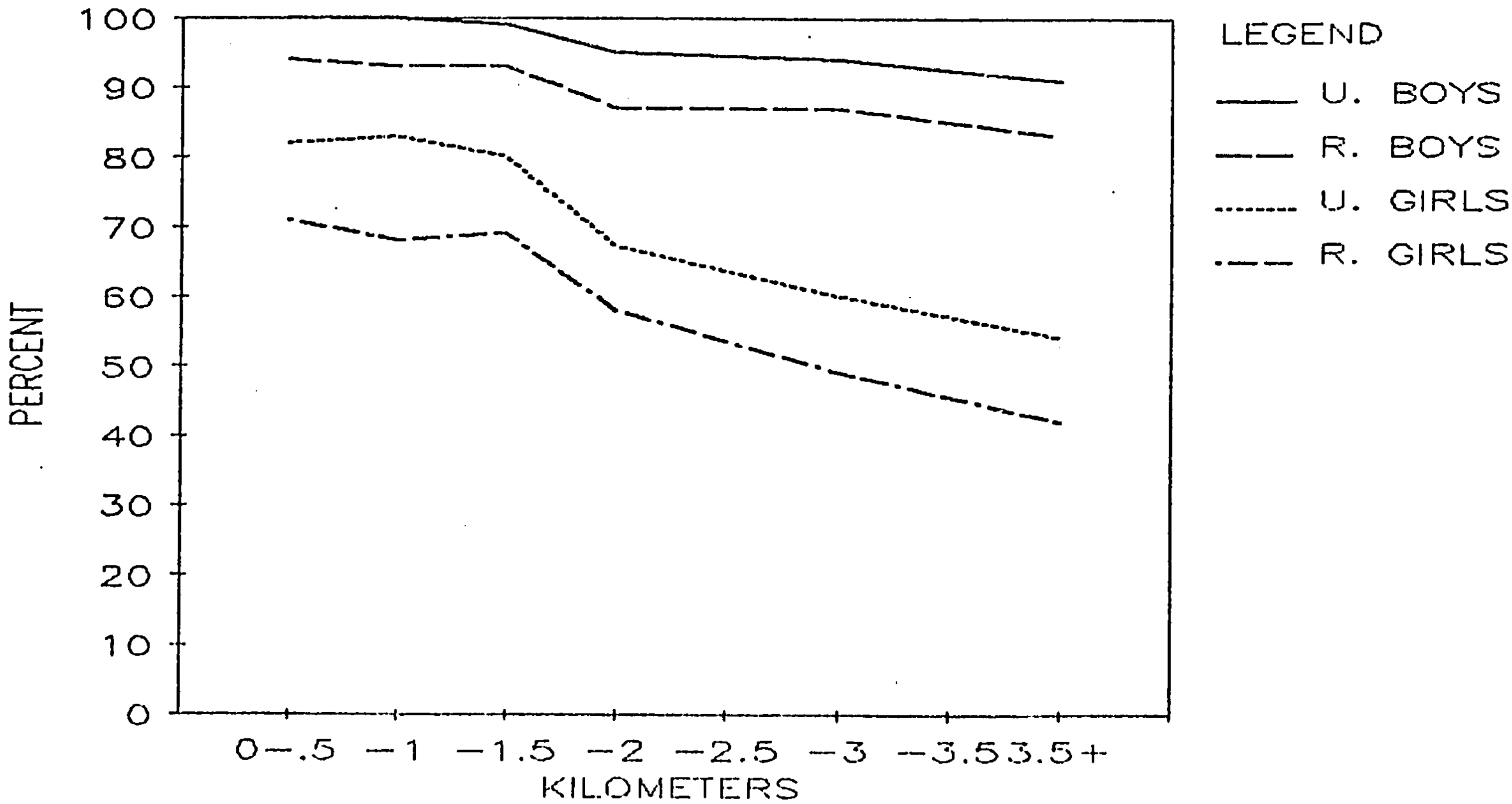


FIG. A-18: RADIUS AND RATIO OF DROPOUT YOUNGER GENERATION URBAN/RURAL SITES

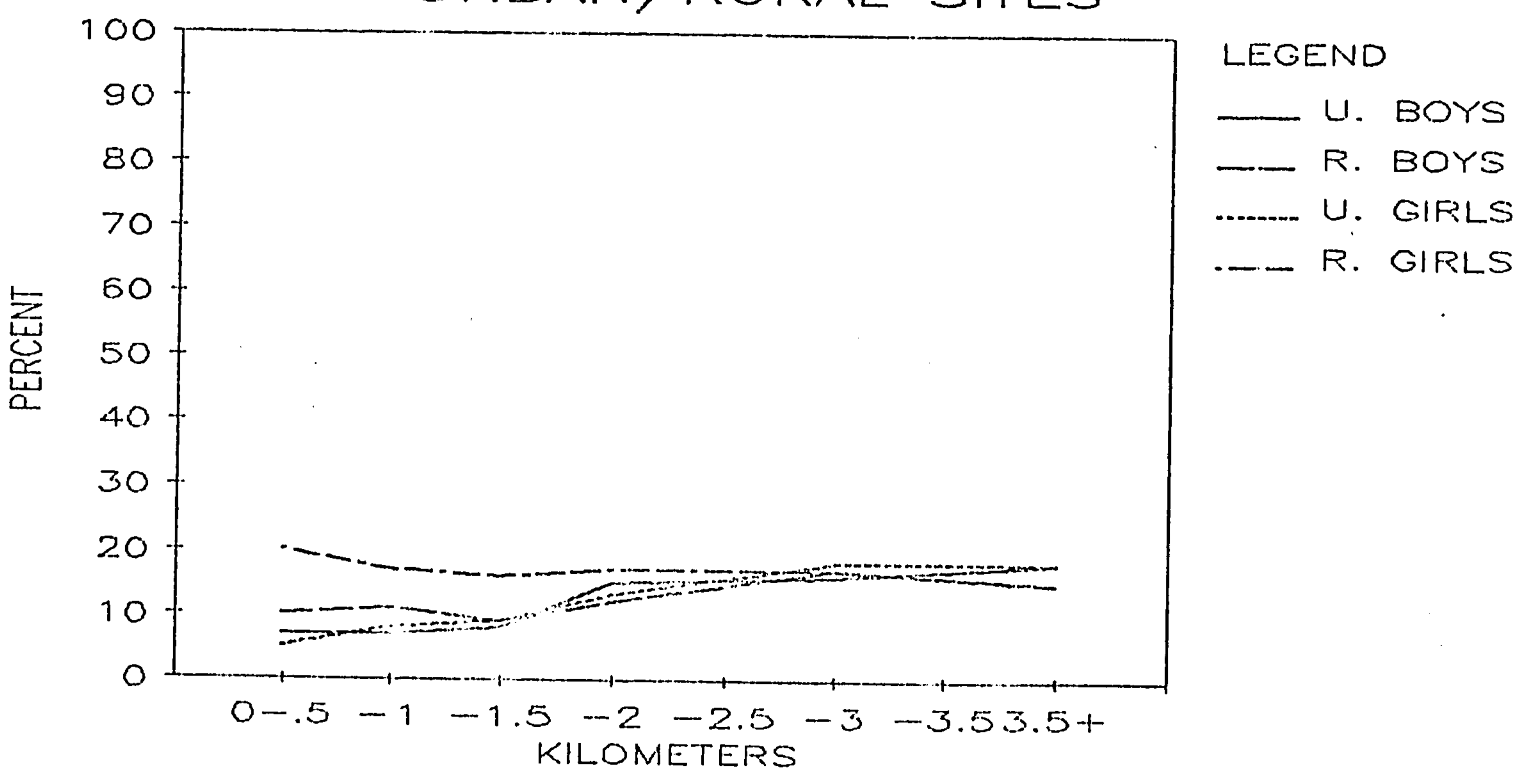


FIG. A-19: RADIUS AND RATIO OF ENROLLED YOUNGER GENERATION REGIONAL SITES

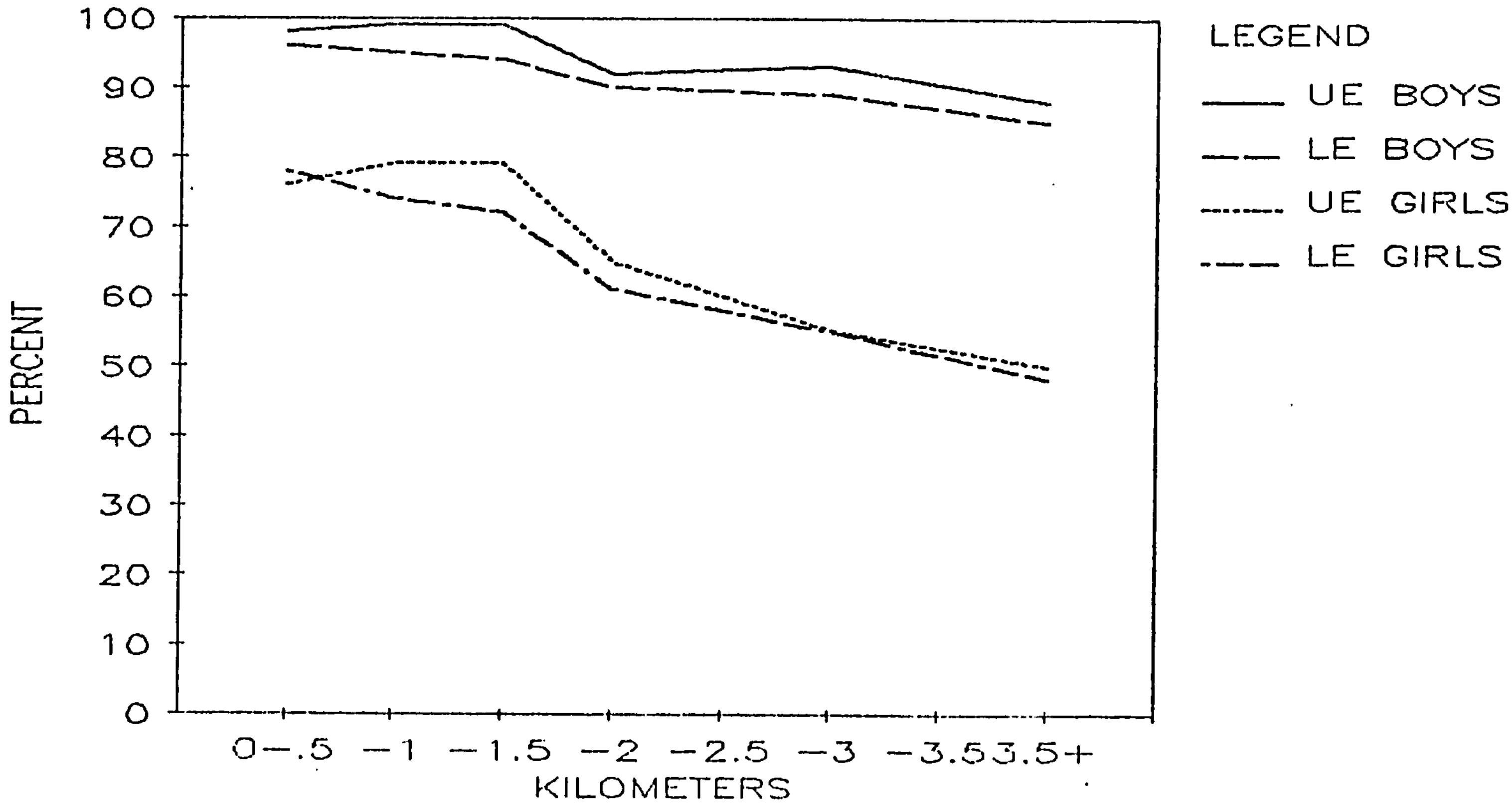
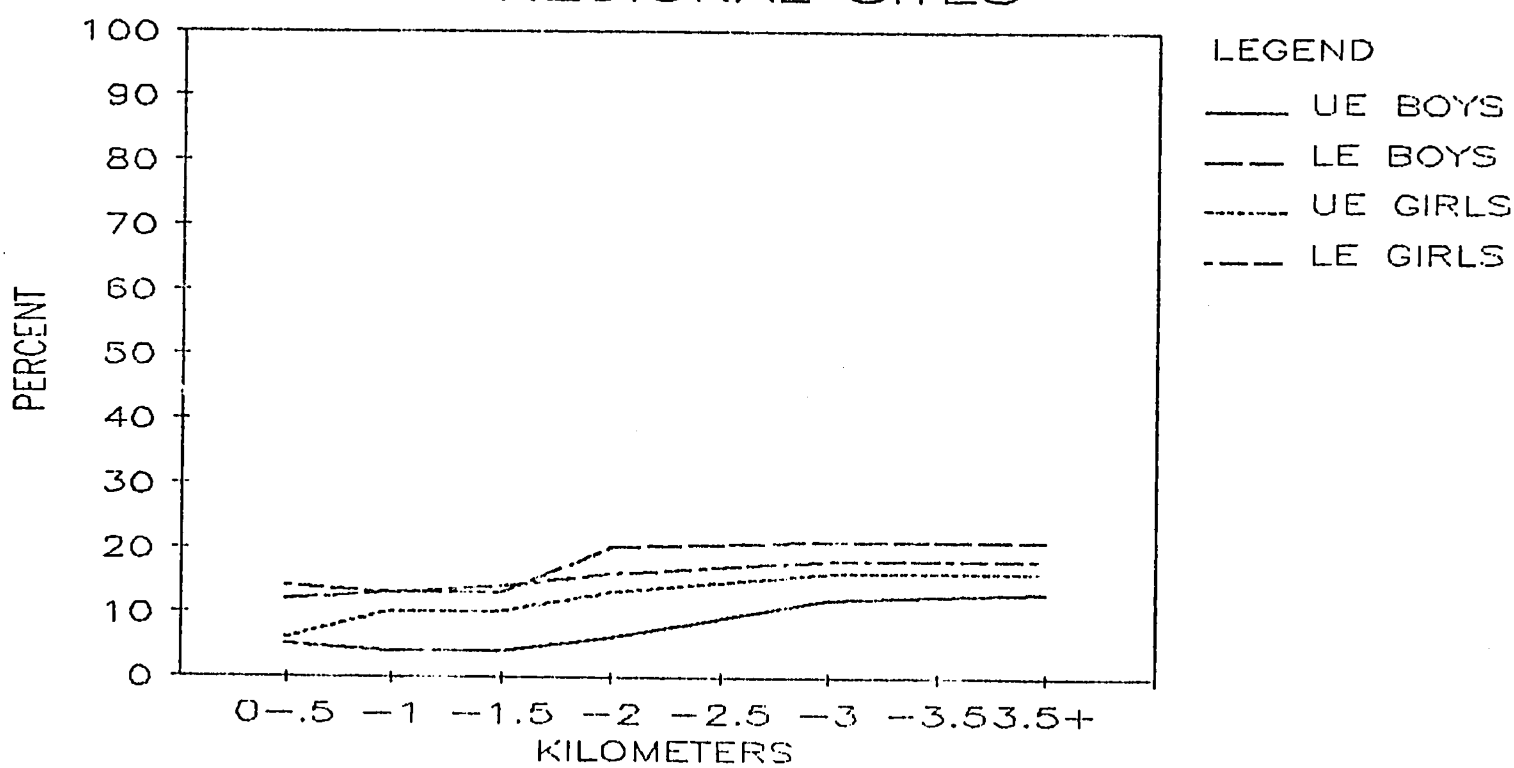


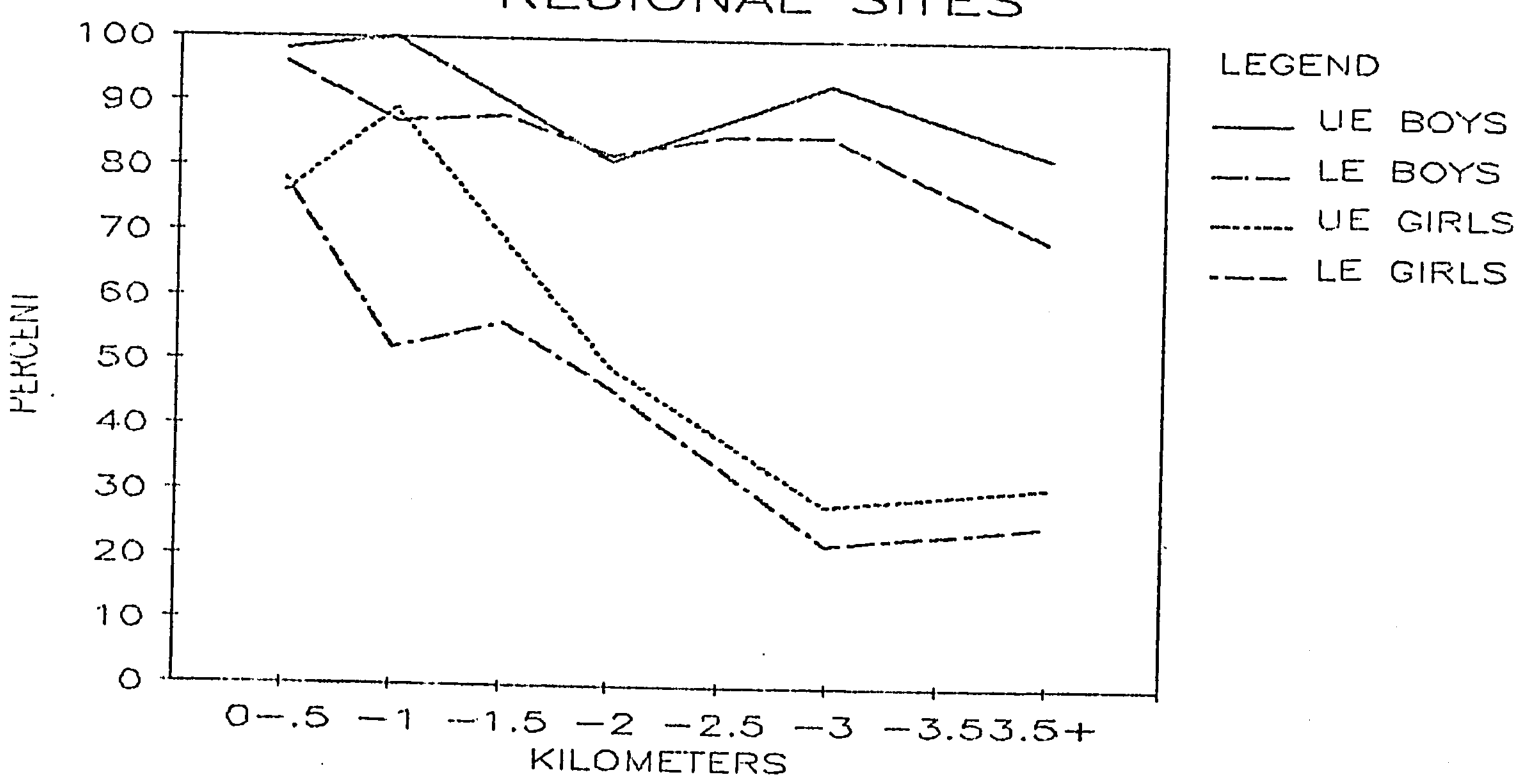
FIG. A-20: RADIUS AND RATIO OF DROPOUT YOUNGER GENERATION REGIONAL SITES



Dropout rates for boys and girls in all settings are affected little by distance given the same model of school attendance areas, concentrated near the school and thinning out at the periphery.

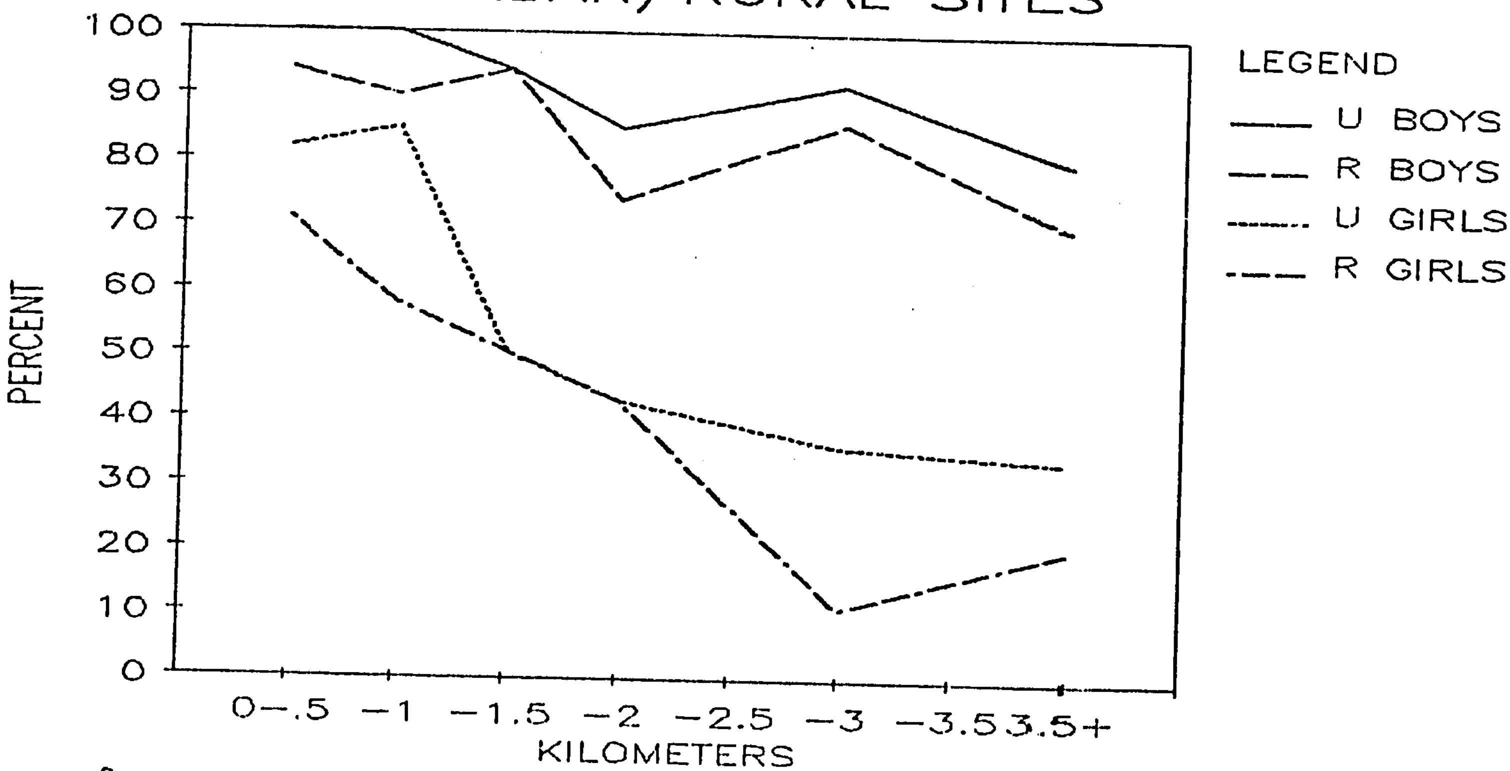
Aggregating the data by discrete distances again highlights the effects of the special circumstances of some of the villages (see Figures A-21 and A-22) and shows even more clearly the greater impact of distance on girls' enrollments than boys' enrollments. Overall the differences in the impact of distance are more important between the sexes than across the range of educational settings.

FIG. A—21: DISCRETE DISTANCE AND RATIO OF ENROLLED YOUNGER GENERATION REGIONAL SITES



154

FIG. A—22: DISCRETE DISTANCE AND RATIO OF ENROLLED YOUNGER GENERATION URBAN/RURAL SITES



Summary

The proportion of children enrolling initially decreases as homes are located farther and farther away from schools. This is true in all educational environments for boys and girls, and especially the latter. The point at which enrollments begin to drop off more rapidly is between one-and-one-half and two kilometers. A school located within this radius of the homes of most of those in its attendance areas will attract the optimum levels of children not constrained by other factors. Within one-and-one-half kilometers, if the sample is representative of rural communities, the school will attract roughly 94 percent of the boys and 72 percent of the girls. At two kilometers these percentages will be reduced to 90 and 64 respectively. Dropout rates are only modestly affected by distance. Once children enter school, this variable is eliminated as a direct constraint until the question of whether to go to a distant preparatory school again brings it to the fore.

THE EFFECTS OF CROWDING ON EDUCATIONAL PARTICIPATION

Though parents rarely pinpointed rejection of a child as a reason for not enrolling, evidence is mounting that in some communities crowding has at least a subconscious if not a conscious effect on the decision to send children to school. Coupled with distance, insufficient places in grade one classes can compound the constraints on initial enrollment levels. Some schools have a policy in the case of crowding of taking children who live nearer to a school in preference to those from satellite villages or those who live at a greater distance. In this way crowding produces a double disadvantage for those living at some distance. Crowding is most important at the grade one level when it limits enrollment and prevents children from obtaining an education. Once a child enters the system authorities generally find a way to provide sufficient places and it would be unusual to find a child forced out of primary school because of insufficient places. At the preparatory level, however, the issue is raised again, just as for distance, and depends upon the availability of facilities within reasonable commuting distance.

Crowding is a controllable factor (given sufficient resources). It is treated here in a special section because evidence of its effects is anecdotal and available on a case-by-case basis, rather than through summary statistics. Local school administrators are not willing to admit that children are refused admission to school because of lack of space, and authorities at higher levels are usually not appraised of the magnitude of the problem except when pressure is being exerted to expand the local school. Our own information is often circumstantial.

In the intensive communities or their related schools we have come to recognize the signs of crowding:

- increasing numbers of students per class as grade level becomes lower, culminating in the largest class size at grade one;
- children sitting several to a school bench in spaces meant for fewer children, and aisles reduced to a minimum or eliminated altogether;
- boys and girls in too close proximity for social convention (most classrooms, however, are divided into sections for boys and girls);
- large student-teacher ratios;
- inappropriate spaces being utilized for classrooms;
- facilities and grounds showing the excessive abuse of overpopulation and educational programs declining in quality as student-teacher ratios rise;
- grade one populations suddenly becoming smaller than the trends of previous years would lead one to expect;
- girls' ratios of total grade one enrollments decreasing in comparison to previous years' ratios as parents and administrators consciously or unconciously show a preference for enrolling boys;
- boys' ratios of total grade one enrollments becoming unnaturally low as parents and administrators admit girls in schools close to home and send boys to schools where there is room farther away;
- overall decreases in the ratio of girls to age group who enroll in grade one because, though administrators have restricted admission of both sexes equitably, boys register

in schools farther away that girls, because of the distance, are unable to attend; and

- age limits for admission are set above the six-year old birth date, or certain age groups are skipped altogether when it becomes apparent that the school will not be able to catch up with demand in successive years.

One new school in Manshat al Awkaf took three classes of first graders in the first year it opened, and then could only take one class the second year. In that school, girls' ratio of total enrollment dropped from a high 51 percent the first year (probably a catch-up figure) down to 35 percent the second year. In the new school in Kafr Nakla, enrollment in the grade one class has reached a very crowded 61 children. A third school, Nag al Tarif, opened this year with two grade one classrooms, making it impossible to open a grade six class. Next year only one grade one will be accepted into the school and grade six will continue to be precluded. In the past, crowding in the nearby schools of the village has meant that parents enroll children in the al Azhar system. In all these new schools, the potential to raise enrollments is constrained by a lack of space, and the expectation that they will expand to nine grades is precluded altogether. When asked if sufficient space existed in their local primary school, parents in four of the intensive communities said "no" 30 percent of the time. (In only one case, however, had a new primary school been opened at the time.)

In one related school system, Nida in Sohag governorate, this year's grade one contains 50 students below what the trends predict and the four schools of the area are double shifted to the limit. In another school, close to a USAID-funded school, when parents were allowed to pay for an extra grade one classroom, girls' enrollments in that class comprised 50 percent of the total, compared to 18 percent in other grade one classes.

These foregoing observations are consistent with the following extensive study findings (Appendix P):

- Eleven of the 23, 1983 new schools attracted first-grade enrollments equal to or greater than 45 students per class.

- Two years later 15 of these 23 schools had first grades with enrollments equal to or greater than 45 students per class.

- Average impacts of these new schools on grade one enrollments decreased in the two years after the schools opened, and the decreases tended to occur in those sites where the new school first grades approached crowding in the first year.

The decreasing impacts of the new schools over time, a consistent finding in both 1983 and 1984 new school sites, might be explained in part by the fact that in many of the schools the first grades quickly become crowded.

Schools have formal, approved and informal, unapproved ways of dealing with the problem of crowding. As already mentioned, the school can adjust the age of admission to the school's capacity to hold pupils. Several administrators have told us they limit grade one admissions to the numbers of classrooms made available by grade six departures. In terms of the pyramidal nature of population growth and educational trends, this means that grade one class numbers are regulated by the places left free by the smallest cohorts in the school.

When numbers of students exceed the ability of the school to regulate them by varying admission age, the next step may be split shifting or scheduling some grades in the morning and others in the afternoon, still under the supervision of one administration. Another interim solution, if the excess is limited to one class, is the "flying classroom," in which students successively occupy rooms vacated by classes out to physical education or practical courses. As crowding increases in severity, administrators may go to full double and eventually triple shifting with the administration of each shift being organized as though it were an independent school. At this point extra classrooms must be constructed, or new schools established in the area to serve future increments in enrollment.

The consequences of crowding on facilities and educational programs is obvious. The quality of teaching declines as size of class cohorts increase, instructional materials and equipment become inadequate, and workshop space becomes too small for hands-on experience in practical courses. Student achievement declines and examination failure increases, compounding the problem of crowding by causing children to repeat grades. Some schools appear to set tough examinations at grades two and four and then hope that children will drop out to relieve teachers of high numbers of students, especially those with weaker academic skills. We are not, however, able to determine a consistent proxy for either physical crowding or qualitative decline in educational programs by using teacher/pupil ratios in individual classrooms since the effects of crowding results from the interaction of numbers with physical space and teacher capability. Overall however, a comparison of teacher/pupil ratios shows the city schools to have the highest rates, followed by related and then new schools.

The problem of crowding is becoming more and more serious despite a vigorous building program, and appears to be the fate of all schools sooner or later if our experience is valid. The average number of children per household in our sample averaged 6.47 (5.6 of whom are six years of age or older). If five children on an average per household require places in school, then for every eight households with school-age children, approximately one classroom is required. Given the pressing need and limited resources, double shifting appears inevitable and an acceptable, even though not ideal, way of utilizing facilities to their utmost.

Recent Expansions in Enrollments

Tables A-24 and A-25 show percentage increases in enrollments in grade one and seven over the last three- and six-year periods in schools of the five governorates where new schools are being constructed. The variation is considerable. Governorate and district level statistics tend to represent relatively closed systems and therefore reflect an average tendency in a region as a whole. City systems vary enormously because of the number of students attracted from the hinterlands. As soon as schools open in the

Table A-24:

Recent Percentage Increases in Primary (Grade One) Enrollments Over Three (1983/4-1985/6) and Six Years (1980/1-1985/6)

School System	Increases in grade one enrollments in last three years	Increases in grade one enrollments in last six years
Bahira Governorate	10%	38%
Hosh Isa District	-2%	44%
Hosh Isa City	-18%	-8%
Mahmudiya District	15%	44%
Mahmudiya City	18%	16%
Kafr al Duwar District	13%	41%
Kafr al Duwar City	n/a	9%
Kafr al Shaikh Governorate	15%	n/a
Mutubis District	30%	n/a
Mutubis City	9%	36% (over 5 years)
Sohag Governorate	8%	29%
Akhmim District	n/a	n/a
Akhmim City	30%	39%
Assiut Governorate	20%	48%
Manfalut District	19%	43%
Manfalut City	5%	46%
Ghanayim District	n/a	n/a
Ghanayim City	n/a	n/a
Qena Governorate	9%	31%
Nag Hamadi District	7%	22%
Nag Hamadi City	12%	39%
Naqada District	27%	28%
Naqada City	49%	59%
Luxor District	10%	32%
Luxor City	n/a	n/a

159

Table A-25:

Recent Percentage Increases in Preparatory (Grade Seven) Enrollments Over Three (1983/4-1985/6) and Six Years (1980/1-1985/6)

School System	Increases in grade seven enrollments in last three years	Increases in grade seven enrollments in last six years
Bahira Governorate	11%	39%
Hosh Isa District	20%	53%
Hosh Isa City	32%	16%
Mahmudiya District	25%	40%
Mahmudiya City	-2%*	5%
Kafr al Duwar District	17%	40%
Kafr al Duwar City	n/a	n/a
Kafr al Shaikh Governorate	12%	n/a
Mutubis District	19% (2 years only)	n/a
Mutubis City	19%	62%
Sohag Governorate	9%	58%
Akhmim District	n/a	n/a
Akhmim City	6%	46%
Assiut Governorate	17%	46%
Manfalut District	20%	27%
Manfalut City	17%	18%
Ghanayim District	20%	45%
Ghanayim City	-17%*	4%
Qena Governorate	15%	66%
Nag Hamadi District	17%	84%
Nag Hamadi City	19%	35%
Naqada District	23%	60%
Naqada City	-26*	-15%*
Luxor District	28%	91%
Luxor City	n/a	n/a

*These are small city systems affected by recent openings of nearby preparatory schools.

surrounding countryside, students withdraw from city schools and return to their villages. The tables provide a rough measure of where growth has taken place, whether as a result of new construction or of pressure that has forced older schools to expand their capacity by double or split shifting. The ratio represents the present level of enrollment over a base 100 from three or six years ago.

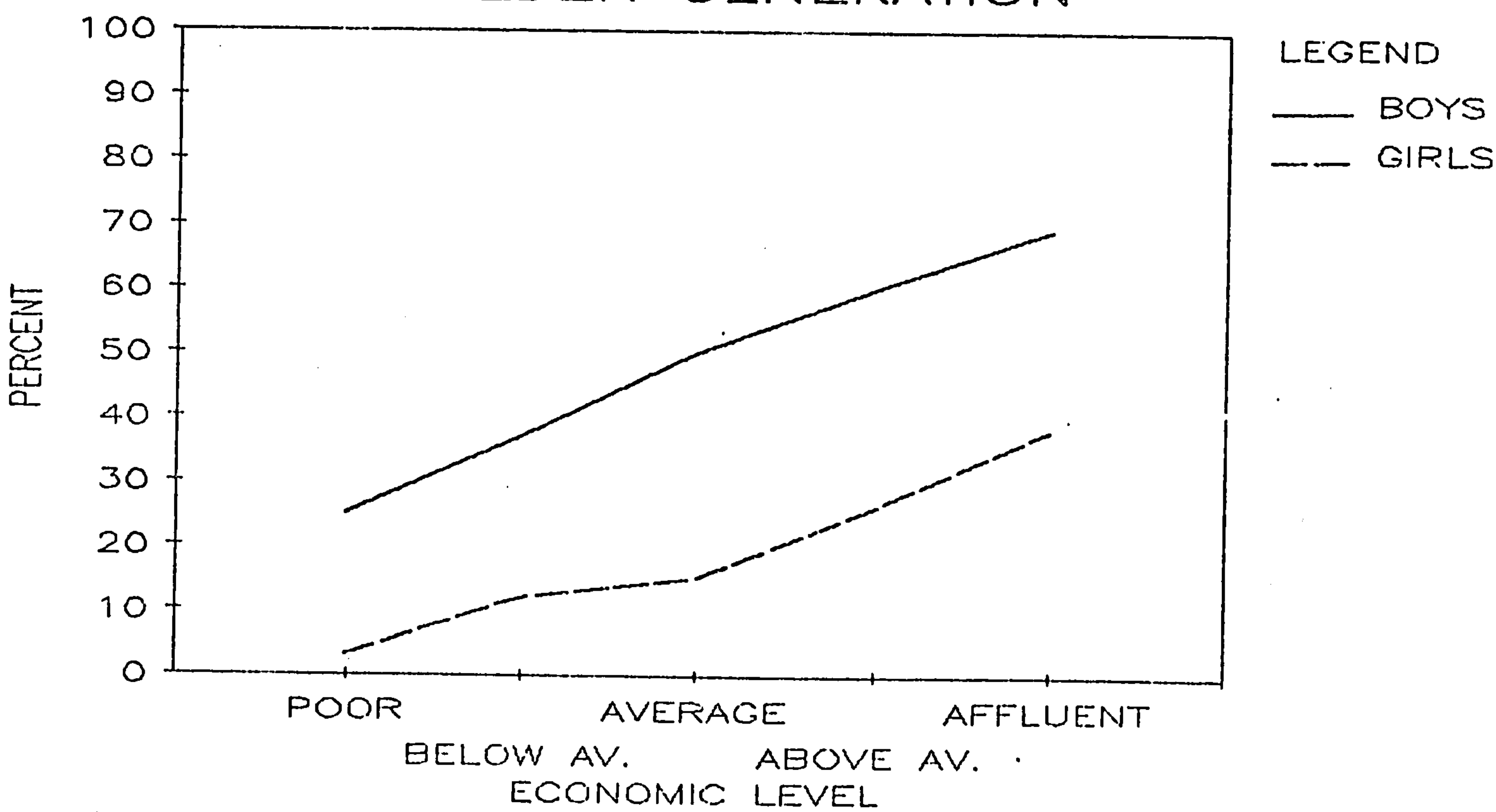
160

THE EFFECTS OF SOCIOECONOMIC LEVEL OF THE HOUSEHOLD ON EDUCATIONAL PARTICIPATION

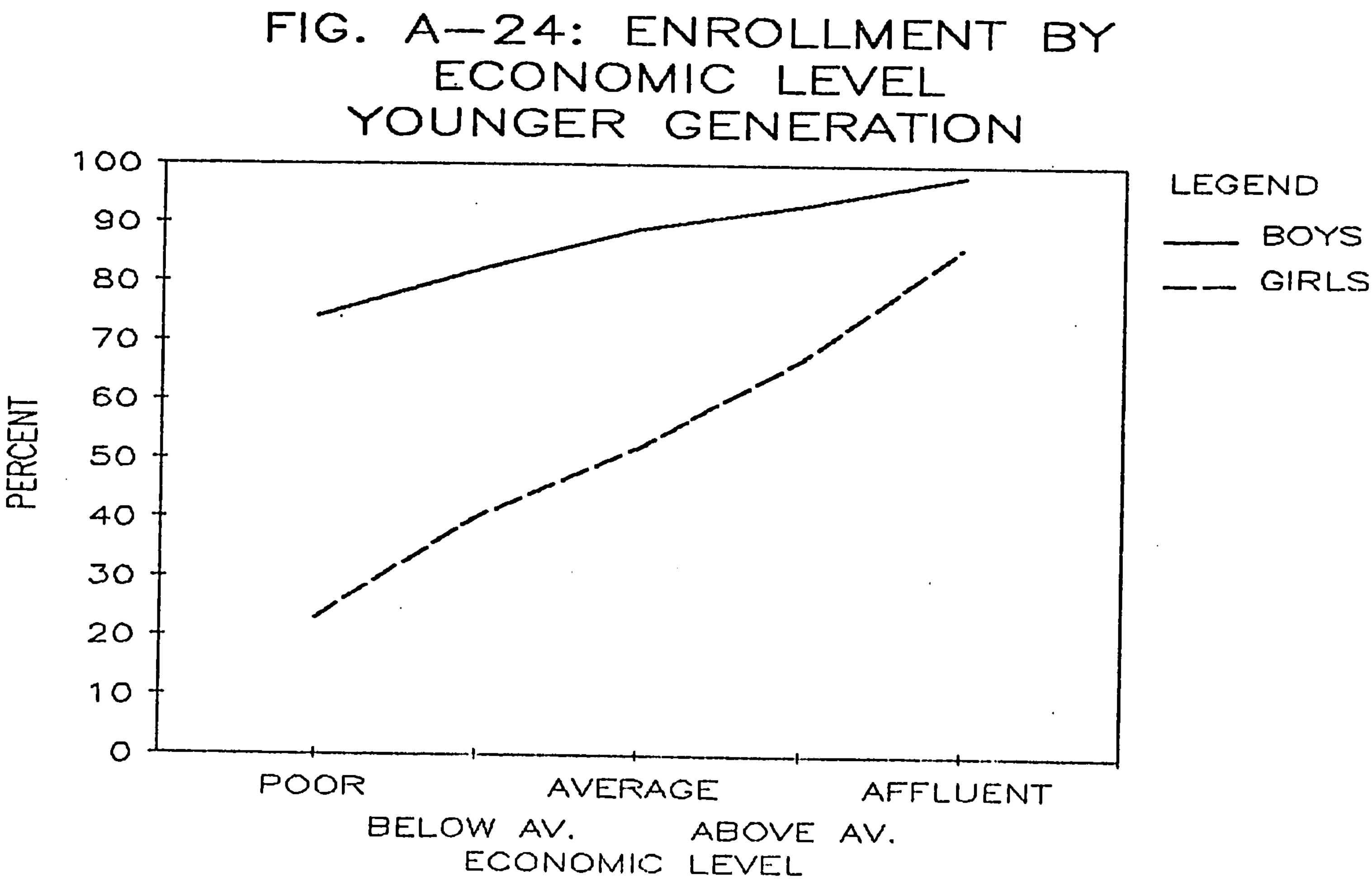
Enrollment

Table A-26 and Figures A-23 and A-24 show the relationship between the economic level of the household and initial enrollment in the older and younger generations. In both older and younger generations there is a consistent and strong relationship such that as the economic level of the household[1] rises so does initial enrollment in grade one for both boys and girls.

FIG. A-23: ENROLLMENT BY ECONOMIC LEVEL OLDER GENERATION



[1]Economic level of the household is determined as of the present and therefore may not accurately reflect the condition of the households of older generation members at the time they would have entered school. In fact the present economic level may be partly an outcome of previous older generation educational participation. This, however, does mean that the older generation cannot be used as a base of comparison for the younger generation's educational participation.



In the older generation the rate of increase in initial enrollment as economic level rises is slightly higher for boys than girls, while in the younger generation that trend reverses and the rate increases considerably faster for girls than boys. From household interviews, this change seems to occur because in all socioeconomic groups educational skills have now come to be valued as having an economic benefit in the occupational training for boys that offsets the costs to the family of schooling. Poorer-than-average families under these circumstances become more willing to suffer the burdens of long-term schooling. At the same time, because the connection between education and family benefits are not so apparent in their case, girls are now asked to bear the burden of remaining at home to help in household tasks, to earn income in wage labor or simply to save the costs of schooling.

The generally consistent relationship persists between economic level and initial enrollment of older and younger generation in most of the school contexts of Upper and Lower Egypt and urban and rural villages (See Figures A-25, A-26, A-27, and A-28). As one would expect, in the older generation the levels of male enrollment differed more dramatically between urban and rural sites than between Lower and Upper Egyptian sites. That case was not true among the younger generation, probably for the reasons noted above, that the economic benefits of education were more often recognized by the parents of the younger generation. The rural sites kept male children out of school in greater numbers in the below-average and average households than urban villages, in this case, probably again because of the need for child labor on small landholdings. Upper Egyptian parents' high level of motivation for educating their male children is reflected in the high stable levels of boys' enrollments at all economic levels.

162

Table A-26:

Educational Participation by Economic Level:
Younger Generation Six Years and Older

Educational Status		Poor	Below Average	Average	Above Average	Affluent	Total
Never Enrolled	M	30 (26)	40 (18)	42 (11)	14 (7)	2 (2)	128
	F	105 (77)	150 (60)	156 (48)	69 (33)	15 (14)	495
Currently Enrolled	M	56 (48)	116 (53)	262 (67)	128 (63)	60 (67)	622
	F	25 (18)	74 (30)	129 (39)	99 (48)	59 (57)	386
Dropout	M	24 (21)	42 (19)	47 (12)	24 (12)	7 (8)	144
	F	6 (4)	22 (9)	35 (11)	25 (12)	23 (22)	111
Completed Grade 9	M	7 (6)	19 (9)	38 (10)	36 (18)	20 (22)	120
	F	1 (1)	2 (1)	8 (2)	14 (7)	7 (7)	32
Total	M	117 (101)	217 (99)	389 (100)	202 (100)	89 (99)	1014
	F	137 (100)	248 (100)	328 (100)	207 (100)	104 (100)	1024

Economic Levels: Poor, Below Average, Average, Above Average, Affluent.

FIG. A—25: ENROLLMENT BY ECONOMIC LEVEL OLDER GENERATION URBAN/RURAL SITES

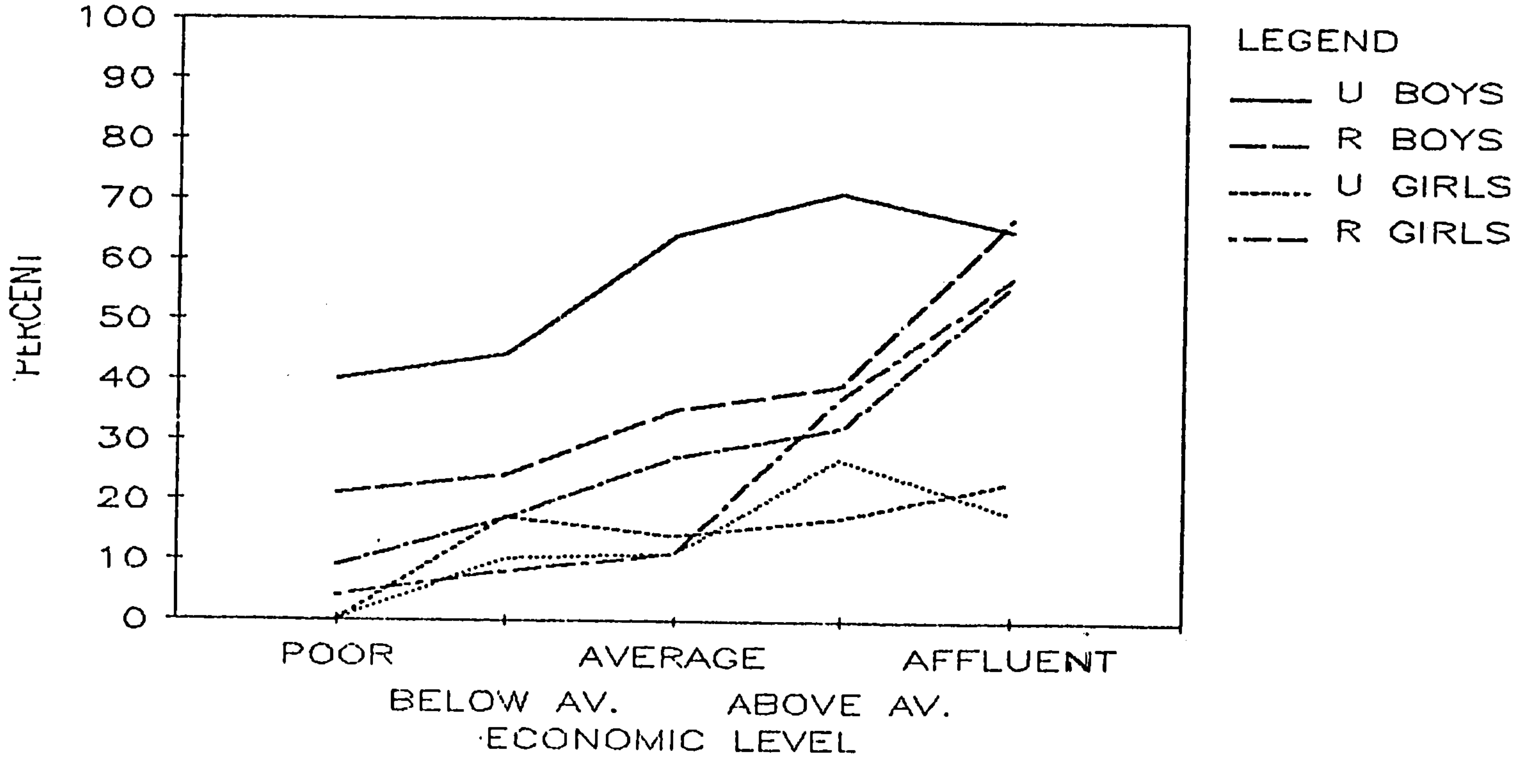
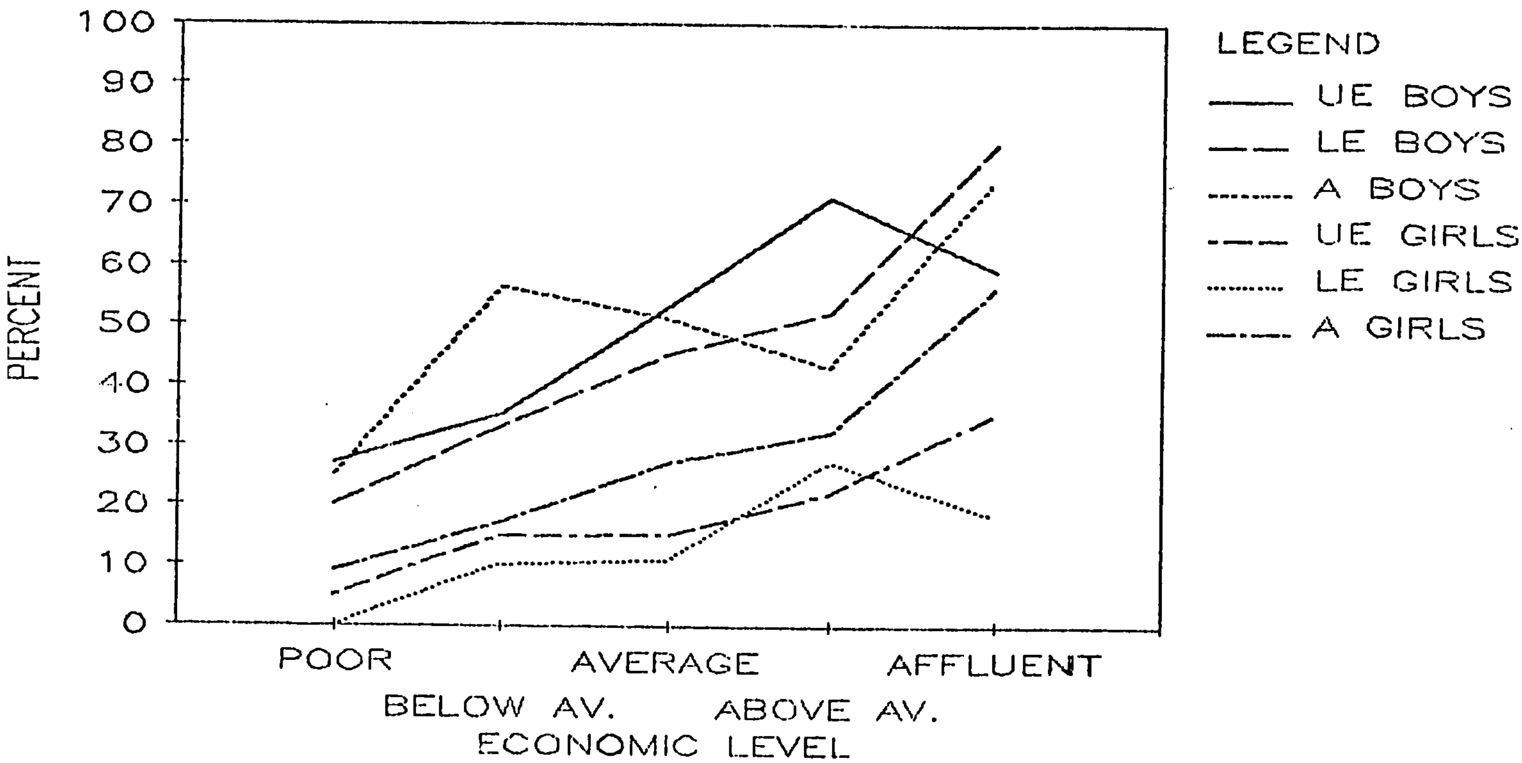


FIG. A—26: ENROLLMENT BY ECONOMIC LEVEL OLDER GENERATION REGIONAL SITES



164

FIG. A—27: ENROLLMENT BY ECONOMIC LEVEL YOUNGER GENERATION URBAN/RURAL SITES

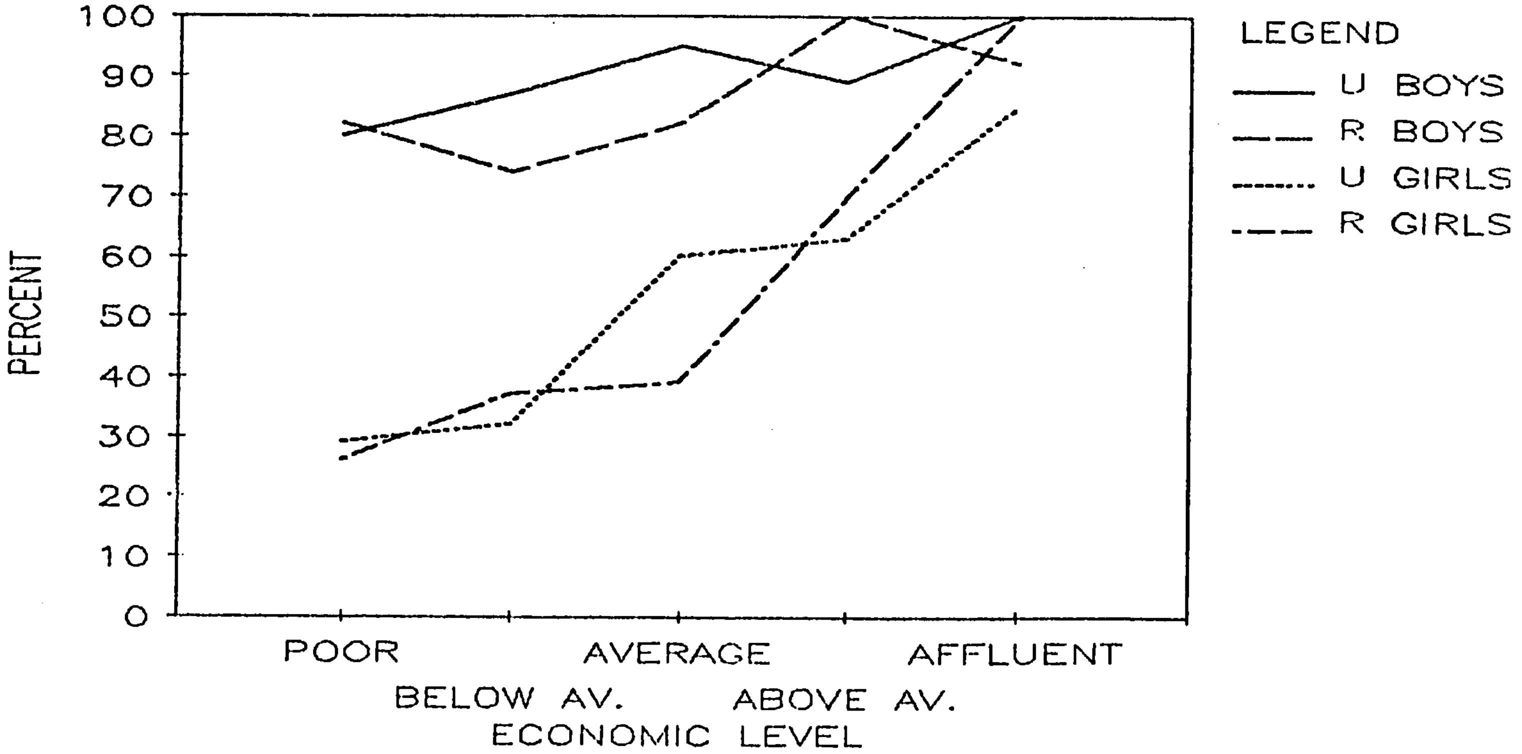
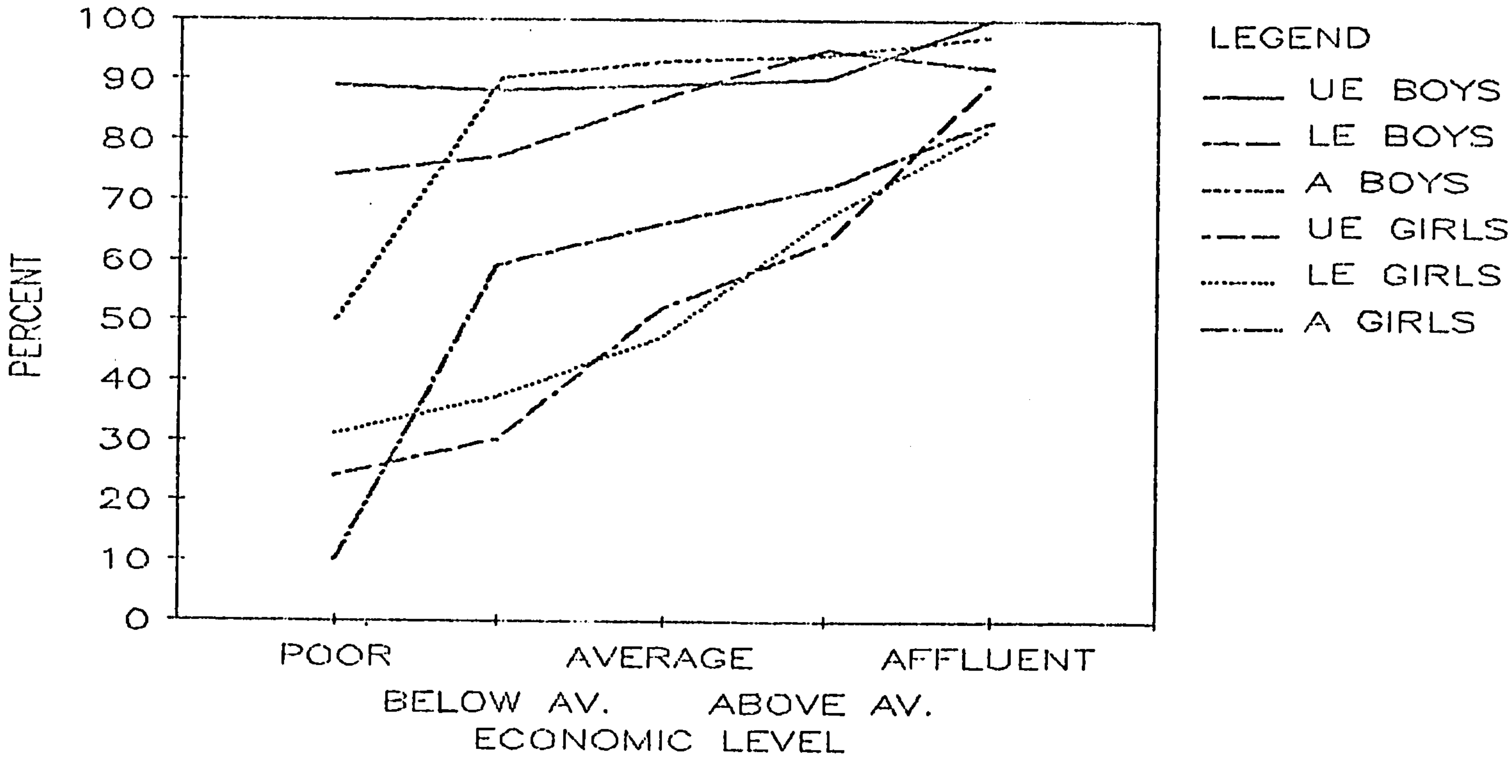


FIG. A—28: ENROLLMENT BY ECONOMIC LEVEL YOUNGER GENERATION REGIONAL SITES



Girls' rates of enrollment in the younger generation in all the site categories were consistently and regularly related to economic level of the household, and appeared to be more heavily dependent on these factors than boys. There was little significance to the disparities between urban and rural or Upper and Lower Egyptian sites. The Assiut sites, however, showed the strong constraining effect of the lowest level of poverty on girls' and boys' enrollments.

Reasons for Not Enrolling by Economic level

When we break down the reasons why children didn't enroll by economic level we find some subtle distinctions. Numbers of cases, especially among boys, are small so patterns are only suggestive.

In poor households expense is the overriding reason for why both boys and girls do not enroll in school. At one level up, in below-average households, economic considerations are still key, but this time for boys, their labor is more important than schooling expenses. This is probably because below-average and average households may own small parcels of land that require significant amounts of labor but do not produce enough to support the hiring of wage labor from outside the family. Two other noteworthy observations are, first, the extent to which education is perceived as not relevant for the child at all economic levels, and second, the extent to which conservative social norms about girls' schooling become more significant as economic level rises. In other words, a small number of parents still perceive education as irrelevant to their children's future needs, whether boys or girls, and this feeling is strong at all economic levels in the younger generation.

Persistence

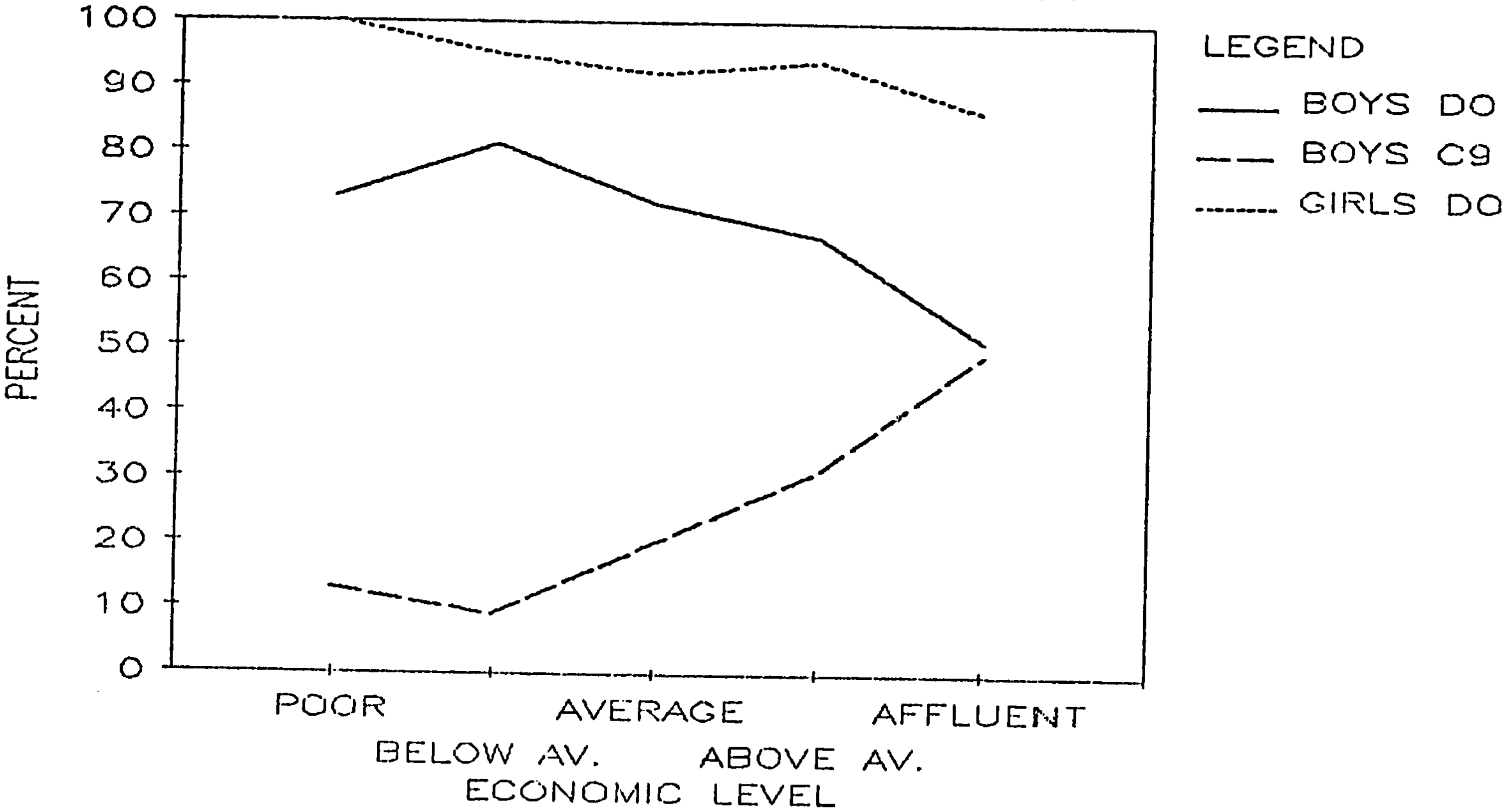
The effect of the economic level of the household on persistence is not as dramatic as on initial enrollment (see Figure A-29). However, as economic level of the household rises, males of the older generation are more likely to have completed grade nine and generally less likely to drop out, though the regularity of this relationship is broken at the below-average level of household, probably because of the need for a male child's labor at this level of small landholding.[1] The ratio of older generation females' dropping out (the number of those girls in the older generation completing grade nine was so small as to be insignificant) also showed a relatively consistent impact of economic level with dropout, decreasing as economic level rose. When the data is disaggregated by site category, males of the older generation across the board generally show lower dropout rates as income rises. The main exception to this trend is found at the level of poor household when children in different types of sites show considerably different responses. In poor urban households the dropout levels are extremely low, much lower than in poor rural households, reflecting perhaps the knowledge in these urban households that the best occupational opportunities come after extended educations. Rural

[1]Another way to look at it is to say that there is a less-than-expected dropout in poor households for the reciprocal reason that less child labor is needed where families do not own land. Wage labor is seasonal and can still be engaged in work after school or during holidays.

166

poor children can fall back on agricultural occupations. There is also a similar disparity between poor children of Upper and Lower Egypt so that none of the latter completed grade nine levels at all while about a quarter of enrolled poor children in Upper Egypt have completed grade nine.

FIG. A–29: PERSISTENCE BY ECONOMIC LEVEL OLDER GENERATION



Note: "Dropout" is the reciprocal of "completing grade nine" except for the small group of currently enrolled.

Note: Girls' level of completing grade nine is too small to be meaningful here.

FIG. A-30: DROPOUT BY ECONOMIC LEVEL OLDER GENERATION URBAN/RURAL SITES

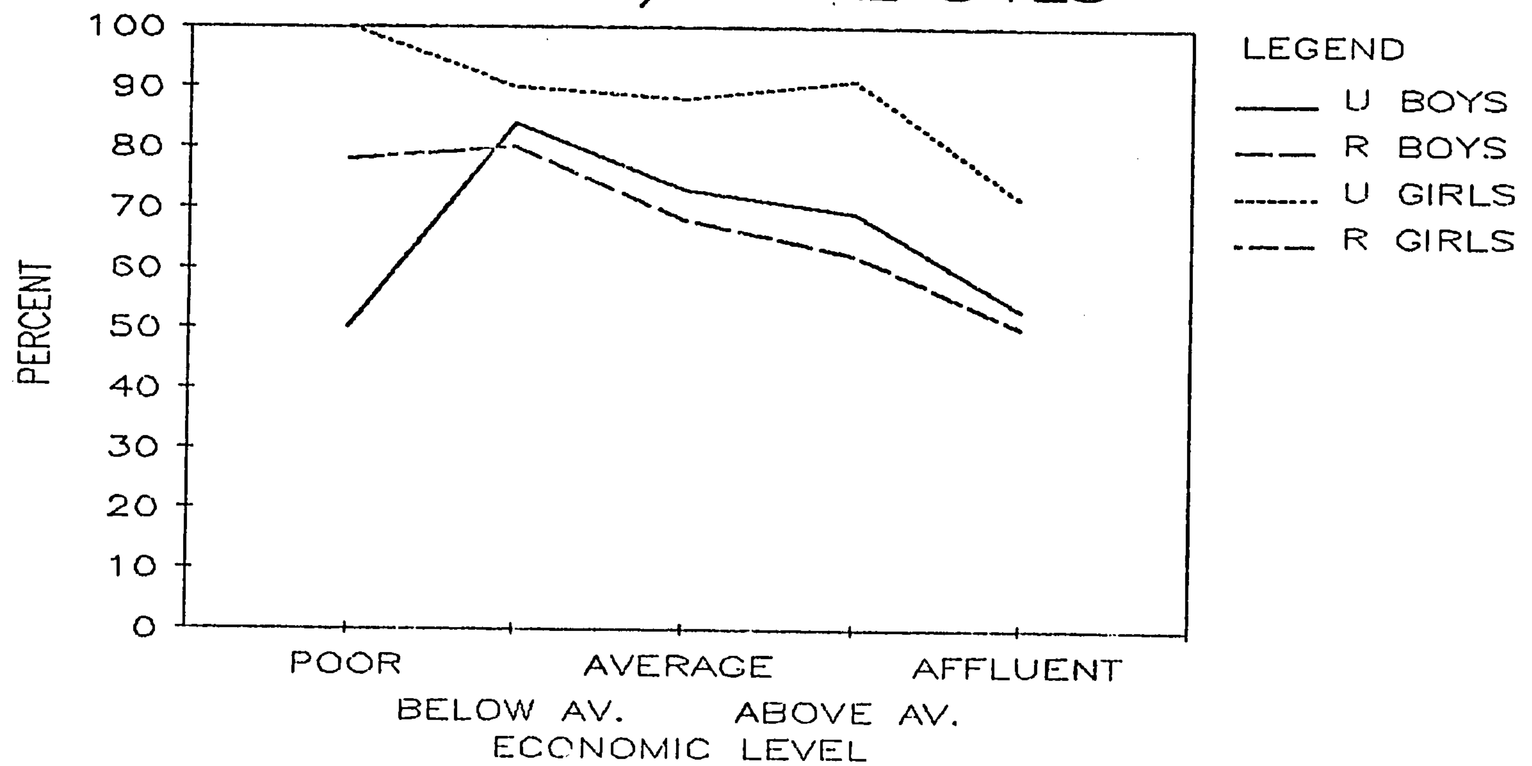
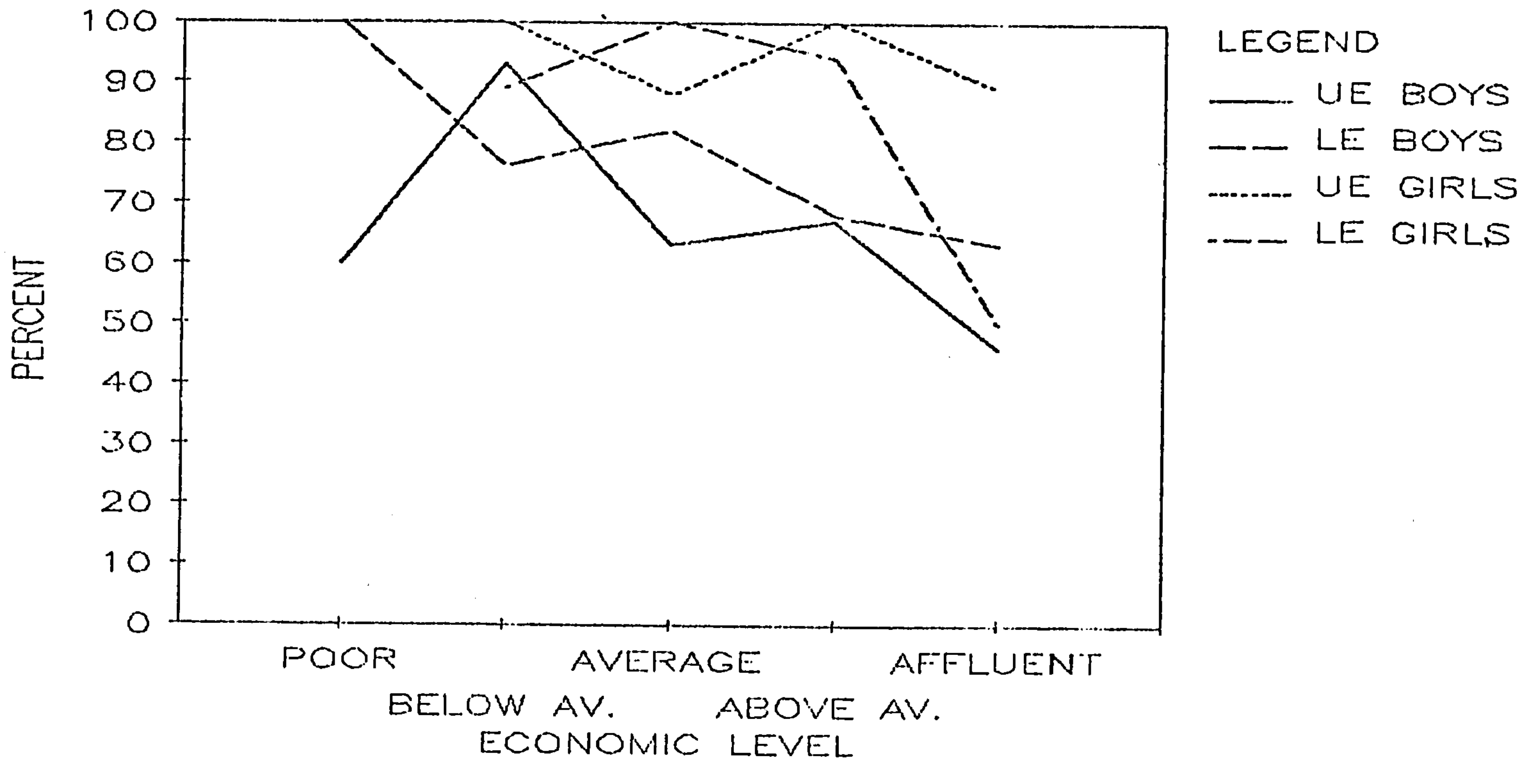


FIG. A-31: DROPOUT BY ECONOMIC LEVEL OLDER GENERATION REGIONAL SITES



168

Table A-27:

Major Reasons Reported For Why Younger Generation Children Never Enrolled[1] by Economic Level of Household

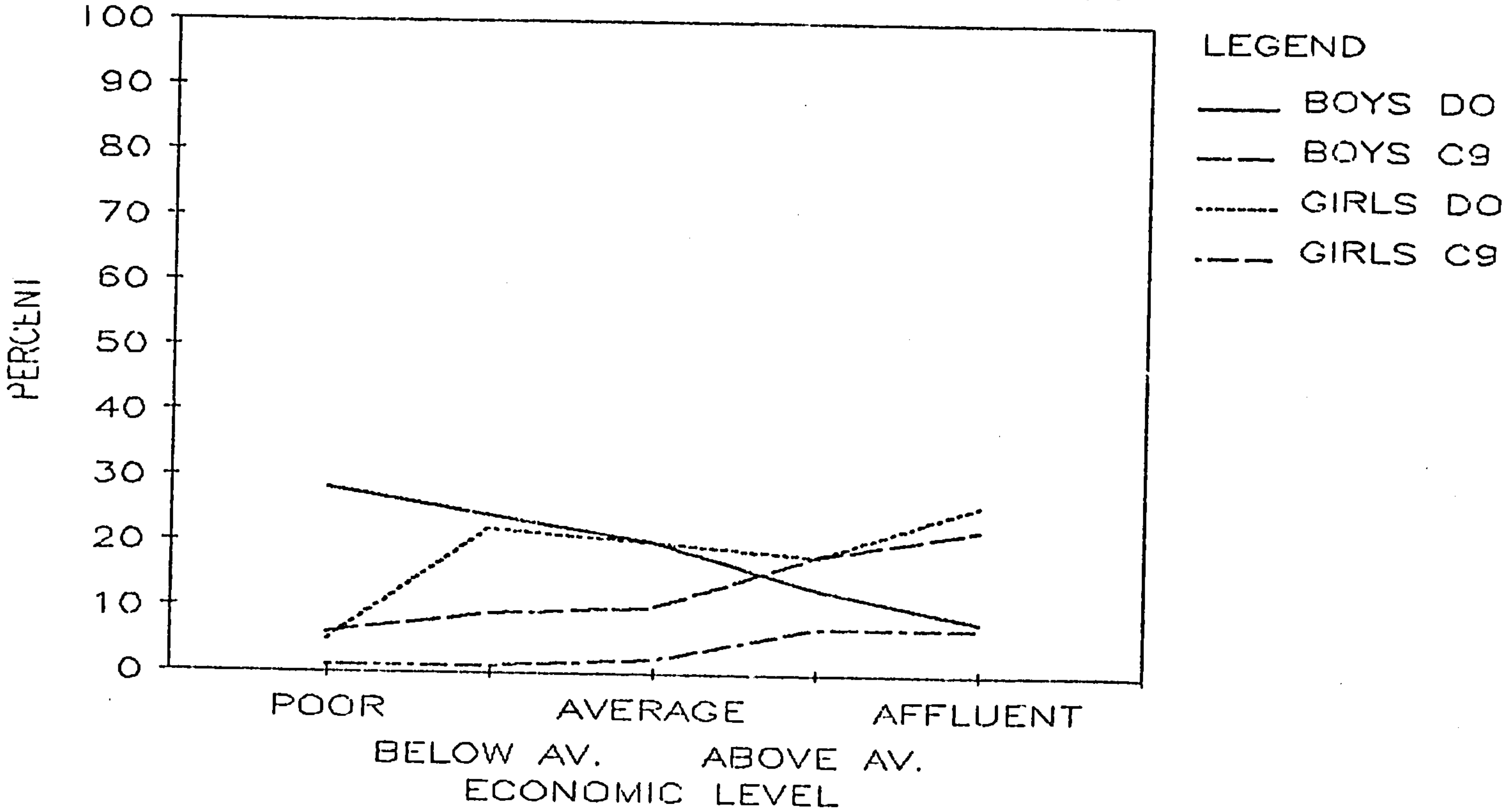
Males	No.	%	Females	No.	%
Poor					
1. Schooling expenses/family poverty	16	(53)	1. Schooling expenses/poverty	39	(38)
2. Lack of education's relevance	6	(20)	2. Lack of education's relevance	26	(25)
			3. Custom	14	(14)
Below Average					
1. Lack of education's relevance	12	(30)	1. Schooling expenses/poverty	38	(25)
2. Family needs child's labor	9	(23)	2. Custom	30	(20)
3. Schooling expenses/family poverty	7	(18)	3. Lack of education's relevance	29	(19)
			4. Family needs child's labor	21	(14)
Average					
1. Family needs child's labor	10	(24)	1. Custom	56	(35)
2. Lack of education's relevance	10	(24)	2. Lack of education's relevance	26	(16)
3. Schooling expenses/family poverty	7	(17)			
Above Average					
1. Lack of education's relevance	6	(43)	1. Lack of education's relevance	23	(33)
2. School too far	3	(21)	2. Custom	19	(28)
Affluent					
(Only two cases of boys who never enrolled)			1. Custom	13	(87)

[1]The ratios are expressed in terms of those at these economic levels who never enrolled.

Females of the older generation show extremely varied patterns of dropout by site category with the only possible real relationship to economic level found in the lower rate of dropout at the affluent level. Urban rates of female dropout tend to drop with higher economic levels also but rural dropout rates stand consistently at 100 percent for all economic levels. The small number of females enrolling in the older generation makes it difficult to rely very heavily on Figure A-30 and A-31. It is only when all these sites are totaled (as in Figure A-29) that enough cases are present to reveal a more detailed relationship between economic factors and dropout among older females.

In the younger generation, dropout this year, with complete data available, shows the same interesting reversal of patterns for boys and girls as it did last year. Thus dropout levels of enrolled boys decreased as economic level rose, and enrolled girls' dropout levels generally increased. However, both boys' and girls' rates of completing grade nine, as expected, increased consistently with level of affluence. (See Figure A-32).

FIG. A—32: PERSISTENCE BY ECONOMIC LEVEL YOUNGER GENERATION



By site category, the younger generation males showed a mostly consistent pattern of dropout in relation to economic factors with urban, rural, Upper and Lower Egyptian village children dropping out at a lower rate as income level rose. (See Figures A-33 and A-34). The greatest divergence in dropout rates between categories occurred at the poor level of household. This would tend to support the theory that real poverty limits the ability of people to carry out behavior according to community-accepted patterns of the ideal. Such families seek out individual solutions to their problems, whether it be to encourage or restrain children in their schoolgoing.

170

FIG. A-33: DROPOUT BY ECONOMIC LEVEL YOUNGER GENERATION BOYS URBAN/RURAL SITES

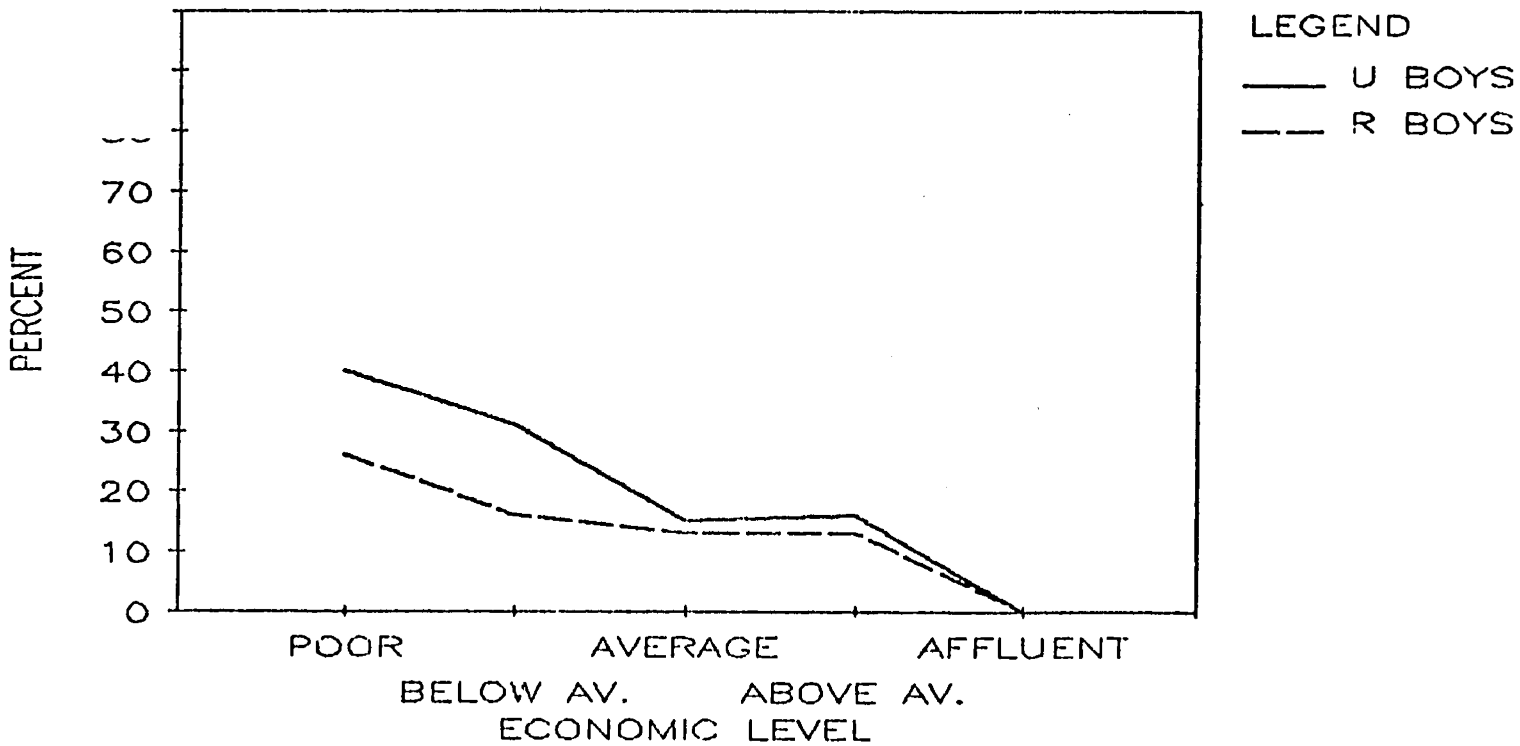


FIG. A-34: DROPOUT BY ECONOMIC LEVEL YOUNGER GENERATION BOYS REGIONAL SITES

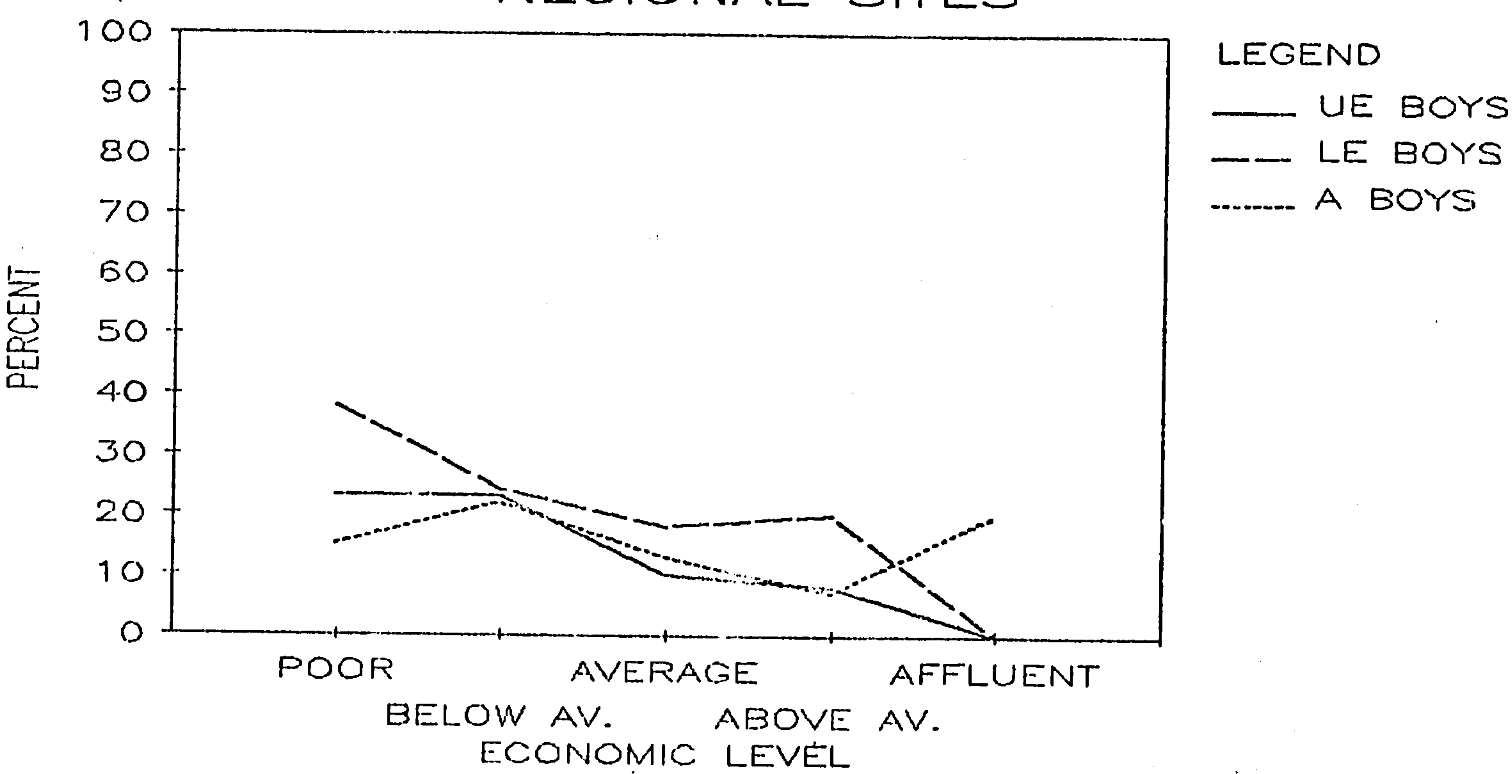


FIG. A–35: DROPOUT BY ECONOMIC LEVEL YONGER GENERATION GIRLS URBAN/RURAL SITES

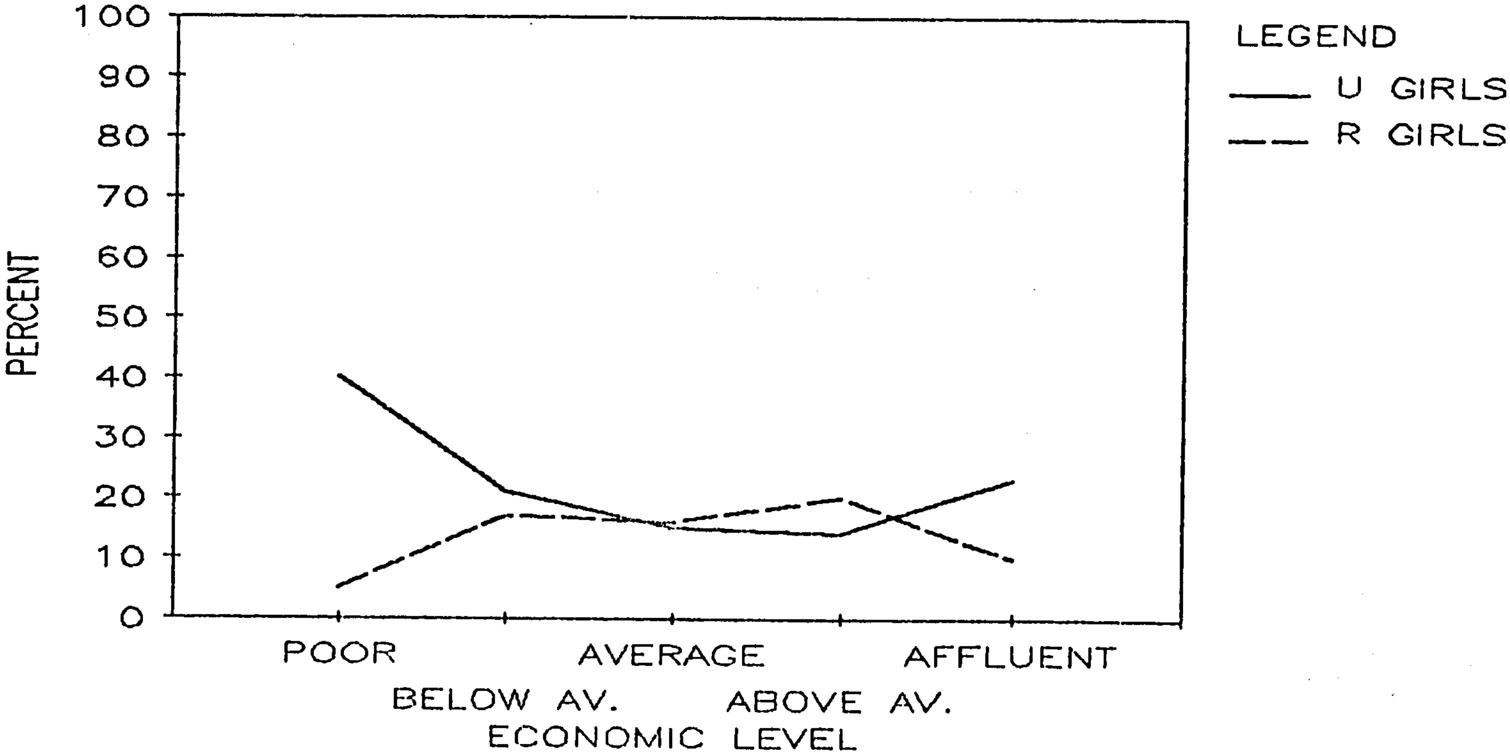
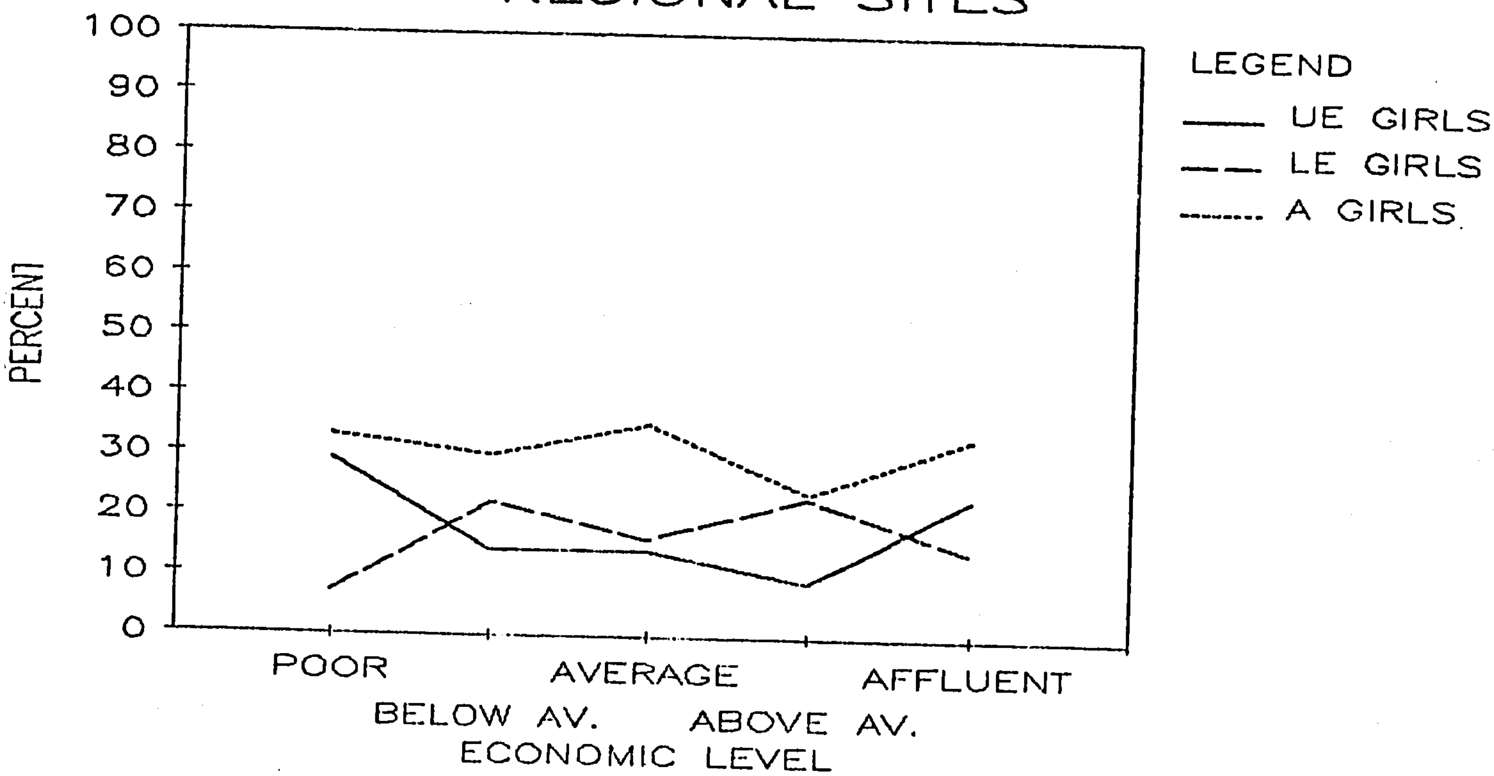


FIG. A–36: DROPOUT BY ECONOMIC LEVEL YOUNGER GENERATION GIRLS REGIONAL SITES



The anomaly found in the girls' dropout rates reversing the relationship of boys' dropout rates to economic changes becomes clearer in the disaggregation of data by site category. (See Figures A-35 and A-36). Here we see that different types of sites feel the impact of economic factors on dropout in different ways. Urban village girls tend to drop out less as economic level rises (except at the affluent level where they drop out more). Rural village girls reverse this trend and tend to drop out more as economic level rises (except at the affluent level where they drop out less). Upper Egypt families follow the "urban" pattern and Lower Egyptian females the "rural" pattern.

Another way to look at Figures A-35 and A-36 is to say that basically there is about the same level of dropout in all site categories at the three middle economic levels for girls, but that the extremes of poverty and affluence affect girls' dropout rates in different ways depending upon context. Poor girls and rich girls drop out more in urban villages and Upper Egyptian villages and less in rural and Lower Egyptian villages. At the Assiut sites they drop out at basically the same rate overall, or at least there is not a strong relationship between economic factors and dropout rates.

<u>Reasons for Dropping Out by Economic Level</u>

If we disaggregate the dropout reasons by economic level of household we find the results seen in Table A-28. Please note that the numbers of those who have dropped out of school before completing grade nine in the younger generation are very small and therefore the confidence level of the following remarks is, statistically speaking, low. However, the comments are also a product of other observations and the behavioral record of persistence in school related to economic level.

Note in Table A-28, that boys are reported by parents to drop out for almost precisely the same reasons at all economic levels of the household: failure and refusal of the child to go to school. As we noted earlier, "child's refusal to go to school" is frequently a euphemism for "problems in school" of an academic or disciplinary nature. These results are therefore one more indication of the strong motivation parents feel to send boys to school, so strong that they refuse to allow personal circumstance to affect persistence. Boys are only withdrawn when the educational process shows it is having no effect on a particular child; "it is useless" as the parents say. What is interesting is that parents perceive the problem this way while dropout behavior itself, as seen in Figure A-32, shows an overall effect of economic level on the rate of dropout. This raises the question then of whether economic level may have an indirect impact on school dropout, at the lower levels of income, by causing higher absence rates, poorer study habits, less opportunity for tutorial help, more disruptive classroom behavior, biased teacher perceptions of the student's worth, etc., that all lead to higher dropout rates, especially among boys of poor and below-average households. From parents' responses it appears that poverty is no longer a major direct cause of dropout once a child is enrolled. This suggests that even for most of the poor, the lost opportunity costs of a male child's schooling have been offset by the future occupational benefits.

For girls, the reasons parents give for why they drop out are more ambiguous, reflecting the general confusion over what girls' future roles should be: should they be confined to work roles in the home, or will they combine housework with work outside the home; should their educational opportunities be guaranteed equally with boys, or should their needs be subservient to assuring that all the boys of a family obtain an education? We found parents possessing much more conflicting views about girls' as opposed to boys' education, and this is seen more clearly in the dropout data.

According to parents, girls dropped out at the lower economic levels because of costs and labor needs, and because they refused to go any longer. Failed exams only became a significant reason above the lowest economic level. More important, at the three average economic levels, was the need for a girl's help around the house which usually meant caring for her younger siblings. In these cases, the continuation of the girl in school was not productive of enough family benefits to offset her lost work potential. As we have said earlier, there is the view expressed by some parents that extending the education of girls is a cost to her own family while only benefiting her future husband's family. The girl's economic benefit to the family is seen as finite, stopping after marriage, while a boy's economic benefit is infinite, extending beyond his marriage and throughout his productive lifetime.

In Table A-28, the most interesting change in parents' reasons for girls' dropping out is seen at the affluent level of household where a wholly new set of rationales appears. As was noted in the commentary accompanying the table of reasons for never enrolling by economic level, conservatism toward social norms affecting girls' educational participation seems to have more adherents as the economic level of households rises. The effect reaches across several economic levels when it comes to enrolling girls, but after they are enrolled, their chances of dropping out before completing grade nine for these reasons are most pronounced in the affluent households. Affluent parents give three major reasons for dropout all related to this conservative perspective: custom; the chance to marry[1]; and the distance to school, usually meaning that the girl was not allowed to continue on to preparatory-level school.

If we look back again at Figures A-35 and A-36, showing girls' dropout ratios by economic level in different types of sites, we now may see some order in the array of seemingly conflicting data. In Upper Egyptian, Assiut and urban villages, contexts where affluent families are known to feel more strongly about protecting their maturing daughters, dropout levels of girls increase at this economic level of household, in general reversing the otherwise consistent trend in those sites for dropout rates of girls to decrease as economic level rises. By contrast, Lower Egyptian and rural[2] affluent families who are less conservative show lowered dropout rates for girls. Overall, the lack of consistent relationships between economic level and dropout for girls may reflect not so much the fact that economic factors are not relevant but rather the fact that they have a different kind of relevance in different socioeconomic contexts. It reflects also the

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[1]Theoretically, by law, a girl in Egypt cannot marry until after she is past preparatory-level age, so using this rationale for dropping out means she is circumventing the law or only "preparing for marriage."

[2]Affluent families in rural areas tend to be trend setters, thus perhaps inclining them to show their modernity and sophistication by educating daughters.

Table A-28:

Major Reasons Reported for Why Enrolled Children of the Younger Generation Dropped Out, By Economic Level

Males	No.	%	Females	No.	%
Poor					
1. Failed exams	6	(26)	1. Schooling expenses/ poverty	3	(50)
2. Child refused to go	5	(22)	2. Child refused to go	2	(33)
3. Schooling costs/poverty	4	(17)			
Below Average					
1. Failed exams	17	(40)	1. Child refused to go	6	(26)
2. Child refused to go	12	(28)	2. Child's labor required	5	(22)
3. Schooling costs/poverty	5	(12)	3. Failed exams	4	(17)
Average					
1. Failed exams	20	(43)	1. Child's labor required	12	(35)
2. Child refused to go	10	(22)	2. Failed exams	7	(21)
3. Child's labor required	6	(13)	3. Lack of education's relevance	4	(12)
			4. Child refused to go	4	(12)
Above Average					
1. Child refused to go	15	(58)	1. Child's labor required	7	(27)
2. Failed exams	9	(35)	2. Failed exams	6	(23)
			3. Child refused to go	4	(15)
Affluent					
1. Failed exams	4	(57)	1. Custom	8	(36)
2. Child refused to go	2	(29)	2. Chance to marry	6	(27)
			3. School too far	3	(14)

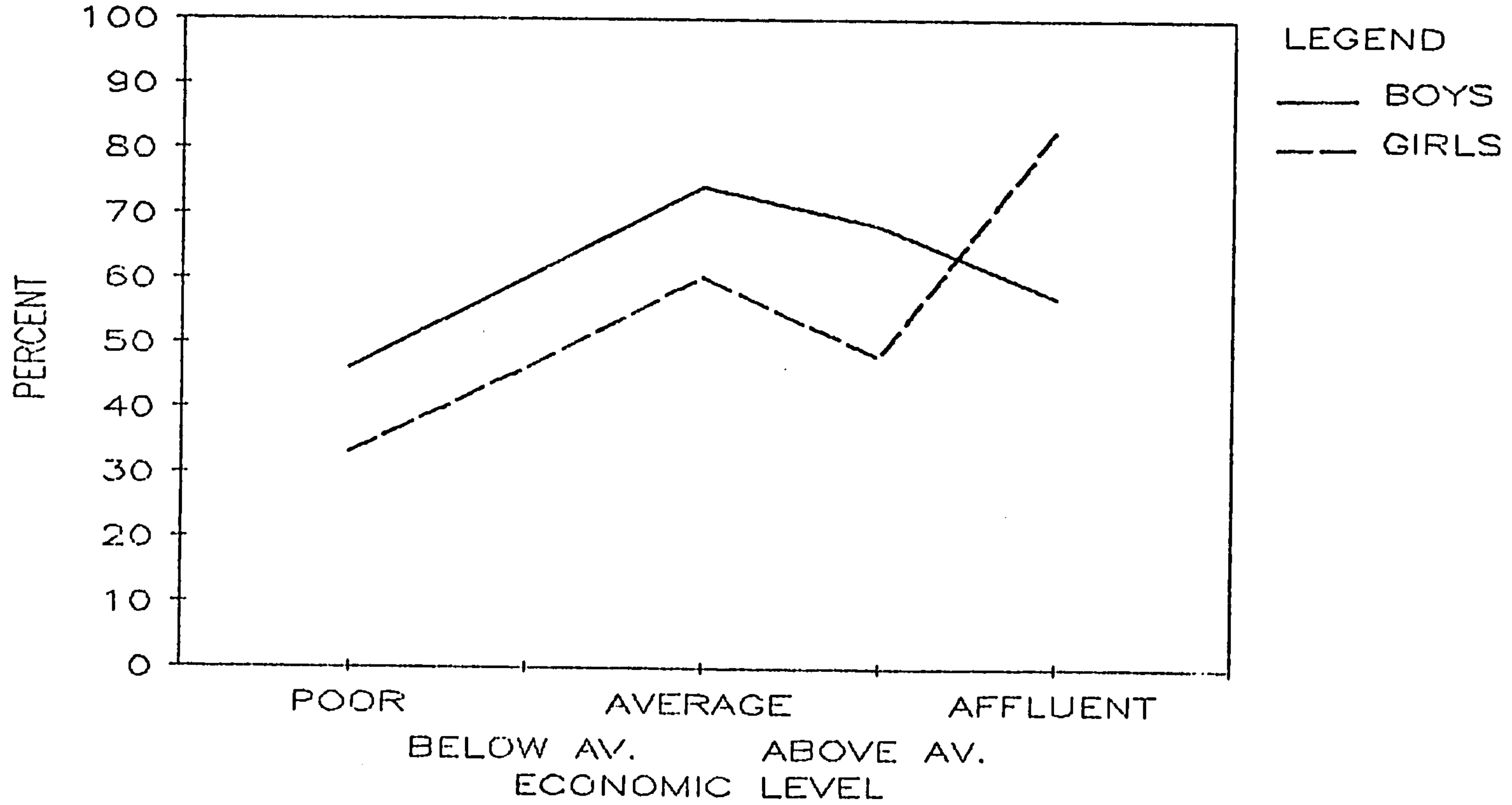
Note: The three most frequent responses are reported unless there was only one case.

underlying importance of other factors such as norms with regard to girls that vie for importance with economic factors.

Wastage and Economic Factors in the Household

As noted in more detail under the section below on wastage, children who enter school but do not attain grade five levels probably do not achieve functional levels of literacy. They are thus considered a wastage problem not only in terms of human resources but because they have consumed educational resources that could have been employed more productively elsewhere.

FIG. A-37: DROPOUTS REACHING GRADE 5 BY ECONOMIC LEVEL YOUNGER GENERATION



The economic level of households bears a relationship to the wastage problem. Among dropouts, as the economic level of household rises, the greater the likelihood that children have stayed in school to grade five levels or higher. This is true for both boys and girls. Figure A-37 and Table A-29 show this relationship.

176

Table A-29:

Ratio of Dropouts by Economic Level Who Achieve Grade Five Levels

Drop-outs	Poor			Below Average			Average			Above Average			Affluent			Total		
	No.	%	T	No.	%	T	No.	%	T	No.	%	T	No.	%	T	No.	%	T
Males	11	(46)	24	25	(60)	42	35	(74)	47	17	(68)	25	4	(57)	7	92	(63)	145
Females	2	(33)	6	11	(46)	23	21	(60)	35	11	(48)	23	19	(83)	23	64	(58)	111
Totals	16	(53)	30	44	(67)	66	60	(73)	82	36	(75)	48	24	(80)	30	180	(70)	256

COSTS OF SCHOOLING

Since schooling costs are cited frequently as a reason for not enrolling or not continuing some or all children in a family, we have carefully collected data on the costs per child in primary and preparatory levels and the costs per family in the sample of children presently enrolled in school.

Parents were asked what they estimated they spent for the expenses of a school child above and beyond the normal costs of raising a child. The researcher asked for an itemized list of expenses and then added them to find the estimated annual cost at primary and preparatory levels. Table A-30 shows the range of expenses as they were reported by parents. One could argue that it is not necessary to provide all these items, such as pocket money for example, but most parents feel it is important for appearance sake to provide the full list. Table A-31 summarizes the cost per child data.

Note in Table A-31 that urban and rural village parents spend approximately the same on schooling expenses at both primary and preparatory levels. However, expenses are reported as considerably higher in Upper Egypt than in Lower Egypt at both levels and as highest of all for the preparatory level in Assiut province (the girls' sites). Overall, about 85 percent of families spend more than 40 LE per year per primary school child and more than half spend more than 100 LE per year on preparatory-level children.

If the estimates are reasonably accurate, the magnitude of these expenses becomes clear when a family's total expenses are calculated. Table A-32 shows these totals. In this table, total family costs appear to be heavier in Upper than Lower Egypt and are perceived as slightly more burdensome in urban than rural villages. Overall about a third spent less than 100 LE, about a third spent from 100 to 200 LE, and the final third spent over 200 LE on the education-related expenses of their currently enrolled children.

Table A-30:

Cost Per Child Per Year for Items Related to Schooling

Item Provided	Cost Range		How Many Times Per Year	Total Amount	
	Primary	Prep.		Primary	Prep.
1. Uniform and one or two sets Western style of clothing, including shoes	1.5-25 LE	15-50 LE	1	1.5-25 LE	15-50 LE
2. Fee	3.5-5.0* LE	5-8+ LE	1	3.5-5.0 LE	5-8 LE
3. Pocket money	1.5-9 LE/mo.	3-10 LE/mo.	8	12-72 LE	24-80 LE
4. Transportation	--	5-15	8	--	40-120 LE
5. School supplies	1-4 LE/mo.	2-5 LE/mo.	8	8-32 LE	16-40 LE
6. Special tutoring	1-6° LE/mo	1.5-20° LE/mo.	2-8	For 2 mo. 2-12 LE For 8 mo. 8-48 LE	3-40 LE 12-160 LE

*If including the uniform

+If including the notebooks

°Cost depends on whether the child is alone or in a group.

Table A-31:

Ratio of Families Paying These Costs per Primary or Preparatory Child

Costs	Rural Site Families No.	%	Urban Site Families No.	%	Assiut Site Families No.	%	Upper Egyptian Site Families No.	%	Lower Eyptian Site Families No.	%	Total Sites No.	%
Per Primary Child												
0-20 LE	2	(1)	1	(1)	1	(2)	0	(0)	3	(2)	4	(2)
-40 LE	18	(13)	23	(15)	9	(15)	13	(9)	28	(20)	50	(14)
-60	41	(29)	38	(25)	20	(32)	31	(21)	48	(34)	99	(28)
-80	26	(19)	31	(21)	14	(23)	28	(19)	29	(21)	71	(20)
-100	14	(10)	18	(12)	5	(8)	18	(12)	14	(10)	37	(11)
-100+	36	(26)	36	(24)	12	(19)	55	(37)	17	(12)	84	(24)
Don't know	2	(1)	3	(2)	1	(2)	3	(2)	2	(1)	6	(2)
Total	139	(99)	150	(100)	62	(101)	148	(100)	141	(100)	351	(100)
Per preparatory child												
0-20 LE	1	(2)	0	(0)	1	(3)	0	(0)	1	(1)	2	(1)
-40	2	(3)	1	(1)	1	(3)	2	(3)	1	(1)	4	(2)
-60	4	(6)	3	(4)	2	(5)	0	(0)	7	(9)	9	(5)
-80	8	(12)	12	(7)	1	(3)	4	(6)	21	(26)	21	(12)
-100	10	(15)	15	(21)	7	(18)	13	(21)	12	(15)	32	(18)
-100+	39	(60)	39	(54)	27	(68)	41	(66)	37	(46)	105	(59)
Don't know	1	(2)	2	(3)	1	(3)	2	(3)	1	(1)	4	(2)
Total	65	(100)	72	(100)	40	(103)	62	(99)	80	(99)	177	(99)

Table A-32:

Ratio of Families Paying These Total Costs for all Currently Enrolled Children

Costs	Rural Site Families		Urban Site Families		Assiut Female Site Families		Upper Egyptian Site Families		Lower Eyptian Site Families		Total[1] Sites	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0-100 LE	58	(38)	53	(33)	24	(33)	46	(30)	65	(41)	135	(35)
-200	42	(28)	52	(33)	24	(33)	45	(29)	49	(31)	118	(31)
-300	26	(17)	19	(12)	9	(13)	27	(18)	18	(11)	54	(14)
-400	12	(8)	16	(10)	6	(8)	16	(10)	12	(8)	34	(9)
-500	4	(3)	6	(4)	4	(6)	5	(3)	5	(3)	14	(4)
-600	4	(3)	5	(3)	2	(3)	4	(3)	5	(3)	11	(3)
-700	2	(1)	4	(3)	1	(1)	4	(3)	2	(1)	7	(2)
-800	0	(0)	1	(1)	0	(0)	1	(1)	0	(0)	1	(0)
-900	1	(1)	0	(0)	0	(0)	0	(0)	1	(1)	1	(0)
-900+	2	(1)	3	(2)	2	(3)	5	(3)	0	(0)	7	(1)
Total	151	(100)	159	(101)	72	(100)	153	(100)	157	(99)	382	(100)

[1]Total sites include all those in Upper and Lower Egypt (or alternatively all those in urban and rural sites) and those in the females (Assiut) sites.

181

Repetition and Dropout

Parents of younger generation children increasingly blame failure in exams as the reason why their children drop out, especially in the case of males. The two alternatives for examination failure are, of course, dropping out, which is now theoretically excluded by law but sill occurs in practice, and repetition of a grade. Later sections on Educational Efficiency discuss repetition in more detail but it is appropriate here to note that more than half the male children who drop out before grade nine have repeated one or more grades, compared with a quarter of the girls. A third of the male and female children who complete grade nine have also repeated at least one grade, but these children in much larger proportion (17 percent to 7 percent of dropout children) have repeated multiple grades.

Male children who eventually complete grade nine, twice as often repeat grade nine as grade six while male dropouts are almost three times as likely to repeat grade six as nine. Girls who complete grade nine repeat grade six and nine about equally compared with dropouts who are more likely (four times as often) to repeat grade six as nine. These data suggest that the male dropout group in general is a less well-motivated group and a less capable group academically. Girl dropouts are also less motivated but probably not less capable than children of other educational statuses, since girls usually drop out for reasons other than those connected with academic performance.

Data from the schools corroborate these findings. A total of 40 percent of those who drop out have repeated one or more grades. Moreover, all of those who repeat, 13 percent drop out later. (See School Factors Affecting Educational Participation.)

THE EFFECTS OF OTHER VARIABLES ON EDUCATIONAL PARTICIPATION

A number of factors are routinely examined in studies of educational participation to see if and to what extent they affect decisions to enter or persist in school. In this section we have looked at a number of these in the Egyptian context to assess their impact on school going: educational background of parents; birth order; school going as a product of family group decision making; the effects of migration; the type of school available; and the occupational models that inspire extended education. After analyzing sample behavior we will discuss the extent to which these factors may or may not have had an importance with regard to school sending and how they may or may not have relevance to an assessment of the impact of new schools on educational participation. In most cases, these factors are not controllable by educational planners, but knowing how they can accelerate or constrain the implementation of goals can help in planning better programs.

Birth Order

FIG. A-33: BIRTH ORDER, ENROLLMENT AND DROPOUT YOUNGER GENERATION

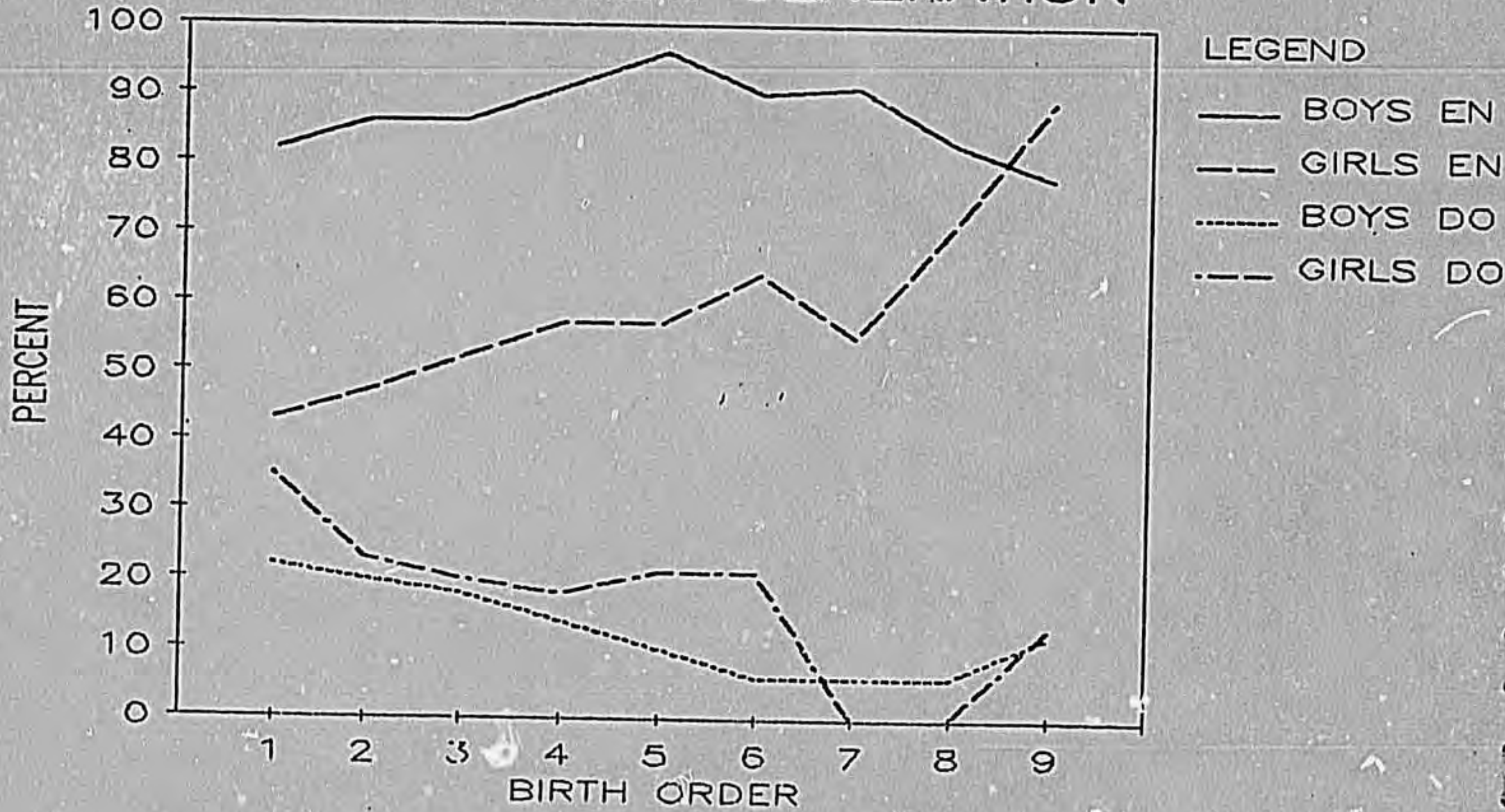


Figure A-38 shows the ratio of children of a given birth order who enroll or drop out by sex. It is highly unlikely that the rate of participation as a function of birth order found in the sample will have any predictive value at all on future cohorts of students. There are a number of reasons, many of them producing contradictory effects, that children may be drawn into or out of school as a result of age or birth order position. A few are listed below.

- Older children (not necessarily first born) may have reached school age when school facilities were not easily accessible or when general norms discouraged school participation. Their young siblings often find schools more readily available and a more positive feeling within the community about all children participating. Younger children have also been in the system a shorter time and have had less opportunity to drop out.

- Older children reach levels of productive capability in agriculture or useful household and child care activities first and may be called out of school or kept home for these reasons. Young siblings are not needed as much in these capacities if they are covered by older siblings and, from the perspective of the parent, school serves a useful babysitting [illegible] for younger children while developing [illegible] [illegible]ly important skills.

- The greater the number of children in the family the greater becomes the likelihood that families feel the economic constraints of school costs, the need for children's labor or income, an inability to provide the necessary conditions for succeeding in school or even the desire to see all children equally through the system. As a result younger children may stay at home.

- Children of any birth order who prove to have an aptitude for their studies may be supported over children of any other birth order who show less aptitude. Families are often eager to educate at least one child and may satisfy this goal with earlier born children.[1]

Thus, birth order educational participation reflects economic factors, historical changes in normative patterns and educational opportunities, and even parental reversals in how they view their children's future goals. The phenomenon is too complex to separate into its constituent parts so that effects of birth order can be examined by themselves.

Parents Education and Enrollment Patterns

Parents' education appears to show several tendencies with regard to educational participation. Of male parents who were educated in religious schools, over three-quarters sent only some of their children to school, [illegible] only males or both sexes but never females alone. These parents [illegible] remaining approximately 20 percent of the cases sent "all children." Of male parents who were educated in secular schools, over 60 percent [illegible] "all children" to schools with almost all the remainder sending some of [illegible] children, more often boys, but sometimes both sexes or girls only. [illegible], in general, males who were educated in secular schools saw the benefits of educating both sexes more frequently than religiously educated men [illegible] more apt to discriminate between children, often with regard to [illegible].

When women of the older generation were educated, all but a few were educated in secular schools. They educated "all children" at about the same rate as the men educated in secular schools and three times as frequently as the men educated in religious schools. An added benefit to the women themselves is the fact that over half married educated men, while only about 20 percent of educated men married educated women. Educating women therefore appears to encourage a climate of learning in a household enhanced by the greater likelihood that both parents will be educated and will send both sex children to school.

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[1]Hartley and Swanson, op. loc., p. A-14. Showed that the prior success of an older sibling is more likely to cause a younger child to drop out.

Kind of School Available or Attended

Does the kind of school nearest a child's home at the time of initial enrollment or the last school attended before dropping out affect the educational participation of children? The community sample suggests that with few exceptions, children overwhelmingly have attended government schools. In a few cases such as Nag al Tarif and Roda where for a period either only Azhar schools were easily available or alternative choices were overcrowded, a substantial portion of the children attended these schools. When new government schools became available, however, a sizeable number of children were attracted away from the alternative schools. Table A-33 shows the number of sample children of different educational statuses who attend different types of schools. The type of school appears to have had no effect on the level of education a child has achieved or more basically on whether a child has gone to school or not.

OCCUPATIONAL INCENTIVES FOR EDUCATIONAL PARTICIPATION

Occupational Models

Most parents say they aspire for their children to continue their educations until they achieve a level of technical or professional skill to enhance their occupational opportunities. In the Second Annual Report we noted that 15 percent of the parents were acquainted with a woman in the village who held a high (university) degree and 65 percent knew a man with such a degree. They were usually able to identify the faculty in which the degree-holder had studied and the work he or she was engaged in at the time. This person was usually well-known in the village, spoken of with admiration, and parents frequently modeled their ambitions for same-sex children on the degree-holders' professions.

Table A-33:

Types of School Present At Age of School Entry, Currently Attending or Last Attended

Educational Status		Rural No.	Rural %	Government No.	Government %	Private No.	Private %	al-Azhar No.	al-Azhar %	Total No.	Total %
Never enrolled	M	2	(2)	122	(95)	3	(2)	1	(1)	128	(100)
	F	3	(1)	481	(97)	4	(1)	7	(1)	495	(100)
Currently enrolled to grade nine	M	5	(1)	452	(89)	16	(3)	35	(7)	508	(100)
	F	1	(0)	303	(88)	11	(3)	29	(8)	344	(99)
Drop out before grade nine	M	3	(2)	128	(88)	1	(1)	13	(9)	145	(100)
	F	0	(0)	104	(94)	0	(0)	7	(6)	111	(100)
Currently enrolled after grade nine	M	0	(0)	100	(88)	3	(3)	11	(10)	114	(101)
	F	0	(0)	35	(83)	1	(2)	6	(14)	42	(99)
Completed grade nine or higher	M	0	(0)	117	(98)	0	(0)	2	(2)	119	(100)
	F	0	(0)	29	(91)	0	(0)	3	(9)	32	(100)
Total	M	10	(1)	919	(91)	23	(2)	62	(6)	1014	(100)
	F	4	(0)	952	(93)	16	(2)	52	(5)	1024	(100)

When asked what kinds of occupations they wanted their own children to pursue, they responded with answers clearly based on their fondest hopes rather than from any basis in reasonable possibility. Of boys' parents, 301 (65 percent) hoped they would be professionals (doctors, engineers, etc.), while 61 (13 percent) wanted their sons to be officers and 58 (13 percent) wanted them to be government employees. Though all sites stressed the same relative priorities, Upper Egyptian and Assiut sites were more interested in officer occupations for their sons than Lower Egyptians, and rural sites felt more hopeful about government employment than urban sites, probably because there were fewer alternative possibilities with which they were acquainted.

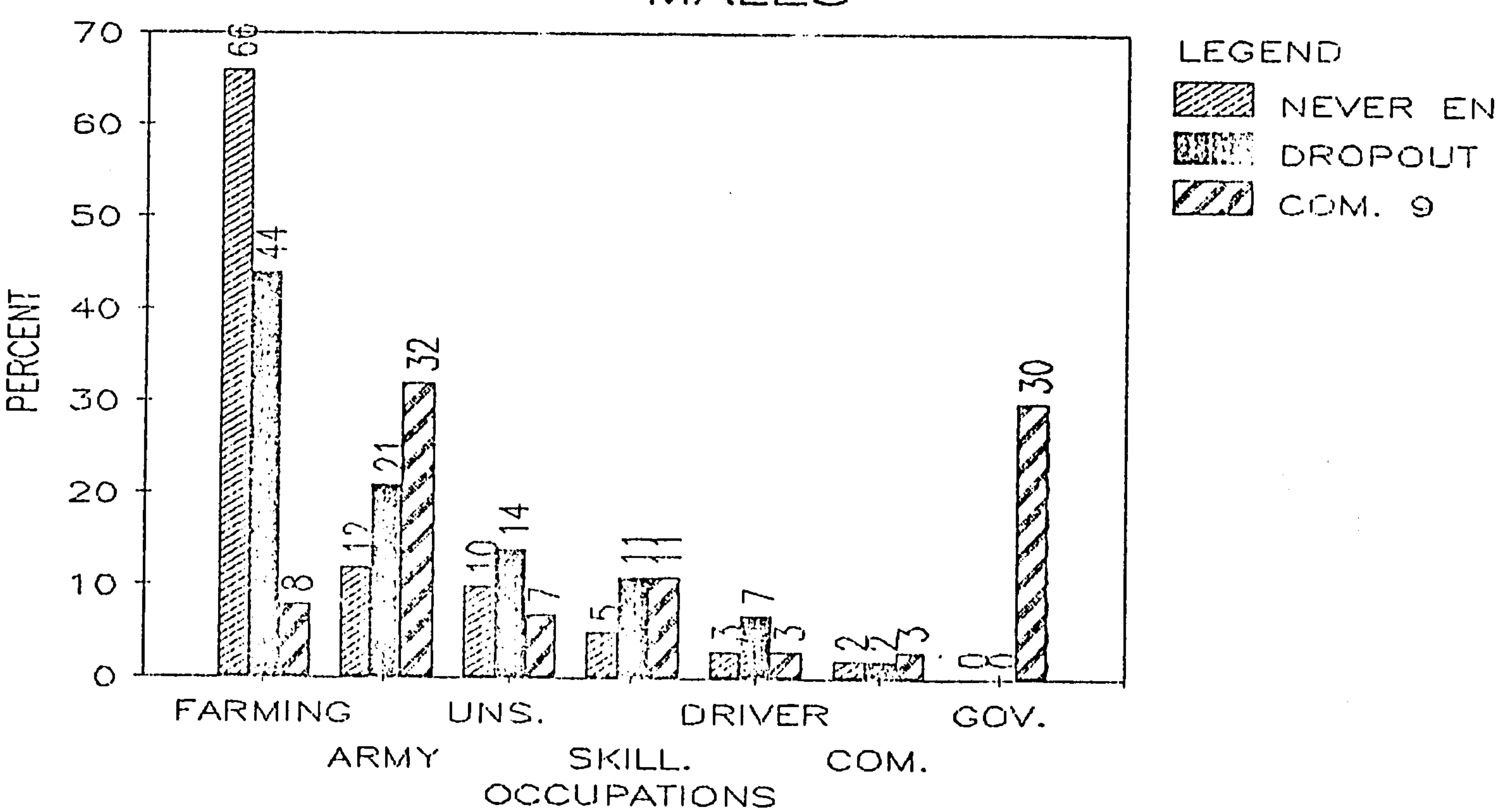
Surprisingly, given the limited number of employed women in these villages, 218 (47 percent) of the girls' parents said they wanted their daughters to become professionals, 116 (25 percent) wanted them to become government employees, and 98 (21 percent) said their daughters should be housewives only. In Upper Egypt they tended to want their daughters to become government employees more than in Lower Egypt, and urban site parents were interested more than rural site parents in professional jobs while the latter were somewhat more inclined to housewifely work. All sites however held the same basic priorities as those of the total sites above.

When asked about occupations for their children, parents usually mentioned the highest status jobs they could think of: doctors, engineers, or officers for boys, and doctors, teachers, or government workers for girls. Their aspirations were identical with the middle class views purveyed on television serials that many watched. By the way they replied, however, it was obvious that most did not consider these ambitions within the realm of possibility.

The Effects of Education on Occupational Opportunities

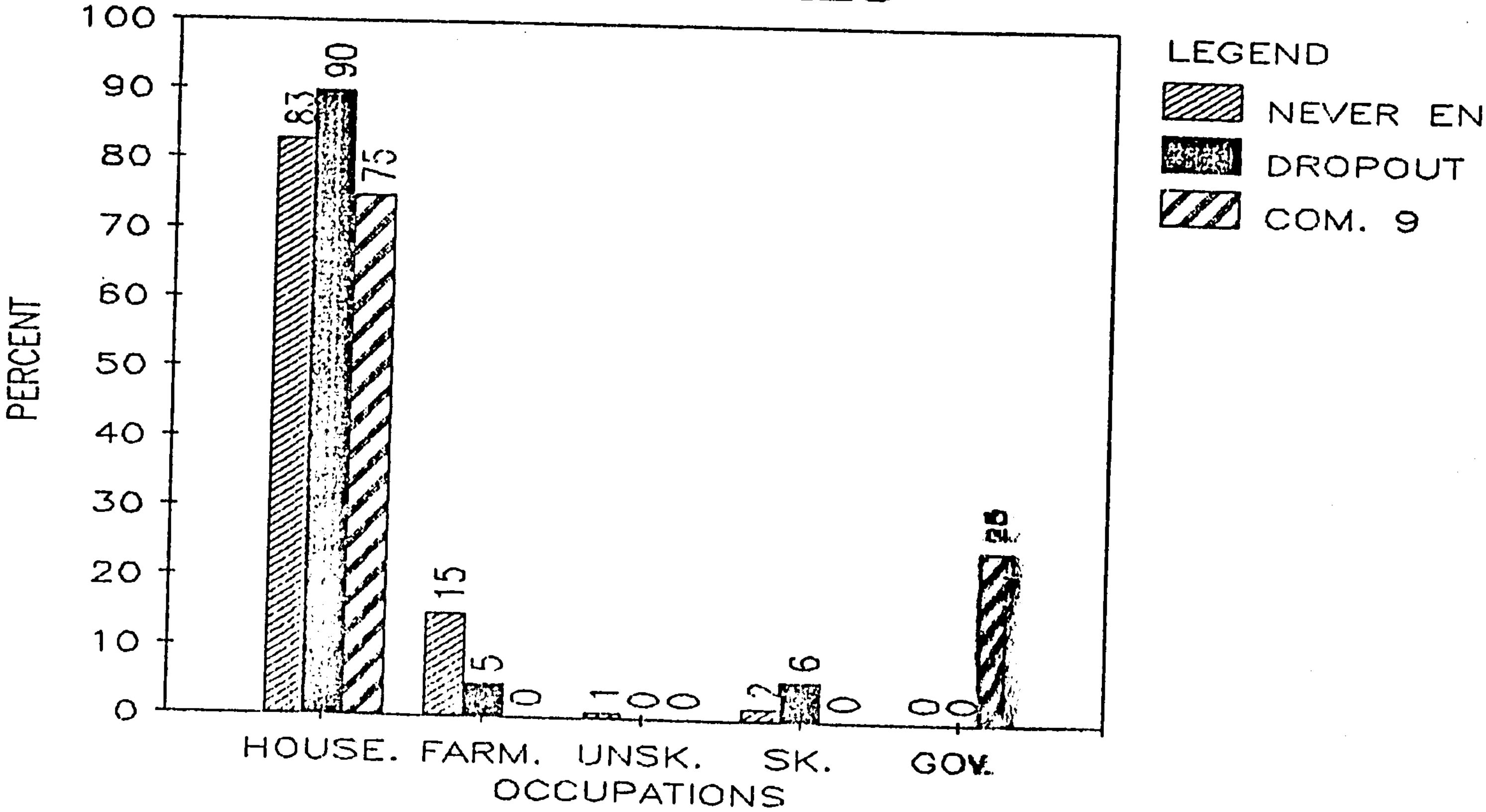
Figures A-39 and A-40 show the occupational structure of those with different educational statuses. For males, with each level of educational attainment the ratio of those engaged in farming decreases, and the ratio of those engaged in the army increases. Only those with grade nine or higher levels of education are engaged in white collar government work. Engaging in driving and commerce appears to be unrelated to educational status while skilled labor is more likely to be engaged in by those with some degree of education.

FIG. A-39: OCCUPATIONS OF THOSE WHO WORK MALES



187

FIG. A–40: OCCUPATIONS OF THOSE WHO WORK FEMALES



For females, housewife is by far the major occupation of all educational statuses. Farming decreases as education increases, and government employment becomes the main opportunity outside of the home for girls with higher levels of education. For girls, therefore, the opportunities for work are extremely limited and if observation of educated models is the key, they can not serve as much of an incentive given the preference for government work. It is an interesting related finding in the older generation, one that cannot help but be more motivating than occupational opportunities for girls given the expectation about their future roles, that educated women measurably increase their opportunity to marry educated men whatever level of education they achieve.

Place of Work

When asked whether they expected their children to carry on high education status occupations in the village or outside, most parents felt that if their sons achieved these highly educated levels they would have to work outside and probably far away from the village. Girls would have to take jobs where they would be able to come home every night unless they went to live elsewhere with their husbands. Girls' occupational opportunities are therefore extremely curtailed by the possibilities that exist in the local areas. Partly for this reason, there is less motivation to encourage girls to continue on to the higher educational levels required for professional work in villages where opportunities are limited (this is contrary to the experience in cities where

188

opportunities abound for highly educated females and are considered more appropriate than less skilled work).[1] Teaching is one of the few available opportunities close to home for females living in villages.

Of those in the younger generation who were six years of age or older and not currently enrolled, 343 (88 percent) males and 566 (89 percent) women claim to work (including housewives). Of males who work, 59 percent work in the home village, 10 percent in a nearby town or village, 23 percent in a far village or city in Egypt, and 8 percent abroad. Of women who work, 96 percent work in the village (usually, in housework or farming), 3 percent in a nearby town or village, and 1 percent in a far village or city in Egypt. None of the women worked abroad. Thus women's range of productive work is much more circumscribed in actual fact than is a male's. When compared with the older generation, younger generation males are also increasingly having to move further away to find work. Of older generation males who worked, (416) 77 percent worked in the home village, (53) 10 percent in a near town or village, (36) 7 percent in a far town or city of Egypt, and only (31) 6 percent abroad. Upper Egyptians tended to seek work outside the villages more than Lower Egyptians and urban villagers sought work more frequently in a nearby city.

Migration

Migration can have several possible effects on the educational participation of individual children. If male workers are away, boys can be asked to substitute in family labor or a girl can be kept home to "be with her mother." When opportunities are particularly attractive in another area of Egypt where village contacts are well established, boys may drop out of school to begin work. An indirect effect of migration is that parents with a wider experience may want to educate more of their children for longer periods of time, and if migration raises their income level they may have the means to afford extended education. Here the numbers of families having migrant members are not enough to test these hypotheses adequately. Instead we only report the extent of the phenomenon.

Overall, 63 percent of the families had no one who worked in a place so far removed from the home that they could not return at night. Of the 37 percent who had members who migrated for work, 70 percent of those had someone working in a distant area of Egypt and 37 percent had someone working outside the country. Urban village households had a higher level of outside Egypt migration than rural areas, perhaps a reflection of the importance of connections and educational status that helps in paving the way. Overall however, for all kinds of migration, there were slightly more migrant households in Lower than Upper Egypt and rural as opposed to urban sites. Assiut sites were the highest with more than half the households having migrating members. Individual villages showed major differences in the levels of migration.

[1] See Rugh, A. 1981.

However, despite the reasonably high number of households with members migrating internally or externally, there were no significant differences between the school-sending patterns of migrants and the general sample. It is possible that the conflicting implications of migration may cancel each other out in such a small sample. A number of respondents have noted dropout as a consequence of parents' absence as well as the other consequences that are noted above.

FAMILY DECISION MAKING EFFECTS ON EDUCATIONAL PARTICIPATION

In Egyptian society the decision-making process which affects the school going behavior of individuals takes place at the family level.[1] Families which have sent all eligible-age children to school in the past are likely to send all eligible-age children in the future; those discriminating by sex in the past are likely to discriminate in the future. Thus, knowing the patterns of family decision making, provides more reliable information about what can be predicted in the way of future school-sending behavior than predicting from the behavior of individual children.

Table A-34 summarizes the school-sending patterns of families. Taking the totals for the sample as an example, we find that in 276 (62 percent) families we can feel fairly certain that all children in the future who become eligible for grade one entry will be sent to school regardless of their sex unless there is some unusual circumstance. Another 28 (6 percent) families which already send some children of both sexes, have a high chance of sending all children. Assuming that the major bias is one against sending girls, we would also predict that there is a good chance that another 17 (4 percent) families which now send girls only will send all future children. Thus, in this sample, one would expect 72 percent of the families in the future to send all eligible-age children to school. Of the remaining families, 89 (20 percent) families with eligible-age children need to be convinced that education is important for girls and 36 (8 percent) families need to be convinced that education is relevant for all their children, boys or girls. Thus, in this sample of communities, the efforts of the authorities need only be directed at 28 percent of the families with eligible-age children to achieve universal levels of enrollment.

Table A-34, as noted, indicates that in all types of sites, the major bias in family school-sending patterns is, not unexpectedly, one directed at girls. We can see this problem even more vividly when we look at family school-sending patterns by sex. Tables A-35 and A-36 show these phenomena.

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[1]See Rugh, Participation and Relevance in Basic Education: Lower Class Parents' Strategies for Educating Their Children, 1981.

Table A-34:

Family Decision Making and Enrollment
(Families with Eligible-Age Children Only)

Sites	All Eligible Children Enrolled		No Eligible Children Enrolled		Some Eligible-Age Children Enrolled; Some Not: Males Only		Females Only		Some of Both		Total Families	
	No.	%	No.	%	No.	%	No.	%	No.	%	No	%
Rural	94	(53)	16	(9)	46	(26)	6	(3)	14	(8)	176	(99)
Urban	128	(69)	10	(5)	29	(16)	7	(4)	12	(6)	185	(100)
Lower Egypt	108	(57)	17	(9)	38	(20)	9	(5)	17	(9)	189	(100)
Upper Egypt	114	(66)	9	(5)	36	(21)	4	(2)	9	(5)	172	(99)
Assiut	54	(64)	10	(12)	15	(18)	4	(5)	2	(2)	85	(101)
Total Sample	276	(62)	36	(8)	89	(20)	17	(4)	28	(6)	446	(100)

Table A-35:

Family Decision Making and Enrollment of Males (Only Families with Eligible-Age Males)

Sites	All Eligible Males Enrolled		No Eligible Males Enrolled		Some Eligible Males Enrolled		Total	
	No.	%	No.	%	No.	%	No.	%
Rural	127	(85)	7	(5)	15	(10)	149	(100)
Urban	142	(96)	2	(1)	4	(3)	148	(100)
Lower Egypt	133	(88)	7	(5)	11	(7)	151	(100)
Upper Egypt	136	(93)	2	(1)	8	(5)	146	(99)
Assiut	53	(85)	4	(6)	5	(8)	62	(99)
Total Sample	322	(90)	13	(4)	24	(7)	359	(101)

Table A-36:

Family Decision Making and Enrollment of Females
(Only Families with Eligible-Age Females)

Sites	All Eligible Females Enrolled		No Eligible Females Enrolled		Some Eligible Females Enrolled		Total	
	No.	%	No.	%	No.	%	No.	%
Rural	59	(43)	56	(41)	22	(16)	137	(100)
Urban	93	(64)	35	(24)	17	(12)	145	(100)
Lower Egypt	77	(50)	53	(35)	23	(15)	153	(100)
Upper Egypt	75	(58)	38	(29)	16	(12)	129	(99)
Assiut	48	(63)	23	(30)	5	(7)	76	(100)
Total Sample	200	(56)	114	(32)	44	(12)	358	(100)

These two tables pinpoint even more accurately where recruitment areas are required. In families with eligible-age males, there are only 13 (4 percent) which may be called hard-core resisters, while 114 (32 percent) families with eligible-age girls fall in the same category. The biggest problem for girls exists in rural and Lower Egyptian villages.

To refine the argument further we can look at children in a more limited age range, in the six- to sixteen-year-old age category to eliminate older members of the younger generation who may have attended school in a time when facilities were not as easily available and norms were not as supportive of the educational process. The patterns of this six- to sixteen-age groups' behavior is probably the closest we can come to a model for estimating future school-sending behavior.

FAMILY DECISION MAKING AND THE ENROLLMENT OF CHILDREN SIX TO SIXTEEN

Over and Under Sixteen

In families where there are children over and under the age of 16, 129 (45 percent) send at least some children in both age ranges, and 66 (23 percent) send no children of either age group. Together those families therefore have not let changing views of education over the last decade affect whether or not they send their children to school. Another 94 (32 percent) have sent some children over 16 and not under 16 or vice versa; in other words, they have changed their mind over time. Not unexpectedly the largest proportion (27 percent) of that group have enrolled children under 16 after not enrolling those over 16. Thus the capacity exists in the minds of a substantial group of parents to have their minds changed about school sending.

Older and Younger Generation Under the Age of Sixteen

Looking only at decisions made about children under age 16 we find an even higher rate of consistency in school-sending patterns. We find 217 (63 percent) sending both the oldest and youngest children, 59 (17 percent) sending neither the oldest or the youngest, 44 (13 percent) sending the youngest but not the oldest, and 27 (8 percent) sending the oldest but not the youngest. In the under-16 age group, therefore, 76 percent do not distinguish by age of child or they have changed their minds and are now sending youngest children.

Older and Younger Boys Under the Age of Sixteen

Consistency becomes even more a hallmark of decision making when it comes to boys. Of families with appropriate age children, 135 (85 percent) send older and younger boys, 11 (7 percent) neither, and only 12 (8 percent) send one and not the other.

Older and Younger Girls Under the Age of Sixteen

Parents also tend to make up their minds from the beginning about girls' enrollment but the figures show a greater ambivalence about the relationship of education to their future needs. Of families with the appropriate age children, 87 (51 percent) send older and younger girls, 43 (25 percent) send neither, 35 (21 percent) send the youngest and not the oldest, and 4 (2 percent) send the oldest but not the youngest. A number of families are therefore ready to change their minds about sending girls.

Older and Younger Children of Different Sexes Under Sixteen

When the oldest and youngest children are of different sexes, 115 (57 percent) families send both, 10 (5 percent) send neither, 53 (26 percent) send the youngest boy and not the oldest girl, 17 (8 percent) send the oldest boy but not the youngest girl, and 7 (3 percent) send the youngest girl but not the oldest boy.

In looking at the family decision-making patterns we find a well-established interest in enrolling boys and a growing trend toward enrolling girls. A substantial number of families, however, still feel that education is not a foregone necessity for all children and may make choices about individual children, especially girls, particularly when contributing circumstances make educating a child a burden to the family. The positive evidence that emerges from family patterns of school sending is the relatively small number of families showing strong resistance to education and the growing number who appear to be changing their minds in favor of education. This behavioral data is much more conclusive than a survey of attitudes over time.

FAMILY DECISION MAKING AND THE RELEVANT VARIABLES

If economic, normative, and accessibility issues affect the decisions made about the educational participation of individual children, then they most certainly affect the collective family decisions of parents. Already in breaking down the figures by sex we have shown that many families either consistently show a bias against girls in the family or exert less effort to see that all girls enroll and persist in school.

Distance is a factor that cannot be tested for its relevance in family decision making in this particular sample, because a single distance to school did not exist for all children of the family who went to school. We can say, however, that now this factor has been eliminated as a deterrent to educational participation for the bulk of the children who live within the attendance areas of the newly constructed schools.

The final variable, economic level of the household, can be tested in the context of family decision making. Table A-37 summarizes and Figure A-41 depicts the effects of economic level on family patterns of educational participation among children of present school age. Note that as economic levels rise so does the likelihood that all eligible-age children will be enrolled, and, conversely, that there will be fewer families with no eligible-age children enrolled. This table demonstrates that, overall, at least with children of this age group, parents of all economic levels are more likely to be consistent in their school-sending decisions, either sending all children or keeping all children at home, than they are to make different decisions about individual children. We can assume that this will also be the trend in years to come.

FIG. A-41: FAMILY PATTERNS BY ECONOMIC LEVEL ENROLLMENT

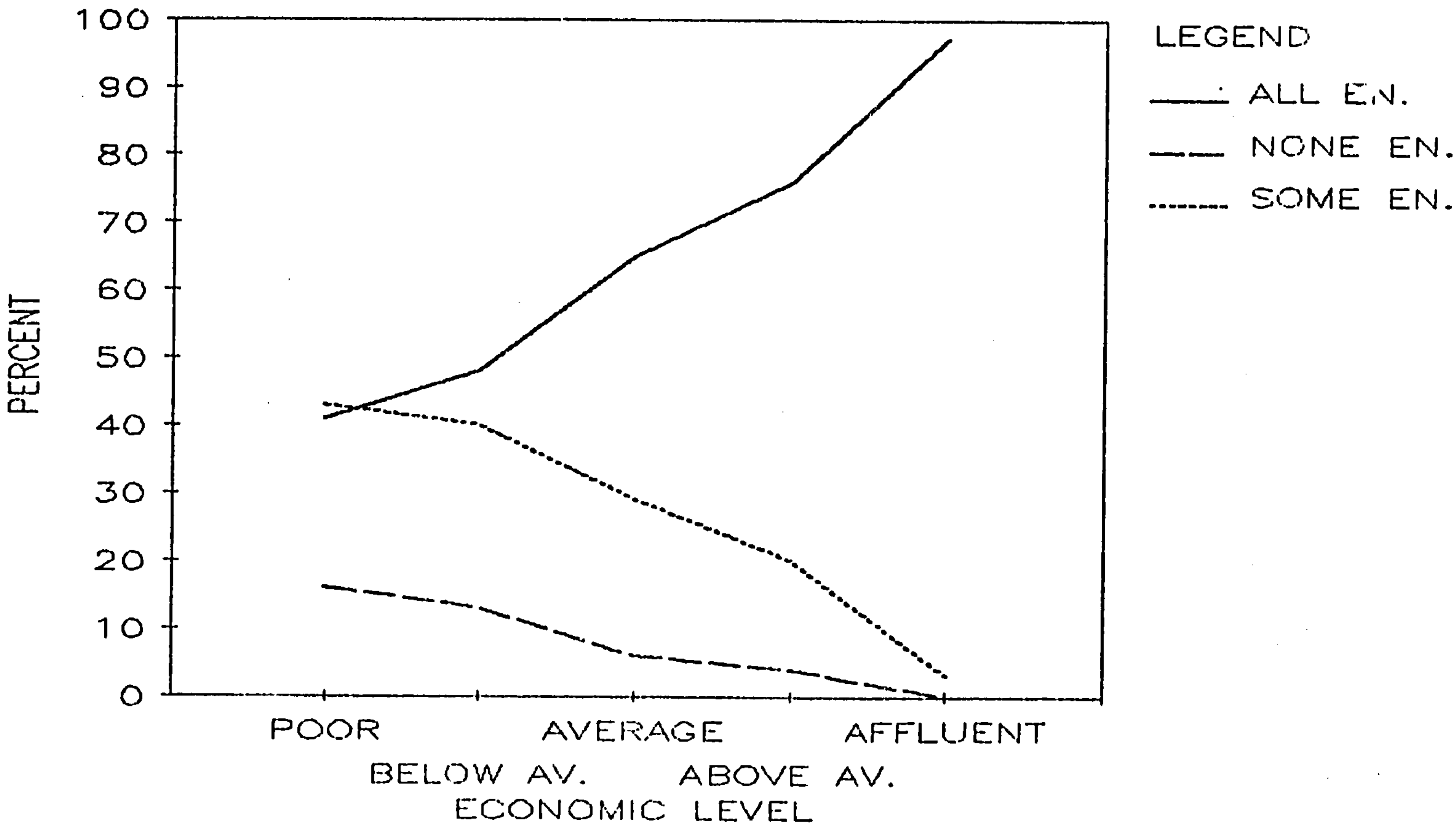


Table A-38 and Figures A-42 and A-43 which look at family decisions about boys and girls separately show that basically the same pattern holds for both sexes, with the primary difference being one of level of enrollment. Boys, as one would expect, are enrolled in considerably higher proportions than girls. It appears that an average economic level or higher is required before more than half the households of that level enroll all eligible-age girls. Similarly, more than half of poor households do not enroll any girls. Thus girls take the brunt of family economies related to low income level.

Authorities wishing to encourage the enrollment of children from families with previously unenrolled children will probably have an easier time encouraging those from families at the higher level of the economic scale where precedence for enrollment is already well established. However, the pool of eligible children is much greater at the other end of the economic scale.

Another interesting point about family decision making is evident in these tables. Note that parents are much more likely to make individual choices about enrolling children, sending some children and not others at the lower end of the economic scale. This means that a low economic level forces parents to make hard choices about whether or not they can afford to pay the extra expenses associated with school or give up the labor and earning power of children.

Table A-37:

Family Decision Making and Economic Level
(Families with Eligible-Age Children Six to Sixteen)

Category	Poor		Below Average		Average		Above Average		Affluent		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All eligible-age enrolled	26	(41)	53	(48)	106	(65)	58	(76)	33	(97)	276	(62)
No eligible-age enrolled	10	(16)	14	(13)	9	(6)	3	(4)	0	(0)	36	(8)
Some eligible-age enrolled	27	(43)	44	(40)	47	(29)	15	(20)	1	(3)	134	(30)
Total	63	(100)	111	(101)	162	(100)	76	(100)	34	(100)	446	(100)

196

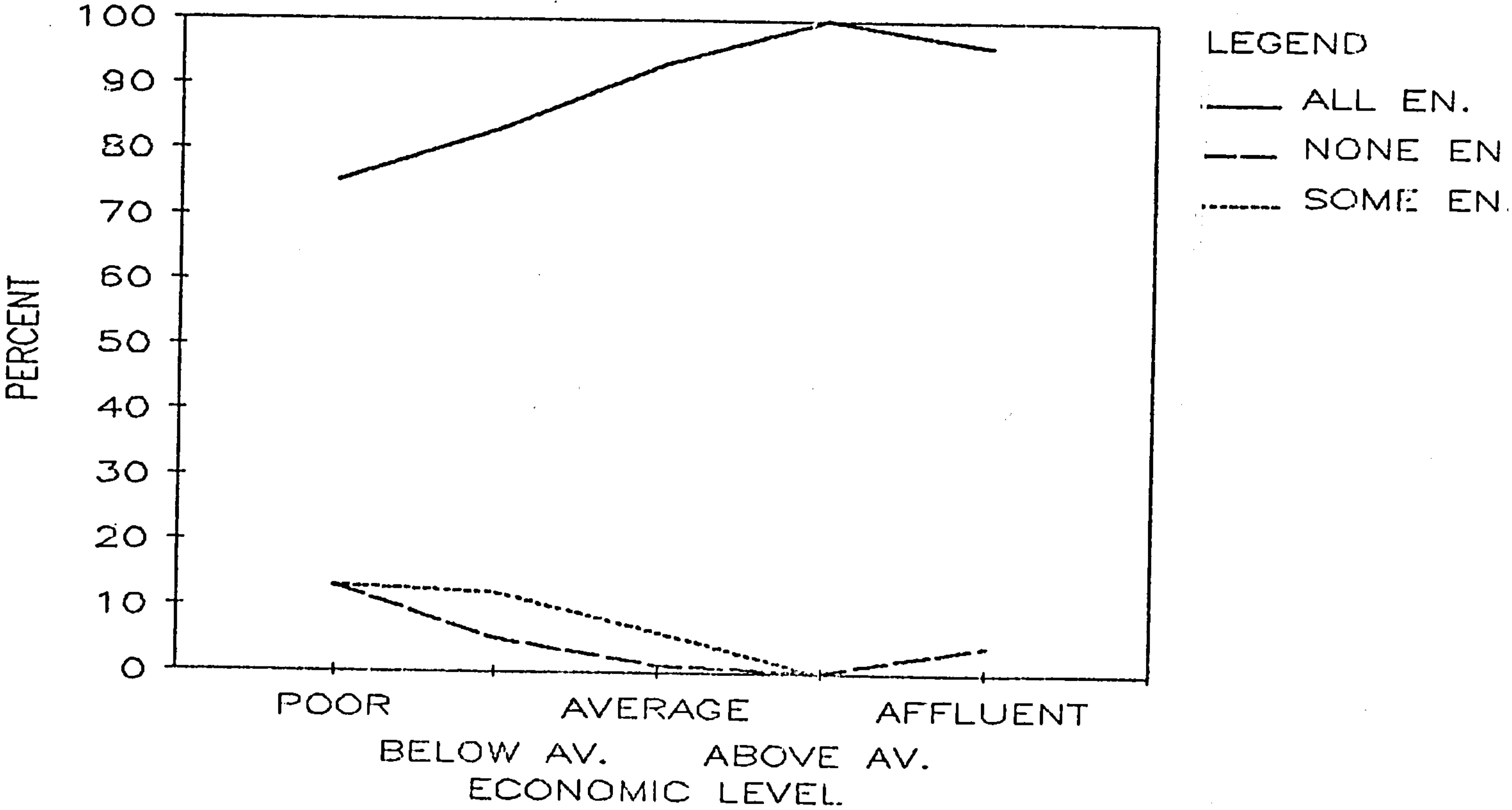
Table A-38:

Family Decision Making and Economic Level
(Families with Eligible-Age Children Six to Sixteen) by Sex

Category	Poor		Below Average		Average		Above Average		Affluent		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Families with Eligible-Age Boys											
All eligible-age boys enrolled	36	(75)	69	(83)	131	(93)	62	(100)	26	(96)	324
No eligible-age boys enrolled	6	(13)	4	(5)	2	(1)	0	(0)	1	(4)	13
Some eligible-age boys enrolled; some not	6	(13)	10	(12)	8	(6)	0	(0)	0	(0)	24
Total	48	(101)	83	(100)	141	(100)	62	(100)	27	(100)	361
Families with Eligible-Age Girls											
All eligible-age girls enrolled	19	(35)	34	(38)	74	(60)	45	(71)	27	(100)	200
No eligible-age girls enrolled	29	(54)	39	(44)	37	(30)	9	(14)	0	(0)	114
Some eligible-age girls enrolled; some not	6	(11)	16	(18)	13	(10)	9	(14)	0	(0)	44
Total	54	(100)	89	(100)	124	(100)	63	(99)	28	(100)	358

197

FIG. A-42: FAMILY PATTERNS BY ECONOMIC LEVEL BOYS ENROLLMENT



Note also, that though there is consistently greater attention given to educating only some of the boys of a family as economic levels decrease, the phenomenon is not consistent with girls, and may reflect other considerations besides economic ones. For example, parents may not have enrolled older daughters and then enrolled younger daughters when schools became more accessible, or the more affluent families, some of whom are more likely to stress conservative values, may have taken a longer time to accept the idea of education for girls.

Several previous studies[1] have shown or suggested that families are the mediating force in decisions about educational participation, and as such the interests of the aggregate group come before consideration of individual rights to educational opportunity. Family strategies consider what constitutes the group's good, to determine which children go to school and for how long. The community study validates once again the disruptive effects of poverty on ideal goals which, though they may favor high levels of extended education, are forced by practical considerations to accept much less in terms of the numbers of children enrolled and their length of time in school. At the same time family decision making is not simply a consequence of economic considerations, but, even at the present time, is still subject in some families of all economic levels to cultural and normative constraints on girls' participation.

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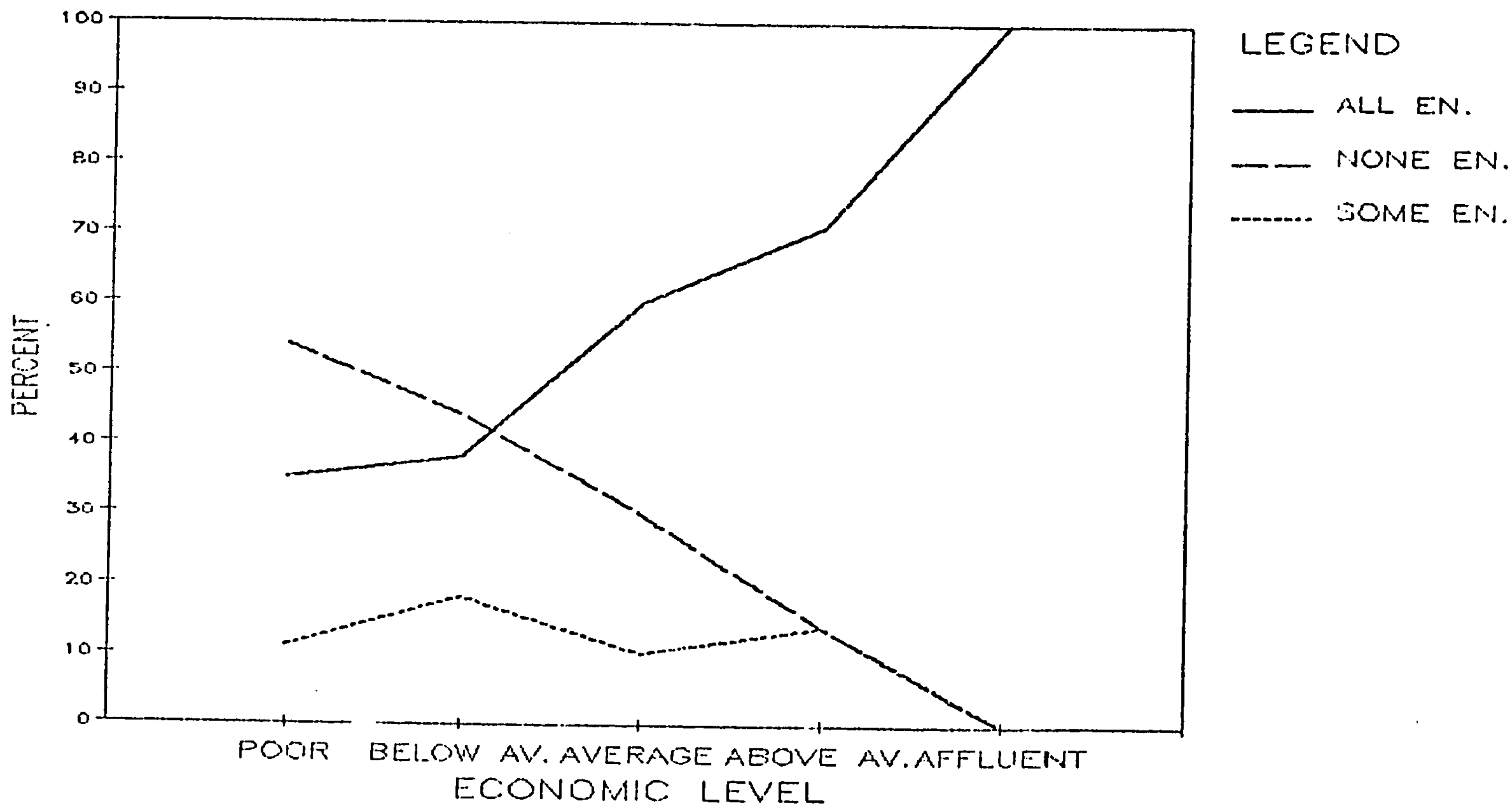
[1]See Rugh; Ibrahim; Hartley and Swanson.

98

Tables provided at the end of the appendix in Annex I show how types of site category differ with regard to the effects of economic patterns on family decision making. Disaggregation to this level, however, begins to reduce the numbers in each unit to such small quantities that the tables should be considered suggestive rather than definitive. Despite the small numbers, however, patterns are still discernable. Boys' enrollment continues to show regular relationship to economic changes in the household as do girls' enrollments in Assiut and Upper Egyptian villages. Girls enrollments in rural and Lower Egyptian villages tend to be lower in below-average households than one would expect, because of the special need for laborers at this economic level. Note also that there is a greater tendency to make individual choices about school at this level, so that some children go and some do not. Again, girls anomalies suggest, especially in the urban sites, that other factors besides economic ones affect school-sending decisions.

FIG. A-43: FAMILY PATTERNS BY ECONOMIC LEVEL GIRLS ENROLLMENT



VI. SCHOOL FACTORS AFFECTING EDUCATIONAL PARTICIPATION

School factors which affect three elements of educational participation--enrollment, attendance, and persistence--are discussed elsewhere in Chapters IV, V, and VIII of this Appendix and will not be dealt with here except in connection with the fourth element--student achievement.

ACADEMIC ACHIEVEMENT (LITERACY AND NUMERACY)

Rather than design, develop and administer separate tests for literacy and numeracy, pass rates on the regularly administered governorate-wide sixth-grade examinations are used as proxies. The average pass rate in 1984/85 for the 27 primary schools in the total intensive school study sample was 81 percent. This masks large variations in the individual school's pass rates which range from a low of 53 percent in one new AID-funded remote rural village school to a high of 100 percent in two urban village schools, one a new AID-funded school and one an older related school used as its comparison school. The median rate was a healthy 87 percent.

School Location As A Variable

Upper Egypt/Lower Egypt

Contrary to the generally held stereotype that schools in Upper Egypt do less well academically than those in Lower Egypt, our preliminary intensive school study data show the two Upper Egypt governorates of Qena and Sohag to be at the top of our distribution. Bahira governorate in Lower Egypt does least well, with an average pass rate 17 percentage points lower than Qena's. (See Table A-39 and Figures I-1 through I-8 in the Annex I at the end of this Appendix.)

Table A-39:

Percent Sixth Grade Enrolled Who Passed Sixth-Grade Examination, by Governorate, School Year 1984/85, Total Intensive School Sample

	Males			Females			Total		
	Enrolled	Passed	%	Enrolled	Passed	%	Enrolled	Passed	%
Qena	385	345	(90)	219	192	(88)	604	537	(89)
Sohag	83	72	(87)	62	55	(89)	145	127	(88)
Assiut	198	141	(71)	147	139	(95)	345	280	(81)
Bahira	451	300	(67)	254	209	(82)	705	509	(72)
Total	1117	858	(77)	682	595	(87)	1799	1453	(81)

Urban Village/Rural Village

All the new AID-funded and the comparison schools are rural schools. Some are situated in what we term "urban" villages, some in "rural" villages. In general, a village is characterized as "urban" when the combination of the spatial distribution of the school population, occupational patterns, the value placed on education, the distribution of socioeconomic levels, and the degree 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.

The two schools in the sample with a 100 percent pass rate are urban village schools in Qena and were participants in an incentive system which promised a monetary reward to the school staff if all the students passed the sixth-grade examination. In Lower Egypt, the two schools with the lowest rates, again a new AID-funded school and its comparison school, with pass rates of 53 and 65 percent respectively, are in remote rural villages (about 10 kilometers to the nearest small city on unpaved roads) and were not involved in an incentive system.

As can be seen from Table A-40, the urban village schools and the city schools have virtually identical average pass rates but the rural village schools have an overall average pass rate 10 percent lower than that of the city schools. In this instance, using the average is somewhat deceiving however, for: (a) the difference is small; and (b) with the exception of the lowest scoring rural village school (53 percent pass rate) the distribution

Table A-40:

Percent Sixth Grade Enrolled Who Passed Sixth-Grade Examination, Rural Village, Urban Village, and City Schools, School Year 1984/85, Total Intensive School Sample*

Schools	Males Enrolled	Males Passed	Males %	Females Enrolled	Females Passed	Females %	Total Enrolled	Total Passed	Total %
Rural Village	282	200	(71)	65	53	(82)	347	253	(73)
Urban Village	334	281	(84)	162	122	(75)	496	403	(81)
City	501	377	(75)	455	420	(92)	956	797	(83)
Total	1117	858	(77)	682	595	(87)	1799	1453	(81)

*Includes the rural village schools of Bani Rafa in Assiut and their two comparison city schools that are not included in the comparative sub-sample because the new school in Bani Rafa had not yet opened.

of pass rates among the three (the rural village, urban village, and city schools) is virtually the same. (See Table 41 below.)

Table A-41:

Pass Rate Distribution, Sixth-Grade Examination, Rural Village, Urban Village, and City Schools, School Year 1984/85, Total Intensive School Sample

Pass Rate %	Rural Village Schools	Urban Village Schools	City Schools
(100)		2	
(96)	2		1
(95)			2
(94)	1	1	
(91)		1	
(88)	1	1*	
(87)	1*		1
(86)		1	
(85)			1*
(84)			1
(79)			1
(78)	1		
(73)	1		
(72)			1
(67)		1	
(65)	1		
(61)			1
(60)		1	
(53)	1		
No scores available		1	
Total	9	9	9

*Median scores.

In general, what Table A-41 shows us is that in our sample, at least, a student's chances of doing well on the sixth-grade examination are as likely to be a function of the quality of the individual school he/she attends as by whether it is located in a rural village, an urban village, or in a city.

New School/Comparison School/City School

We had intended the entire sample to be comparative. Unfortunately, the new school in Bani Rafa, intended as a girls' Basic Education school, had not opened by the beginning of school year 1985, so we eliminated the Bani Rafa schools and their comparative city schools from the sample for purposes of making this analysis. This leaves us with a "comparative" sample of 21 schools.

Again we see from our preliminary data that for all intents and purposes, the differences in pass rates among the new, comparative, and city schools are small and not statistically significant. In short, as measured by the sixth-grade examination, it seems the new schools are doing about as good a job academically as the city schools.

Table A-42:

Percent Sixth Grade Enrolled Who Passed Sixth-Grade Examination, New, Comparison, City Schools, School Year 1984/85, Intensive School Comparative Sample

Schools	Males			Females			Total		
	Enrolled	Passed	%	Enrolled	Passed	%	Enrolled	Passed	%
New	179	142	(79)	58	51	(89)	237	193	(81)
Comparison	380	273	(72)	198	148	(75)	578	421	(73)
City	360	302	(84)	279	257	(92)	639	559	(87)
Total	919	717	(78)	535	456	(85)	1484	1173	(79)

We are quick to caution, however, that the new schools' effects are not totally attributable to the new schools themselves for the sixth grade students who took the tests in 1985, whose scores we are reporting, had previously been in a comparison school for three or four of their six years of schooling. Therefore, the important first three or four years of the students' primary school education had taken place elsewhere. In some cases it's clear the new school built on and added to the solid base of learning their students had acquired elsewhere. In others, it's equally clear the school either failed to do so or failed to overcome the learning problems their students brought with them when they transferred.

When we look at the pass rates in each comparison cluster we find the city schools leading in only three and the new school doing better in four. Three of those four are new AID-funded schools in urban villages. Note also in site No. 1 the disparity of scores from the two schools that use the same building and serve children from the same village.

Table A-43:

Percent Pass, Sixth-Grade Examination,
School Year 1984/85, New, Comparison, and City Schools by Site,
Intensive School Comparative Sample

Schools	Sites						
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
New	-*	73	100	94	53	88	86
Comparison	94 67**	78	100	91	65	60	61
City	96	87	95	85	84	79	61

*No scores available. School opened in October 1985.
**Two schools that use the same building.

School Characteristics

An extensive analysis of our data must await completion of the study--in particular an analysis of how the school factors combine to affect student performance. Analysis of our preliminary data, however, do show four factors to be of significance independently: the amount of homework given in math, science, and Arabic; whether teachers are local or not; whether the headmaster is local or not; and the amount of the headmaster's teaching experience.

We would expect homework to be directly related to student performance on tests, particularly homework in math and science. Though the sixth-grade examinations measure performance on all the academic subjects, mathematics and Arabic are of prime importance since a failure in either (a test score below 50 percent) requires students to repeat the year regardless of how well they have done on the tests in the other subjects.

Parental responses from the community study and our observation of school activities support the finding that whether teachers and the headmaster are local or not is of importance. Local teachers and headmasters tend to be more conscientious and responsive to the needs of the community.

This proves especially true in smaller communities, of course, for they play active and important roles in the community, are known to more people, and since they are local, have more time in the community to meet and see parents, many of whom are neighbors. A teacher or headmaster who commutes from 10 to 40 kilometers each day to and from school, as many do in our sample, is often absent from school, and simply isn't in the community enough to interact with community members or be subject to the same social urgencies as one who is local.

With regard to the fourth factor, the headmaster's teaching experience, we are not sure how this factor interacts to affect student performance. It could be associated simply because those with the most experience tend to be in the city schools, or those with more experience tend to emphasize instruction and student learning more, or that they exert more instructional leadership, or a combination of those and other factors. We will gather more data on this factor this coming school year.

There are other factors we believe may be of at least equal importance. The first is the special case of whether teachers and headmasters are stimulated to produce more through the use of incentives. We have observed the results of one incentive system in Upper Egypt, in which teachers and headmasters were promised a substantial economic reward if all their sixth-grade students passed the sixth-grade examination. Two urban village schools produced these outstanding results--one for two years in a row.

One of the schools, a new AID-funded school, also had 100 percent of its randomly selected fifth- and sixth-grade pupils pass both the carpentry and electricity practical skills test and had no dropouts. In the other, there had been only one dropout.

Secondly, our interviews with school officials, school staff, and our observations in the schools lead us to believe that how well the school functions as a cohesive goal--directed social unit--may be of great importance. The school's headmaster plays a prime role in bringing about such a state of affairs. The most effective headmasters consciously strive to increase feelings of belongingness, of pride in the school and its accomplishments, and of ownership. In fact, when asked what they do to improve instruction in the school, many begin by saying they "treat the staff as family members;" "we are a family;" in "my" school or in "our" school "we," etc.

The most successful also provide a structured environment which helps order interpersonal relationships by the care with which roles are defined and accorded their prerogative reponsibilities and authority. This organizational environment, modeled as it is on the pattern of familial relationships which obtain in the larger society, sets up reciprocal role responsibilities which create and depend on role interdependency and the autonomy of role incumbents. As in any such set of closely ordered quasi-primary group relationship patterns, the organizational units can be highly vulnerable to the vagaries or lack of effective functioning of some of its members. By the same token, however, they also provide that sense of work, of belonging, and of identity through group membership that is central to Egyptian culture.

No school, and particularly no public school, could function effectively for long in as homogeneous a culture as that obtaining in Egypt if it departed very far for very long from the norms of the social system relationship patterns of the larger society of which it is a part and which it helps inculcate and reinforce in the young. Hence, by and large, the dominant patterns in the ordering of relationships, of value patterns, and of social commerce will prevail in the way successful schools are organized and operate.

It is unlikely that a position incumbent who did not publicly manifest the qualities generally ascribed to his or her position could be very effective. In the absence of that effectiveness at the top of an organization, the entire organization will suffer to some degree, depending on its size and whether there are one or two others at or near the top who can, are allowed to, and will provide the support, leadership, and the restoration of confidence in the integrity of the group.

In connection with this last point, when headmasters are asked to describe the elements of their program to improve learning in their schools (all say they have one), those in the most effective schools, as measured by success rates on the sixth-grade examination, describe programs directed inwardly, toward the active part of school--the instructional program and at how the school is functioning. This is usually managed through classroom visits to observe teaching, and through making sure that teachers know the headmaster is tracking students' progress and cares about how well they are doing. Some provide additional class periods, low-cost tutoring, and study opportunities for students having difficulty. Many encourage parental involvement in their children's learning, asking parents to attend parent teacher meetings to learn what expectations are being held for their children and how they might be of help to them.

The less effective look outward or at passive elements in their school. "I visit other schools and talk with headmasters to get good ideas." "I make sure we follow the orders and directives that come from district headquarters." "I'm trying to get a school library started with 'modern' books in it." "I make AV aids, charts, posters, models for teachers." (This headmaster had been an art teacher.) "I make sure the teachers follow the syllabus."

More than half the successful headmasters also emphasized strongly their belief they must themselves be models, must "set an example" for their staff to follow. Through treating their staff "as family" they tended to reinforce strongly the traditional values of developing and maintaining a social system that fosters close interpersonal relationships in a well-organized, clearly perceivable manner. This tends to create and maintain the sense of belonging, of high morale, the sense of shared group ownership of the system, and of a mutually reinforcing dynamic of shared participation and contribution to the group's goals.

The headmaster's years of experience as a headmaster also seemed to be positively related to student performance. It's unclear yet just how strong this relationship is for it's bound to be mediated by school size, the amount of supervision the teachers get from their subject supervisors, and the general type, experience, and quality of the teaching staff. School size is important in this regard as a mediator because large to medium schools often

206

have an intermediate administrative staff with experience who carry on even in the face of an inexperienced headmaster. In small schools, on the other hand, the headmaster is in much closer daily contact with teachers and hence his influence is direct and immediate.

In older schools, with highly experienced staff, they can often carry on as they had in the past for some time and are often unaffected by a new headmaster until he or she starts to play an active role in supervision. In new schools, on the other hand, the headmaster and teachers have to work together to establish an ongoing, operating organization with all the interpersonal relations that implies. Often, in new very rural schools most of the teachers will be new or have only one or two years' experience and are working with a headmaster who also is new to his job. In both these cases, the headmaster's influence is also direct and immediate.

In general, then, we can say that headmasters' influence on teachers is mediated by a host of factors, and generally takes time to be realized except in the smallest or newest schools. His affect on student achievement is subject to an even greater time lag and is filtered through and affected by innumberable other additional factors, personal, immediately contextual, and historical ("we do things this way here").

PRACTICAL SKILLS ACHIEVEMENT (ELECTRICITY AND CARPENTRY)

Background

End-of-year examinations in the practical subjects--industry, home economics, and agriculture--when given, are usually teacher or supervisor made, feature two or three essay-type questions, and perhaps a few true and false questions. They do not test students' skills. Evaluation of student skills acquisition are made by teachers from classroom observations and sometimes from their performance in making or repairing an object or a part of an object, or through observing how well they participate in a group project in which they play a small part.

For purposes of obtaining as equitable, objective, direct, and valid a measure of actual practical skills as we felt possible, the team decided to assess student performance in structured work-sample tests rather than rely on random or general observations. We chose to test students acquisition of skills in industry since it is the only new Basic Education course to be introduced into the primary school curriculum that uses AID-funded equipment and tools.

Industry is taught two 45-minute periods a week in the primary school and is taken by both boys and girls. The major sub-topics around which most of the teaching is structured are electricity and carpentry, both tool-using subjects (carpentry more so than electricity). We decided, therefore, to test in these two fields. The curriculum and syllabus make no distinctions between what shall be taught each of the sexes or how it shall be taught, and while long on describing activities, contains no explicit learning objectives. To ensure the curriculum validity of the tests, and to assure ourselves and school officials that the tests were fair, we asked the Ministry consultants who were responsible for preparing the curriculum to design the work-sample tests.

Each test took 30 minutes. The students tested were chosen at random and were given a written statement of a problem to be solved, e.g., make a shelf or find and fix the problem in this electrical circuit, a set of tools, and the necessary materials (wood, nails, wire, switches, etc.). If it became apparent the student could not read the problem and the directives, they were read to him or her. No further explanations nor help was given.

Two experts observed the students at work and judged their product and the process of their work, assigning points for successful completion of each step in the process. Both judges were Egyptian--one an expert from the Ministry, one selected from the pool of supervisors in industry or a superior industry teacher in the governorate. There were two such teams. An Egyptian Ministry-selected expert headed each team, which also included two research assistants. One set up the workshop, laying out the tools, materials, etc., and administered a brief questionnaire to each student, asking them to name each of a common set of tools and give a brief description of their uses. The other selected the students to be tested using a random number table. Sample size was set at 10 percent of each sex in each grade (5th and 6th), with no fewer than 3 and no more than 15 for each sex. After selecting the sample and bringing them to the testing room, the second assistant helped in the test room until time to get the second class.

In order to reduce bias, each of the teams visited a new, comparison, and city school on successive days. The American researcher went with a different team each day. Prior to beginning the field visits, a brief set of training sessions were held in Cairo for the judges and research assistants. Training sessions were also held in each governorate for the local governorate expert who would participate as a judge.

A discussion of what we were going to do and why was held with the top officials in each governorate education office, usually the Undersecretary, at the beginning of our stay in each. At the conclusion, we also met again with the top officials and reported the results of our testing, whatever conclusions we had drawn from them, and made recommendations on matters we felt needed attention.

Table A-44 reports average scores of the total primary school sample. We also tested in the preparatory schools of the sample. Those data are too limited in size for our use in this report. They will be aggregated with data to be gathered in preparatory schools in the next five governorates in February/March 1987 and reported on in that year's annual report. We did report the 1986 preparatory school data to the Ministry of Education, however, for such use as they may care to make of them.

Table A-44:

Average Scores of Fifth and Sixth Grade Work-Sample Tests of Practical Skills and Knowledge in Carpentry and Electricity, 1985/86 School Year, All Schools, Intensive School Sample

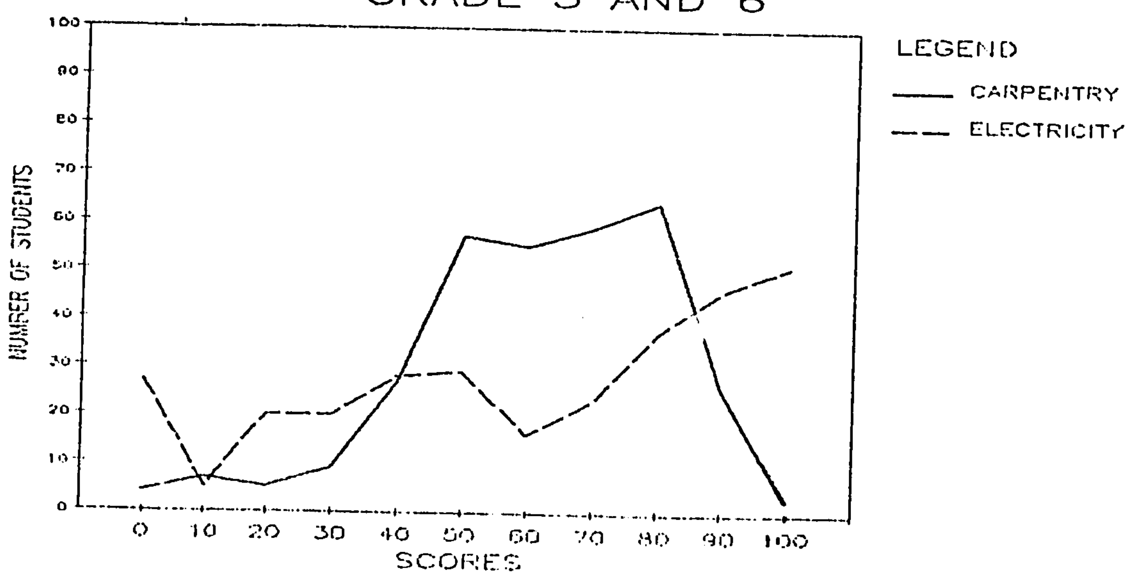
Industry Sub-field	Grade Level				
	5		6		5 & 6
	M	F	M	F	T
Carpentry	73	51	70	61	65
Electricity	70	62	60	46	60

Total carpentry: $q_1 = 50$; $q_2 = 65$; $q_3 = 80$

Total electricity: $q_1 = 40$; $q_2 = 70$; $q_3 = 90$

An examination of these average scores show us the students are doing quite well, except for the sixth-grade girls in electricity. Girls tend to do less well in general than boys and the electricity scores are lower in all instances but one, fifth-grade girls. If we use a score of 50 percent as the pass score, as is done in the academic test in sixth grade, we see the differences between the performance in the two skill areas is greater than we might assume from Table A-44 alone. In fact, 82 percent of the carpentry scores were 51 or higher, whereas in electricity only 66 percent of the scores were above 51. The plot of these two score distributions shows these differences quite clearly.

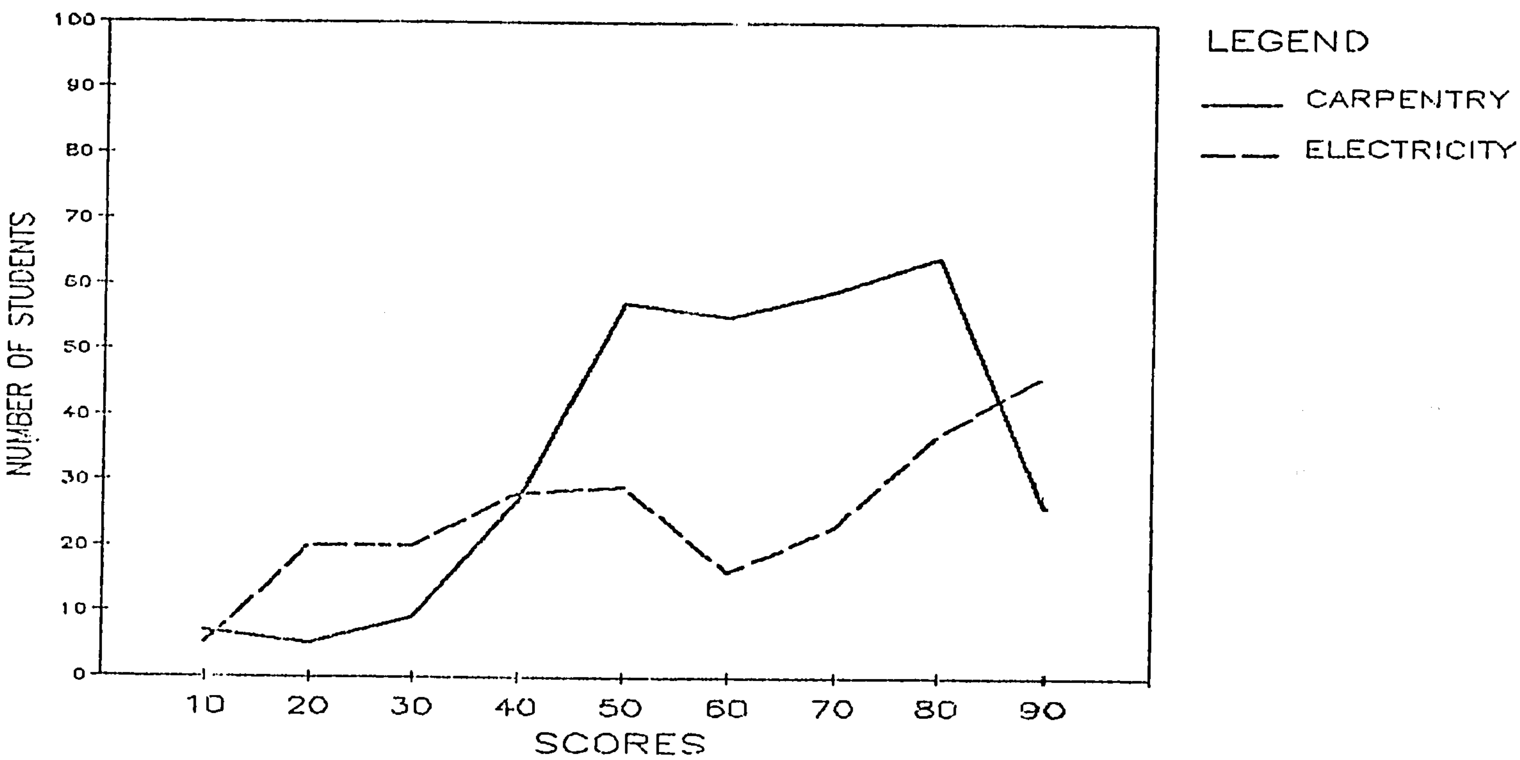
FIG. A—44: SCORE DISTRIBUTIONS CARPENTRY AND ELECTRICITY SKILLS TESTS, GRADE 5 AND 6



Note from Figure A-44 that while both distributions are skewed, that of electricity is flatter and more negatively skewed, i.e., more scores are at the upper end of the distribution. The scores indicate there were three student populations in electricity--those that scored 0 (9 percent), those that scored 100 (16 percent), and the remaining 75 percent, who are distributed more like those in carpentry, as can be seen from Figure A-45, in which we have censored the 0 and 100 scores.

In this case, in carpentry 75 percent of the scores ıll between 50, the passing score, and 80 as before. In electricity, however, [illegible] percent now fall between 40 and 80, instead of between 40 and 90 as befo and the median score has dropped 10 points from 70 to 60.

FIG. A—45: SCORES
CARPENTRY AND ELECTRICITY
CENSORED DISTRIBUTIONS
GRADE 5 AND 6



These score distributions are not unusual for skills testing. In fact, one wants more students to score highly. The perfect situation would be if all scored 100 percent on a test that accurately reflected the curriculum's objectives.

In our case, the tests do reflect the curriculum's assumed objectives, as defined by those who developed the curriculum. The electricity and carpentry tests were quite different, however, as are the subjects, and consequently called for different skills and knowledge. The results, we believe, reflect these different underlying skills and abilities.

Scoring well on the tests in electricity did not depend on skill with tools, on knowledge of tools, or on practice with using materials, as was the case in carpentry. The tests seem to be more cognitive in character, depending on applying knowledge of theory the student already had--he or she already knew how to find the problem in a faulty circuit and repair it, or secondly, on whether or not a student was a good problem solver--some deliberately tried alternative solutions in an orderly and systematic way. A third group, the least successful, repeated random trials using a trial and error method--occasionally helped or harmed by a peek at what someone else was doing.

The carpentry tests, on the other hand, required more manual dexterity, knowledge of materials (will I split the piece of wood if I hit it here with a chisel?), and practice with tools. In carpentry students used a compass, a straight edge, nails, hammer, saws, wood rasps, vise or C-clamp, chisels, and sandpaper. The only tools used in the electricity tests, however, were a screwdriver, a pair of pliers, and a wirecutter. The carpentry test also required much more intensive labor from the students. They had to plan their work, measure and draw a certain shape, cut it out of a piece of wood (using a saw and a hammer and chisel or a large wood rasp), file the piece smooth with a wood rasp and sandpaper, or cut the pieces for and assemble a shelf without having a model to follow.

Tables A-45 and A-46 shed additional light on the differences in results we obtained from the two tests.

Table A-45:

Schools by Percent of Students Who Passed (Scored 50 Percent or Better), Electricity and Carpentry Tests, Grades Five and Six, February/March 1986, Intensive School Comparative Sample

Subjects	Number and Percent of Schools by Percent of Students Passing: Below 50 percent		From 50 to 60 percent		From 60 to 70 percent		From 70 to 80 percent		From 80 to 90 percent		From 90 to 100 percent		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Electricity	2	(14)	3	(21)	2	(15)	1	(7)	2	(14)	4	(29)	14*	(100)
Carpentry	2	(12)	1	(6)	1	(6)	3	(18)	5	(29)	5	(29)	17*	(100)

*Electricity not taught in seven schools; carpentry not taught in four.

Note that we have changed our reporting metric. We are now reporting on the number and percent of schools in which certain pass rates obtained rather than on means and quartiles. We do this to use a common report format so we can make an easy visual comparison of these two sets of skill test results with the sixth-grade test results, using the school as the unit of analysis.

Table A-45 should be read as follows: "In electricity, in two schools (14 percent of the schools in which carpentry was taught) less than 50 percent of the students passed (scored 50 percent or better), " and so forth. This, of course, also means that in 12 of the 14 schools (86 percent) all the students passed. In carpentry, in 2 of the 17 schools offering the subject, none of the students passed but all did in 15 of the 17 schools (88 percent).

When we combine the number of schools that offered the subjects and set a 60 percent pass rate in a school as a satisfactory performance, we get the results shown in Table A-46.

Table A-46:

Schools Not Offering Electricity, Carpentry, and Schools in Which Less than 60 Percent of the Students Tested Passed, February/March 1986, Intensive School Comparative Sample

	Not Taught		Below 60 percent of students passed		Totals		Total Schools	
	No.	%	No.	%	No.	%	No.	%
Electricity	7	(33)	5	(24)	12	(57)	21	(100)
Carpentry	4	(19)	3	(14)	7	(33)	21	(100)

From Table A-56 we now can see that one's chances of learning the skills taught in carpentry and electricity at a satisfactory level are less in electricity than in carpentry. That is, in 57 percent of the schools the subject is either not offered or the results of teaching are unsatisfactory. Such is the case in carpentry in only one-third of the schools, however.

School Location As A Variable

On the whole, the schools in Upper Egypt tended to do slightly better in both the carpentry and electricity tests than those in Lower Egypt. The differences are so slight, however, as to be of no practical importance.

Urban Village/Rural Village

There were no apparent differences of any significance between the urban and rural villages in scores--though the percent offering each does vary. In carpentry, 7 of the 9 urban village schools offered the subject as did 3 out of the 5 rural village schools. In electricity, on the other hand, only 5 out of the 9 urban village schools offered the subject and 3 of 5 of the rural schools did. Therefore, one's chances of learning carpentry were slightly greater if one attended an urban village school and about the same for learning electricity.

However, this is somewhat misleading since in 6 of the 7 urban village schools that offered carpentry, all the students tested passed. This was also true in 2 of the 3 rural village schools that offered carpentry. In electricity, in 5 out of the 5 urban village schools that offered the subject all the students passed, whereas that was true for only 1 of the 3 rural village schools. We know the tests are sensitive to instruction and conclude, therefore, that at least in our preliminary data, the urban village teachers may well have done a better job in both subjects.

Table A-47:

Schools by Percent of Students Who Passed Electricity Tests, Grades Five and Six, February/March 1986, Intensive School Comparative Sample

Electricity

Schools	Number and Percent of Schools by Percent of Students Passing							Totals
	Not Taught	Below 50 percent	From 50 to 59 percent	From 60 to 69 percent	From 70 to 79 percent	From 80 to 89 percent	From 90 to 100 percent	
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	
New								
Electricity	4 (47)	1 (14)	1 (14)	- (--)	- (--)	- (--)	1 (14)	7 (100)
Carpentry	2 (29)	1 (14)	- (--)	- (--)	- (--)	1 (14)	3 (43)	7 (100)
Comparison								
Electricity	3 (38)	- (--)	- (--)	2 (25)	1 (13)	2 (25)	- (--)	8 (100)
Carpentry	3 (38)	1 (13)	- (--)	1 (13)	1 (13)	1 (13)	1 (13)	8 (100)
City								
Electricity	1 (14)	2 (29)	2 (29)	1 (14)	- (--)	- (--)	1 (14)	7 (100)
Carpentry	- (--)	- (--)	1 (14)	- (--)	2 (29)	2 (29)	2 (29)	7 (100)

New School/Comparison School/City School

As we see from Table A-47, the students in the new schools are at a disadvantage in both courses if we again set the 60 percent passing mark as satisfactory performance and combine those schools with those that don't offer the courses. In electricity, in 6 of the 7 schools (86 percent), students either were not offered the course or less than 60 percent secured a passing mark on the test. In carpentry, they are at slightly less a disadvantage in that the same is true for only 3 of the 7 schools (43 percent).

For the comparison schools, the same results hold for students in 3 out of 8 schools in electricity (38 percent), and 4 out of 8 (50 percent) in carpentry. In the city schools, in 5 out of 7 of the schools (71 percent), the students were not offered electricity or did not pass the test. In carpentry, the results were much better in the city schools, with the students in only 1 school of the 7 having less than satisfactory marks and the subject being offered in all the schools.

School Effects

Are there generalized school effects that we can detect in our preliminary results? We have made some tentative conclusions, though of course, a more definitive answer to this important question will have to wait upon the more extensive analysis of the two years of data. A close look at Table A-48 shows one clear pattern and a few tentative ones.

We ranked the schools in Table A-48 by their academic pass rates followed by their pass rate and ranking for carpentry and electricity. Thus, school number 113, an urban village comparison school, ranks 13th out of 17 academically, 7th out of 14 in carpentry skills, and 2nd out of 12 in electricity. (Note the tie scores which give us fewer ranks than schools teaching the subject.)

There seems to be a school effect at the extremes. The best school, a new AID-funded urban village school in Upper Egypt, is best in all three areas. The worst school, a new AID-funded rural village school in Lower Egypt, does the worst in the academic and carpentry pass rates and is ranked next to last on the electricity test.

There may also be a generalized school effect in carpentry, since we see that 8 of the 17 schools in which it is taught (47 percent) had pass rates within 7 percentage points of the sixth-grade examination rates. In electricity on the other hand, we do not detect any such generalized effect for in only 2 of the 14 schools in which electricity is taught (14 percent) are the rates within 7 or so percentage points of the sixth-grade pass rates.

Table A-49 summarizes the test results by grouping them into decile ranges. Note the 2 schools (10 percent) with 100 percent pass rates on the sixth-grade examination are matched by 3 (14 percent) with 100 percent pass rates in electricity, and by 4 (19 percent) in carpentry. Looking at the obverse, the less than satisfactory results, we find that 4 of 14 schools that taught electricity (29 percent) had what we are terming unsatisfactory results, whereas in carpentry such is the case in only 1 of the 17 schools teaching that subject.

214

New School/Comparison School/City School

As we see from Table A-47, the students in the new schools are at a disadvantage in both courses if we again set the 60 percent passing mark as satisfactory performance and combine those schools with those that don't offer the courses. In electricity, in 6 of the 7 schools (86 percent), students either were not offered the course or less than 60 percent secured a passing mark on the test. In carpentry, they are at slightly less a disadvantage in that the same is true for only 3 of the 7 schools (43 percent).

For the comparison schools, the same results hold for students in 3 out of 8 schools in electricity (38 percent), and 4 out of 8 (50 percent) in carpentry. In the city schools, in 5 out of 7 of the schools (71 percent), the students were not offered electricity or did not pass the test. In carpentry, the results were much better in the city schools, with the students in only 1 school of the 7 having less than satisfactory marks and the subject being offered in all the schools.

School Effects

Are there generalized school effects that we can detect in our preliminary results? We have made some tentative conclusions, though of course, a more definitive answer to this important question will have to wait upon the more extensive analysis of the two years of data. A close look at Table A-48 shows one clear pattern and a few tentative ones.

We ranked the schools in Table A-48 by their academic pass rates followed by their pass rate and ranking for carpentry and electricity. Thus, school number 113, an urban village comparison school, ranks 13th out of 17 academically, 7th out of 14 in carpentry skills, and 2nd out of 12 in electricity. (Note the tie scores which give us fewer ranks than schools teaching the subject.)

There seems to be a school effect at the extremes. The best school, a new AID-funded urban village school in Upper Egypt, is best in all three areas. The worst school, a new AID-funded rural village school in Lower Egypt, does the worst in the academic and carpentry pass rates and is ranked next to last on the electricity test.

There may also be a generalized school effect in carpentry, since we see that 8 of the 17 schools in which it is taught (47 percent) had pass rates within 7 percentage points of the sixth-grade examination rates. In electricity on the other hand, we do not detect any such generalized effect for in only 2 of the 14 schools in which electricity is taught (14 percent) are the rates within 7 or so percentage points of the sixth-grade pass rates.

Table A-49 summarizes the test results by grouping them into decile ranges. Note the 2 schools (10 percent) with 100 percent pass rates on the sixth-grade examination are matched by 3 (14 percent) with 100 percent pass rates in electricity, and by 4 (19 percent) in carpentry. Looking at the obverse, the less than satisfactory results, we find that 4 of 14 schools that taught electricity (29 percent) had what we are terming unsatisfactory results, whereas in carpentry such is the case in only 1 of the 17 schools teaching that subject.

Table A-48:
Schools Ranked by Percent Passing Grade Six Examination, 1984/85 School Year, Intensive School Sample Versus Percent Passing Carpentry and Electricity Practical Skills Tests, Grades Five and Six, Intensive School Sample, School Year 1985/86

School Number	School Type	% Passing 6th	Rank	% Passing Carpentry	Rank	% Passing Elec-tricity	Rank
131	Ur. Vill. New	100	1	100	1	100	1
132	Ur. Vill. Comp.	100	1	60	10	73	4
114	City	96	2	74	8	not taught	
133	City	95	3	100	1	65	6
112	Ur. Vill. Comp.	94	4	81	6	81	3
211	R. Vill. New	94	4	100	1	not taught	
213	Ur. Vill. Comp.	91	5	not taught		not taught	
122	City	89	6	57	12	29	12
421	Ur. Vill. New	88	7	93	2	not taught	
123	R. Vill. Comp.	88	7	not taught		not taught	
212	City	87	8	86	3	50	9
431	Ur. Vill. New	86	9	85	4	not taught	
413	City	84	10	72	9	44	10
423	City	79	11	82	5	53	8
121	R. Vill. New	73	12	not taught		58	7
113	Ur. Vill. Comp.	68	13	75	7	83	2
412	R. Vill. Comp.	65	14	100	1	65	6
432	City	62	15	100	1	100	1
422	Ur. Vill. Comp.	60	16	38	13	69	5
411	R. Vill. New	53	17	33	14	42	11
111	Ur. Vill. New	999*	-	not taught		not taught	

*No scores/school began October 1985.

Table A-49:

Schools by Percent Students Passing Sixth-Grade Examination, 1984/85, Work-Sample Tests Practical Skills, February/March 1986, Intensive School Comparative Sample

	Sixth Grade Examination		Test in Electricity		Test in Carpentry	
	Schools**		Schools		Schools	
Pass Ratio	No.	%	No.	%	No.	%
100	2	(10)	3	(14)	4	(19)
90-99	5	(24)	1	(5)	1	(5)
80-89	6*	(29)	2	(10)	5*	(24)
70-79	2	(10)	1	(5)	3	(14)
60-69	4*	(19)	2*	(10)	1	(5)
50-59	1	(5)	3	(14)	1	(5)
40-49	0	(0)	1	(5)	0	(0)
30-39	0	(0)	0	(0)	2	(10)
20-29	0	(0)	1	(5)	0	(0)
No Scores	1	(5)	7	(33)	4	(19)
Totals	21	(100)	21	(100)	21	(100)

*Median score

**Some of the schools in the sixth-grade examination column have the same or close ranking in the other two columns; most do not. See Table A-48.

217

The Effects of Equipment

When we consider equipment as a factor by itself, we find a threshold effect but no other. If a school has no equipment it doesn't offer the practical course for which it is lacking equipment--as happened in two of our schools. However, above a certain minimal amount, having additional sets of tools and other equipment seemed to have no effect distinguishable by our tests.

From Table A-50, we see that 67 percent of the new, 80 percent of the comparison, and only 33 percent of the city schools had received less than the "correct" amount of carpentry equipment, (the "correct" amount being that amount the MOE had set as the amount each school should receive). Yet, in the new schools (see Table A-48), we see pass rates in carpentry in the 80-100 percent range in 4 of the 5 schools in which it was taught (80 percent), but in only 4 of the 7 city schools in which it was taught (57 percent). More of the city schools had the "correct" or more than the "correct" amount of carpentry equipment, however. In fact, 1 city school had enough carpentry equipment for 11 schools; yet it ranked 9th out of 14 in carpentry test results.

Table A-50:

Percentage of New, Comparison, City Schools Having Received Less Than the Correct Amount, or More Than the Correct Amount of AID-Funded Equipment, School Year 1984/85, Intensive School Sample

Total of Sites	New			Comparison			City		
	Less	Correct	More	Less	Correct	More	Less	Correct	More
Total industry equipment	67*	-	3	70	-	30	44	-	56
Carpentry equipment	67*	-	3	80	-	20	33	-	67
Electricity equipment	56	44	-	44	30	30	22	67	11
*Total equipment (sciences, social studies, home economics, agriculture, and audiovisual)	71	-	2	80*	-	-	56	-	44

*Data missing on one field for two new and two comparison schools.

What does seem to make a difference, however, is the interactive effects of materials and equipment to which we now turn our attention.

218

Materials and Equipment

In all three practical courses offered in the primary schools--industry, agriculture, and home economics--teachers and students must have the raw materials with which to work or the AID-funded equipment supplied these courses remains idle or is only used for display and to illustrate the teaching of theory. The promised MOE materials budget allocation to the primary schools is LE 40 per class--i.e., per grade level in most rural schools in the sample since on average they have one fifth and one sixth-grade class.

The allocation is to be split among the three subjects to buy such items as cloth, thread, etc. for sewing; food items such as sugar, salt, flour, vegetables, meat, etc. for cooking; sugar, salt, lemons, oranges, seeds, eggs, beans, rabbits, etc., for use in agriculture; copper wire, switches, bulbs, door bells, sandpaper, wood, paint, stain, wood laminates, nails, screws, bricks, plaster, sheet metal, etc. for use in industry.

Costs for all these items have risen in the last three years, especially for wood, all of which has to be imported into Egypt. Yet the actual budget allocations for materials from the MOE has shrunk over this same period of time--to an average of 17 LE per year per class in school year 1985/86.

Though we have a general concern that an adequate materials budget be supplied for all the courses, our particular concern is with industry--carpentry, in particular. We find the teaching in carpentry tending more and more toward demonstration teaching. The teacher or technical assistant will make an object, lecturing and explaining as he does, while the students only observe. A few may be given a chance to hammer in a nail, or tighten a screw, or even cut a board in two. In part teachers use this method because it's an easier way to teach. More importantly, most say they do so because it conserves materials.

Even if the primary school industry teacher received a disproportionate share of his school's allocation, say LE 15 for each class, he couldn't afford to allow students to waste materials. Yet when learning, students make mistakes and waste material, particularly in the early stages of using tools to make something.

It may be possible to redesign the carpentry curriculum so as to make less use of expensive materials--a course of action we recommend to the Ministry. We would also recommend that while the course is being rethought and redesigned, the MOE be able to supplement materials budgets with AID funds.

If these are not seen as feasible and the recurrent costs of allocating the full materials budget to schools can't be borne by the G.O.E., we then suggest that AID/Cairo reconsider the further purchase of tools and equipment for the industry course. If students are not going to be able to use materials, there is no need for schools to have any more than a minimum demonstration set for use by the teacher.

In electricity, teachers have to use the school's 220 volt, 50 ampere electrical circuit as the power source for any circuits students design or

219

assemble. A change to the use of 1-1/2 volt flashlight batteries, small wire, flashlight bulbs, small switches, etc. would enable all students to learn to solve circuitry problems, including troubleshooting, in a safe system. It would also enable schools which have no electrical service yet, or are in power-short areas, to teach the subject.

The Curriculum and Teaching Time

Industry teachers expressed general satisfaction and agreement with the industry curriculum. In Table A-51 we present their responses to the more general questions. The responses to more specific questions about the teaching of carpentry and electricity will be provided to the MOE for such use as they care to make of them. Note that though a majority say the current grading system is suitable, a majority think it should not be the pass/fail subject it currently is.

Our classroom observations revealed that though both boys and girls are taught in the same industry classes, there were clear-cut differences in many schools as to what and how they were taught. Frequently boys worked with tools and materials while girls only watched. That is, once having learned the names, uses, etc. of the tools, and having been given some familiarization training--how to hammer a nail, saw a board, etc.--girls often were then put back into passive roles, generally as observers. We know this to be consistent with general social attitudes about the proper roles of women and men and this type of hand work in the larger society and wondered if teachers, in sharing those beliefs, might be in conflict with the curriculum goals of no sex-role discrimination as to what is taught in the primary school. We therefore asked industry teachers whether boys, girls, or both ought to be taught each of the industry sub-topics. Their responses are presented in Table A-52.

The low responses on home maintenance and metal working reflect the fact they are taught in only a very small number of schools. Most teachers didn't respond because they didn't feel qualified to do so because of their lack of experience. It may also reflect another fact of life in rural schools--laying bricks, doing minor plumbing for tank toilets which are not used in many rural villages, plastering walls--are time consuming and probably too difficult for fifth- and sixth-grade students.

Most felt that the two 45-minute periods per week they teach was adequate for curriculum coverage but the great majority wanted the periods joined so they could work with students for a 90-minute period each week. We concur that it would be advisable, if possible. Simply coping with the logistics of getting equipment and materials out and ready, cleaning up and putting things away again consume almost a quarter of the current teaching time.

Table A-51:

Ratio of Industry Teachers' Responses to General Questions about the Curriculum, School Year 1985/86 , Intensive School Sample, New, Comparison, and City Schools

	New		Comparison		City	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
I am happy with the industry curriculum	80	20	79	21	72	28
It is not suitable	20	80	21	79	22	78
It should be changed	60	40	95	5	67	33
It should contain carpentry	80	20	89	11	94	6
Painting	100	-	84	16	100	-
Home maintenance	80	20	89	11	78	22
Electricity	90	10	100	-	94	6
Weaving	80	20	74	26	61	39
It helps students to be productive citizens	80	20	100	-	94	6
Industry is a kind of pre-technical training	100	-	95	5	94	6
It provides students with skills they will need in their daily life	100	-	95	5	100	-
It is a good subject achieving the integration of theory and practice	100	-	100	-	94	6
It serves the other subject	100	-	84	16	89	11
The current grading system is suitable	50	50	79	21	78	22
Industry should not be a pass/fail subject	40	60	53	47	39	61
The end-of-year examinations should be practical only	40	60	26	74	22	78
Examinations should be practical and written	60	40	79	21	61	39

221

Table A-52:

Combined Teacher Responses to Whether Males and Females Should be Taught the Sub-fields in Industry, School Year 1985/86, All Schools in Intensive School Sample, Grades Five to Nine

	Males	Females	Both
Carpentry	77%	6%	17%
Painting	23%	3%	73%
Electricity	17%	3%	80%
Weaving	3%	47%	50%
Home Maintenance (masonry, plumbing, plastering, minor structural repairs)	0	0	7%
Metal Working	3%	0	0

222

VII. EDUCATIONAL EFFICIENCY

In the Egyptian educational system, as in all national school systems, there are two major types of efficiency goals: those related to the external needs of society for an educated, appropriately skilled citizenry, and those related to the effective and efficient use of resources within the system.

The first goal when translated into the objectives of the Basic Education Program becomes one of producing a literate population with the fundamental preparation for life as useful citizens and for entering more specialized, advanced training that prepares young people to assume needed positions in the skilled manpower force of the nation. Human resource wastage occurs when the school system does not attract children into the system, or, after attracting them, does not hold them in the system long enough to achieve the basic objectives of the system. Educational resources are wasted when children do not move through the system efficiently or do not succeed in learning what the program is expected to teach them.

HUMAN RESOURCE DEVELOPMENT OBJECTIVES

It is possible to identify four levels of skill development, or its lack, that can be acquired through different levels of participation in the nine years of Basic Education. There is first the child who does not enroll in formal educational programs and therefore does not acquire any of the desired skills. Second, there is the child who enrolls but does not stay in school long enough to acquire functional literacy skills, estimated to be about grade five level for rural children.[1] Third, there is the child who reaches grade five level but drops out between that level and grade nine before acquiring a grade nine completion certificate. That child under normal circumstances becomes literate but closes off his or her options to obtain more specialized training through the formal system. Finally, there is the grade nine certificate holder who has completed the Basic Education Program considered necessary for good citizenry and is prepared for further training in fields required for the development of the Egyptian labor force. The GOE would like to see all children reaching this level as a basic step toward fulfilling its manpower goals.

In terms of GOE goals, as expressed in the compulsory education law of 1981, any degree of skill training less than the last can be considered in some measure a waste of human resources. For this reason compulsory schooling laws set grade nine as the minimum required for every child.

EDUCATIONAL EFFICIENCY: COMMUNITY SAMPLE

In the community sample we can see the extent to which children of an age cohort achieve the different skill levels expected of them.[2] Table A-53

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[1]Hartley and Swanson, op. cit.
[2]Laws requiring school until grade nine came into effect in 1981 and therefore older children of the age cohort were not under obligation to continue to that level.

summarizes skill levels achieved by children in a cohort that has had sufficient time to complete the nine years of schooling (ages 15 to 25) and compares them with a cohort of children presently at the Basic Education age (6 to 16). The table adds a skill level to the four noted above, those potentially still able to achieve literacy and functional preparation because they are currently enrolled. Among the 15- to 25-year olds, most in this category are enrolled in grades near to completion of grade nine. Among the 6- to 16-year olds most are still attending lower grades and therefore their chances of achieving these levels are still in doubt.

If we aggregate the data cumulatively we see that in the 15- to 25-year-old group, 17 percent of males and 60 percent of females never achieved educational skills of any kind. Altogether in the cohort, 33 percent of males and 71 percent of females did not achieve the level of functional literacy, and 41 percent of the males and 76 percent of the females did not complete the grade nine degree program. In this age cohort, therefore, only between 43 and 60 percent of the males and between 17 and 25 percent of the females will complete what is considered the basic course requirements for an Egyptian male or female.

Data on the 6- to 16-year-old age cohort provides a more optimistic view. Though all the skill levels are not directly comparable with the 15- to 25-year-old group because so many children in the 6- to 16-year-old group are still enrolled, the two levels that can be fairly reliably compared show major improvements. The ratio of those who have not enrolled in the younger group is almost half that of the older cohort. And the ratios of those dropping out before grade six have also decreased considerably, and probably will not be expected to rise appreciably in the next few years. If the persistence of children continues at the same relatively higher rates, then one would expect much higher levels of grade nine completion. From the age cohort that has completed schooling age in the last decade, however, one must note the high ratio of those who do not achieve even functional literacy either because they do not enroll or because they do not persist long enough in school. The largest group failing to reach these levels is girls, and for them the more significant problem is non-enrollment.

EDUCATIONAL RESOURCE UTILIZATION

Table A-54 summarizes the pattern of wasted school years for the younger generation who enrolled in the community sample. In this table we assume school years to be productive if children achieve levels of functional literacy, the basic minimum that the program expects to achieve. Over 85 percent of the school years have thus far been productively utilized and wastage rates are relatively low. Note however that among enrolled children higher wastage occurs as a result of children dropping out in the early years than it does through grade repetition.

Table A-55 examines school year utilization by those in different educational statuses. The figures again represent an age cohort (15 to 25) which for the most part has completed the Basic Education level. The table shows the number of repeated years by educational status. Those who complete grade nine proportionally expend the fewest years on repetition. Males who drop out before grade six expend the highest proportion of their school years

224

Table A-53:

Skill Levels Achieved in Age Groups of the Community Sample

Skill Level	Age Group 15 to 25						Age Groups 6-16					
	Males		Females		Total		Males		Females		Total	
	No.	%	No.	%	No.	%	No	%	No.	%	No.	%
1. Illiterate (never enrolled)	73	(17)	250	(60)	323	(38)	43	(7)	219	(36)	262	(22)
2. Pre-literate (dropped before grade six	69	(16)	47	(11)	116	(14)	29	(5)	33	(5)	62	(5)
3. Functionally literate (dropout between six and nine)	33	(8)	21	(5)	54	(6)	4	(1)	6	(1)	10	(1)
4. Potentially literate and functionally prepared (currently enrolled up to grade nine)	76	(17)	32	(8)	108	(13)	492	(84)	335	(55)	827	(69)
5. Functionally prepared[1] (completed grade nine)	188	(43)	70	(17)	258	(30)	20	(3)	14	(2)	34	(3)
6. Total children in age group	439	(100)	420	(101)	859	(101)	588	(100)	607	(100)	1195	(100)

[1]Functionally prepared means qualified for further study or with the skills considered basic for an Egyptian citizen.

Table A-54:

School Year Utilization by Once-Enrolled Children of the Younger Generation Community Sample

Educational Status	Males		Females		Total	
	No.	%	No.	%	No.	%
Years wasted:						
By dropout before grade six	378	(7)	288	(10)	666	(8)
By repetition[1]	245	(4)	100	(4)	345	(4)
Total wasted	623	(11)	388	(14)	1011	(12)
Productively[2] completed	4958	(89)	2384	(86)	7342	(88)
Total years	5581	(100)	2772	(100)	8353	(100)

[1] All years of repetition including those repeated by children who dropped out.

[2] Productively completed school years are those utilized by children still in school, those who completed grade nine, and those who dropped out after grade five and are presumed to be functionally literate.

Table A-55:

School Year Utilization by Once-Enrolled Members of the Younger Generation Community Sample Beyond Basic Education Age (15 to 25)

Educational Status	Males: School Years Completed No.	%	Males: Repeated Years No.	%	Males: Total Years No.	%	Females: School Years Completed No.	%	Females: Repeated Years No.	%	Females: Total No.	%
Currently enrolled	652	(92)	58	(8)	710	(100)	277	(92)	24	(8)	301	(100)
Completed grade nine	1692	(96)	64	(4)	1756	(100)	630	(96)	26	(4)	656	(100)
Dropout before grade six	250	(87)	36	(13)	286	(100)	182	(95)	10	(5)	192	(100)
Dropout between six to nine	225	(89)	20	(11)	245	(100)	139	(94)	6	(6)	145	(100)
Total years	2819	(94)	178	(6)	2997[1]	(100)	1228	(95)	66	(5)	1294[1]	(100)
Total meeting literacy goals[2]	2569	(95)	142	(5)	2711	(100)	1046	(95)	56	(5)	1102	(100)
Total meeting or still able to meet diploma goals of BE[3]	2344	(95)	122	(5)	2466	(100)	907	(95)	50	(5)	957	(100)
Total years wasted[4]	475	(89)	56	(11)	531	(100)	321	(95)	16	(5)	337	(100)

[1] Total paid for by Ministry of Education.

[2] Those utilized by children who persisted to grade five levels or higher.

[3] Those utilized by children who persisted to completion of grade nine or who are currently enrolled and have almost reached that level.

[4] Those utilized by children who dropped out before completing grade nine.

on repetition of any group, followed by males who drop out before grade nine. Currently enrolled males and females expend the same proportion on repetition but dropout females expend less than currently enrolled females. This evidence suggests that girls who drop out are not necessarily discouraged by poor performance, but rather drop out for reasons cutside the school system itself. Boys on the other hand who drop out show evidence of having a previous record of poor performance. The table indicates that male dropouts use more than their share of educational resources by higher grade repetition. Though they only complete 17 percent of the successful school years, they use 31 percent of the years wasted by repetition. If one considers school years used by dropouts as years of wastage, then those males who drop out before grade six consume 73 percent of years wasted and those who drop out before completing grade nine, 81 percent of the years wasted. Any way one chooses to look at the problem of educational resource wastage, male dropouts consume a disproportionate share of the expenditures. This is to be expected since there are many more males in school and the females as a smaller group are probably relatively more capable and motivated.

One conclusion to be drawn from this observation is that educational resources can be more effectively used if they are focused on enriching the first four years of schooling in an attempt to prevent as much dropout as possible. Enrichment should be directed at providing the fundamentals for children who will not remain in the system long, and remedial work to keep the poorer student up to grade level. If possible, repetition before the grade six level should be avoided as a matter of policy. After the grade six level, children should then we allowed to drop out of the system without penalty. In this way resources would be saved that would otherwise be expended on poorly motivated and academically less well qualified students, who are often school discipline problems while consuming a disproportionate share of the resources. The present policy of requiring children to stay in school until they reach grade nine is one that is not realistic given the resource limitations of the GOE. In the countryside of Egypt, administrators are universally discovering ways to circumvent the requirement which is only complicating and making inaccurate bookkeeping and planning documents while not accomplishing the objective of keeping children in school.

REPETITION AND DROPOUT

Repetition not only wastes educational resources but it appears to have an effect on the dropout rates of certain kinds of students. Table A-56 summarizes the relationship between grade repetition and the tendency to drop out before completing grade nine. Males who drop out before grade nine have high repetition rates before they drop out, much higher than the repetition rates of those who complete grade nine. By contrast, girl dropouts have less than half the repetition rates of boy dropouts. Therefore, grade repetition appears to be a significant factor in a boy's decision to drop out, while other reasons, unrelated to school, seem to be more compelling for girls.

Tables A-56 and A-57 shows the number of times children of different educational statuses repeated grades. Boys who dropped out were more likely than those completing grade nine to repeat a grade only once. Thus, there may be a difference in motivation level for the two groups, with boy dropouts becoming discouraged more quickly. To a lesser degree this generalization also holds true for the girls.

228

Table A-56:

Repetition Rates in the Younger Generation of the Community Sample

Educational Status	Males			Females		
	No. of Repeaters	%	Total of Status	No. of Repeaters	%	Total of Status
Currently enrolled	64	13	508	36	10	344
Completed grade nine	71	30	233	23	31	74
Drop out before completing grade nine	74	51	145	24	22	111

Table A-57:

Number of Times Grades Are Repeated in the Younger Generation of the Community Sample

Educational Status	Males				Females			
	Once	Twice	Three or More	Total Repeaters	Once	Twice	Three or More	Total Repeaters
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %
Currently enrolled	48 (75)	12 (19)	4 (6)	64 (100)	30 (83)	5 (14)	1 (3)	36 (100)
Completed grade nine	59 (83)	12 (17)	0 (0)	71 (100)	19 (83)	4 (17)	0 (0)	23 (100)
Drop out before completing grade nine	69 (93)	4 (5)	1 (1)	74 (99)	22 (92)	2 (7)	0 (0)	24 (100)

229

Table A-58 shows the grades those from different educational statuses are most likely to repeat. Male dropouts by far repeat grade six most frequently while those completing grade nine are most likely to repeat grade nine itself. Female dropouts show the same pattern. Thus, it seems that dropouts tend to have problems with the system much earlier than those who complete basic education. If the latter have difficulty with the system it tends to be at such an advanced stage that the motivation to continue is probably enhanced by the knowledge that the goal is so close at hand.

Table A-58:

Grades Repeated

Educational Status	Grades Males Repeat							Grades Females Repeat						
	2	4	6	7	8	9	Total	2	4	6	7	8	9	Total
Currently enrolled	11	7	21	18	13	14	84	8	4	16	4	5	6	43
Completed grade nine	2	3	19	11	13	35	83	1	1	9	4	2	10	27
Drop out before completing grade nine	4	10	40	7	5	14	80	4	5	13	1	0	3	26

Note: The currently enrolled are added for information only. Because they are often still enrolled in lower grades, their record is not yet complete.

EDUCATIONAL EFFICIENCY: SCHOOL SAMPLE

Dropout and Repetition[1]

Dropout

Our preliminary data show the annual dropout figure to be very low--1.6 percent, in comparison to the MOE figure of 3.2 percent last calculated for 1982/83.[2] We suspect that our primary school data may underrepresent the

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[1]We have restricted our analysis to these two elements of school efficiency only and to their economic consequences.

[2]Samir Luis Saad, "Dropout from Primary Education During the Years 1956/57 to 1978/79, A Statistical Study," in Charles A. Benson, The Economics of Basic Education, A.E.D., September 1984, p. 34.

230

dropout problem in Egyptian schools simply because our continued study of the same set of schools and their communities may well have stimulated school officials to make greater efforts to present their schools in the best light possible.

Repetition

Repetition is a second factor in school efficiency and is closely linked to dropout. It is a costly process and probably of dubious value as a means of remedial education. Data on failure rates in the 1984/85 sixth-grade examinations, for example, show that 42 percent of the boys and 45 percent of the girls who failed the examination were sixth-grade repeaters.

Gross Productivity: A Proximal Measure of Efficiency

A frequently used measure of the general efficiency of schools is gross productivity. This is obtained by dividing the number of successes in the sixth-grade examination by the number of students who entered the schools six years earlier. Gross productivity measures approximate school efficiency because of distortions due to grade repetition, transfers, deaths, and home study students.[1]

We calculated the gross productivity of the comparison schools in our sample, since they are rural schools as are the new AID-funded schools. We were able to obtain data for seven of the eight. From Table A-59 one sees that their rates vary considerably, ranging from a low of 50 percent to a high of 80 percent; their average is 63 percent. The national average for primary schools for the prior year, 1983/84, was 73.7 percent. The comparison schools' lower average probably reflects the largely rural nature of the schools.

Table A-59:

Gross Productivity in Comparison Primary Schools, Intensive School Sample, School Year 1984/85

Schools	Ratios
No. 1	80
No. 2	57
No. 3	64
No. 4	66
No. 5	53
No. 6	71
No. 7	50

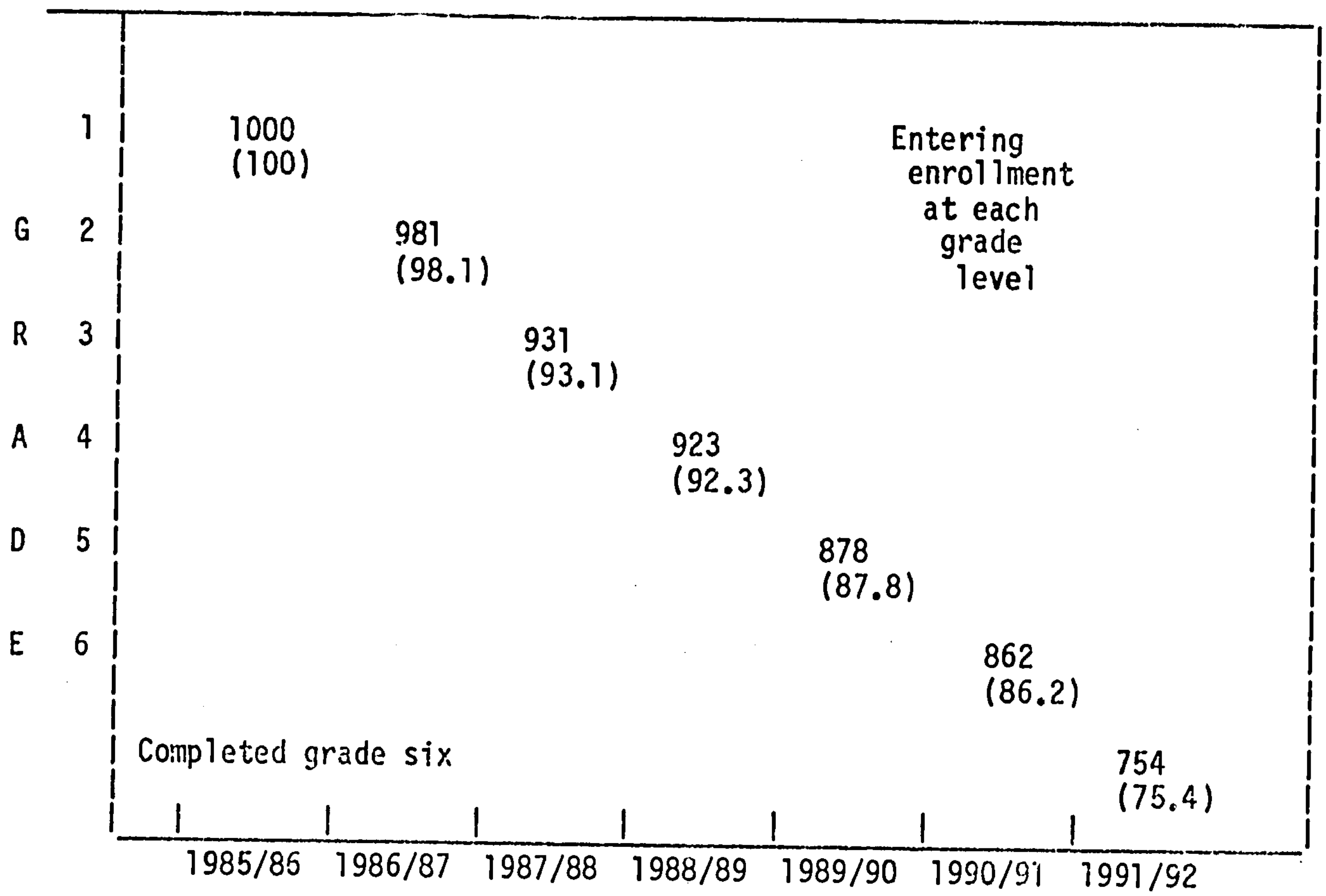
We also prepared a projected hypothetical productivity rate for the schools in the sample using the current average rate for dropout and repetition in the primary schools in our sample. As part of the process of

[1]To achieve accuracy one has to eliminate these distortions.

obtaining the rates we also calculated transition tables for each school between school years 1984/85 and 1985/86, in which we accounted for transfers in and out of the schools, home study students, student deaths, and grade repetition, plus the November 1985 dropout figures corrected and updated by a second visit to the schools in March 1986.

Chart 1:

Projected Hypothetical Productivity in 1990/91, Combined Intensive School Sample 1990/91, If Current Dropout and Repetition Ratios Remain as They Were in School Year 1985/86



See Table A-60 for the Details of the data in Chart 1.

Table A-60:

Projected Hypothetical Productivity in 1990/91, All Sample Schools Combined, if Current Dropout and Repetition Ratios Remain as They Were in 1985/86.

	1		2		3		4		5		6		Ready for 7th Grade	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Beginning of Year	1000	(100)	981	(98.1)	932	(93.2)	924	(92.4)	879	(87.9)	863	(86.3)	756	(75.6)*
Dropouts**	-19		-21		-8		-19		-16		-18			
Sub-total	981		960		924		905		863		845			
Repeaters	-0		-28		-0		-26		-0		-89			
Promoted	981	(98.1)	932	(93.2)	924	(92.4)	879	(87.9)	863	(86.3)	756	(75.6)		

*Discrepancies between Table A-60 and Chart 1 due to rounding.

**Cumulative shrinkage due to dropout alone is 10.1 percent.

Because of grade repetition, 14.3 percent will take at least seven years to complete grade six; 5 percent will take eight years. Of those who have to repeat the sixth grade, approximately 10 percent will drop out.

The dropout rate by grade ranges from .8 percent in grade three, to 2.2 percent in grades six and two. This is somewhat different from the figures in the community sample, in which grades six and five are the two highest dropout years in the primary school. The second-grade dropouts in the intensive school sample consists in the main of boys. Though we have no firm direct evidence, we strongly suspect that since the percent of boys enrolling in first grade of those eligible to enroll is nearly 100, many more of them are marginal and difficult to educate than has been the case in the past or is the case now with girls.

Hence, it may well be that by the middle to end of the second grade, parents have come to realize the marginality of the sons' potential and seek other avenues for them, perhaps helped along by messages from the school in the form of failing grades or even failure in the second-grade examination. About 3 percent (2.9 of the enrolled second-grade boys) fail the second grade and have to repeat. Another 2.2 percent drop out, so the shrinkage from those entering grade two to those entering grade three the next year is 5.9 percent in the school sample.

Note that the hypothetical rate compares favorably with the Egyptian national average in 1983/84 of 73.7 percent and is considerably higher as an average rate than the current comparison school average rate of 63 percent. Focusing on the averages, however, obscures the variability of the rates in the comparison schools. Three of the seven have rates in the 50-60 percent range. Clearly they are candidates for further examination by school officials to see what can be done to make them more efficient.

DROPOUT AND REPETITION IN THE INTENSIVE SCHOOL STUDY SAMPLE

Dropout

A look at the data from the intensive school sample shows relatively little difference between the percentages of dropouts in the new, comparison, and city schools. As one would expect, the city schools in the sample have fewer, followed by the new schools, with the comparison schools having the most. (See Table A-61.)

Table A-61:

Comparative Dropout, New, Comparison, and City Schools
School Year 1985/86, Intensive School Comparative Sample*

New Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
B	1181	201	24	2	(2.0)	(1.0)
G	691	352	12	2	(1.7)	(0.6)
T	1872	553	36	4	(1.9)	(0.7)

Comparison Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
B	2028	1288	44	35	(2.0)	(2.2)
G	1449	153	40	3	(2.3)	(2.8)
T	3477	1441	84	38	(2.2)	(2.4)

City Schools

Gender	Enrollment		Dropouts		Ratio	
	Primary	Preparatory	Primary	Preparatory	Primary	Preparatory
B	2722	669	23	13	(0.8)	(1.9)
G	1669	536	10	4	(0.6)	(0.7)
T	4391	1205	33	17	(0.75)	(1.4)
Grand Totals	9740	3199	153	59	(1.6)	(1.8)

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*Minus the schools in Bani Rafa, where the new school is not yet open.

235

Economic Consequences

Even these annual dropout and repetition rates, low as they are, have some economic consequences for the schools and for parents. Table A-62 shows the years used by the dropouts and repeaters.

Table A-62:

Wasted Years Caused by Dropouts and Repetition, Total Intensive School Study Sample, School Year 1985/86*

Grade	Sex	Enrollment Years*	Due to Dropout		Due to Grade Repetition		Total Years Wasted	
			Number	%	Number	%	Number	%
1 - 5	Male	18251	292	(1.6)	81	(.4)	373	
	Female	12254	246	(2.0)	36	(.3)	282	
	Total	30505	538	(1.8)	117	(.4)	655	(2.1)
6	Male	7038	222	(3.15)	150	(2.1)	372	
	Female	4494	132	(2.9)	54	(1.2)	186	
	Total	11532	354	(3.1)	204	(1.8)	558	(4.8)
7 - 9	Male	20552	487	(2.4)	352	(1.7)	839	
	Female	8894	128	(1.9)	78	(.9)	206	
	Total	29446	615	(2.1)	430	(1.5)	1045	(3.5)

*School enrollment records in November 1985, before being adjusted for dropout.

236

Public Costs

The reader will note that grade six is the highest wasted-cost year with 46 percent of the years wasted in grades one through six occurring in this year alone. Clearly, however, it would be unfair to portray grade six as the only villain in this picture. Those students who fail the grade six examination or who drop out are a product of the first five years of schooling. While intensive tutoring in grade six, frequently a very costly affair for parents, may help a student pass the examination, even that will not be enough if the school has failed in its educational responsibility to the student in the first five years.

We also see that it's the boys who do worst, using 56.9 percent of the wasted years in grades one through five and, more dramatically, 67 percent of the sixth grade. An even more startling high percent of the wasted years in grades seven through nine is due to boys--80.3 percent!

To calculate the economic consequences, we started with the annual average cost per child supplied by the MOE for school years 1982/83 and 1983/84. To derive 1985/86 we then added to the 1983/84 figures the same growth increment the MOE added to their 1982/83 figure to estimate 1983/84. We believe this to be a conservative estimate. (See Table A-63.)

Table A-63:

Average Per Child Annual Operating Costs, Egyptian Primary and Preparatory Schools

Years	Primary School	Preparatory School
1982/83	59.95	94.48
1983/84	61.6	97.4
1984/85	68.24	103.71

We then developed Table A-64 to show the public costs of these years used by dropouts and grade repeaters.

It is clear that dropout accounts for the highest cost--65 percent. However, because they are so closely related, especially for boys, in reality we must consider dropout and grade repetition together. In grade six alone they together account for 20 percent of the total cost. In grades seven through nine they account for 57 percent of the total.

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The most frequent school-related reason given for dropout for boys is examination failure. The consequent grade repetition it causes has resulted in 40 percent of the dropouts having repeated one or more grades. Of those who repeated, 69 percent repeated once, 28 percent repeated twice, and 3 percent three times.

Table A-64:

Costs to the Public in LE of Years Used by Dropouts and Grade Repetition, Intensive School Study Sample, School Year 1984/85

	Dropouts			Grade Repetition				Total
Grade	Years Used %	Cost LE	Percent Total Cost	Years Used %	Cost LE	Percent Total Cost	Total Used Years	Cost LE
1-5	538 (36)	36,713	(19)	117 (16)	7,984	(4)	655	44,697
6	354 (23)	24,157	(13)	204 (27)	13,921	(7)	558	38,078
Sub-Total	892 (59)	60,870	(32)	321 (43)	21,905	(11)	1213	82,775
7-9	615 (41)	63,782	(33)	430 (57)	44,595	(23)	1045	108,377
Total	1507 (100)	124,652	(65)	751 (100)	66,500	(35)	2258	191,152

Note that as we mentioned earlier, the grades one through five, grade six, and grades seven through nine dropouts represent different aspects of wastage, as does grade repetitions.

At first glance, the figures in Table A-64 do not seem very impressive. After all, there are only 1,213 years used by dropout and repetition, grades one through six, (at a total cost of LE 82,775) in the 27 schools of the sample. However, there are 12,669 primary schools in Egypt. If these figures from our preliminary data, which we consider to be conservative, are representative of the current Egyptian average, we are speaking of a total of 15,405,504 years used by dropout and repetition in the primary schools--at a total cost of LE 38,843,154.

If primary school efficiency could be improved by even 50 percent, 7,702,752 years now used by dropout and grade repetition in the primary schools of Egypt could be saved--equivalent to having an additional 242 new schools operating at the current efficiency levels. Were these 50 percent savings of years used by these two elements of wastage also realized in the preparatory schools, it would mean an additional saving of years of wastage equivalent to having the student capacity of another 277 new schools--or a total of 519.

For those who feel it would be impossible to realize a reduction of this size in dropout and repetition, we can say that it can be done. In two schools of our sample in Upper Egypt--a new AID-funded school and an older crowded comparison school, there were no sixth-grade failures and only one male dropout (in the older comparison school).

There is evidence that it can be done if the governorates are able and willing to mount an aggressive school improvement program and if the teachers and headmasters are sufficiently motivated. In the case of the two schools mentioned above, the teachers and headmaster were promised an economic incentive if 100 percent of their sixth-grade students succeeded in their examinations.

Private Costs

In addition to the public costs for schooling, it costs Egyptian families a not inconsiderable sum to send their children to school. Parents in the community study reported having to spend money for uniforms and clothing, for school fees, for pocket money, for transportation to and from school, for school supplies, and for special tutoring. Tables A-30 shows these costs. If we assume families in the total costs categories are paying at the median cost for the category, the average cost per family in the three sites will be on the order of 198 LE. The average urban site family pays LE 19 more than the rural family, due in large measure to having a larger percentage of their children enrolled.[1]

Table A-65 shows the average yearly cost to families of sending a child to primary and preparatory school.

Table A-65:

Summary, Average Yearly Costs to Families of Sending A Child to Primary or Prepatory School, School Year 1985/86, Community Study Sample

Sites	Primary Average Cost* Per Child LE	Preparatory Average Cost Per Child LE
Rural	73	100
Urban	73	103
Females	72	105
Overall	72	102

*Rounded to the nearest LE.

[1]See Tables A-I-7, A-I-8 and A-I-9 in the Annex to this Appendix, for the average yearly costs to families.

2|4

Using these summary data we can calculate the private costs to families of dropout and repetition. By substituting the average per child cost from Table A-64 for the public costs in Table A-66, we find that dropout and repetition in the intensive school sample cost parents a total of LE 193,226 during school year 1984/85. LE 2,074 more than it costs the MOE. See Table A-66.

Table A-66:

Private Costs to Families of Years Wasted by Dropouts and Grade Repetition, Intensive School Sample, School Year 1984/85

Grade	Dropouts				Grade Repetition				Total Cost LE	Per-cent Total Cost
	Average Cost LE	Years Wasted	Cost LE	Percent Total Cost	Aver-age Cost	Years Wasted	Cost LE	Percent Total Cost		
1-5	72	538	38,736	(20)	117	8,424	(4)	655	47,160	(24)
6	72	354	25,488	(13)	204	14,688	(8)	558	40,176	(21)
Sub-total		892	64,224	(33)	321	23,112	(12)	1213	87,336	(45)
7-9	102	615	62,730	(32)	430	43,860	(23)	1045	106,590	(55)
Total		1507	126,954	(65)	751	66,972	(35)	2258	193,926	(100)

Note: Boys account for the largest portion of these costs--72 percent.

If one takes into account what many parents see as the opportunities for increasing family income lost by having marginal, failing children stay in school when many could be employed, the private costs are even higher. If a 12-year-old boy (nominally a sixth grader) works only 120 days a year for farm labor wages of LE 2 per day--a very modest time and amount today given the need for farm labor, even unskilled labor--he not only brings home LE 240 but he also saves his family the LE 72 in out-of-pocket costs for schooling, for a total immediate return to the family in the first year of LE 312. He also saves them the additional LE 100 or so they could have to spend each year for his preparatory schooling.

It seems clear from these figures that a program to improve instruction and decrease failure rates, to identify and correct problems in how schools are organized and function, to increase attention to solving personal, social, and learning problems, to retrain staff, and identify and work to prevent dropout would yield rich rewards, social, personal, and financial, to the school and to parents and children alike.

VIII. IMPACTS OF NEW SCHOOL CONSTRUCTION

SIX-YEAR-OLD ENROLLMENTS

New school construction has had its most visible impact on grade one enrollments. Table A-67 summarizes the record of grade one enrollments, (assuming age six as the year a child enters that grade) in the years preceding the new school opening and for two years thereafter. The data comes from the seven sample communities where new primary schools have opened. Note that in most target groups a rise in grade one enrollment appears in the year preceding the opening of the new school. The four villages that account for most of this increase are: (1) relatively close to nearby schools so that parents may have anticipated the new school by enrolling children more heavily, knowing the distance factor would soon be reduced; (2) had a "one-room" school that could be temporarily expanded; or (3) had a nearby school that went onto double shift, encouraging higher grade one enrollments. Because of these factors it is possible that this increase in enrollments is anticipatory to new school openings. On the other hand, the extensive study shows a marked increase in enrollments in both new school sites and control sites in 1982/3, a year preceding the opening of the 1983 new schools. Benson (1984) notes a large increase in enrollments generally since 1981/82 in all-Egypt data which he attributes to the 1981 Law 139 extending compulsory education to nine grades. We cannot therefore say conclusively that in all new school sites there was an anticipatory rise that occurred as a result of new school opening (though we know this to be a fact in two new school communities where one-room schools existed prior to the new schools).

Most target groups exhibited rates of six-year-old enrollment at a noticeably lower level before anticipated new school openings and markedly higher rates later. The absence of consistent trends before the opening suggests that the new school construction was responsible for a substantial part of the rise. It is difficult in such a small sample to determine exactly what proportion of the rise can be attributable to trends and what can be attributed to impact alone.

To fully understand the impact of the new schools it is important to consider the data from both the intensive study and the extensive study taken together. Evidence from the extensive study is used to assess the magnitudes of the impacts of the new schools, but it cannot throw light on the processes that underlie the impacts since detailed community and school data is difficult to gather from such a large number of sites. Evidence from the intensive study is used to illuminate the factors that affect the new school impacts but it cannot safely be used to assess the overall impacts themselves, since the sample of schools is too small.

From the intensive study we can draw the following conclusions:

- After schools opened:

  (a) Enrolled six-year olds from the sampled families totalled 85 percent of eligible-age six-year olds including 100 percent of the boys and approximately 75 percent of the girls.

vii

(b) All boys from the sampled families, even those in the remotely rural villages and in economically disadvantaged groups, were enrolled in school.

(c) Children from rural and disadvantaged sampled families constituted the largest group of unenrolled six-year olds. All were girls.

(d) In the family sample the proportion of girls to total enrollment was approximately 45 percent in the new schools.

(e) The new schools clearly increased the numbers of six-year olds going to school, but we cannot say with accuracy how large the increases attributable solely to the new schools were.

From the extensive study we can draw the following conclusions:

(a) On the average, across all the sites, the effects of the new schools were to add 24 boys and 27 girls to the school population of grade one in the first year of operation, and 18 boys and 18 girls in the second year. This represents percentage increases of the average grade one school enrollment at each site of 15 percent for boys and 29 percent for girls in the first year, and 10 percent for boys and 17 percent for girls in the second year.

(b) In the new schools, on the average, the proportion of girls to total enrollment in first grade was 42 percent.

(c) The impacts of the new schools in rural sites (having the same characteristics used for selection of rural sites in the intensive study) were considerably larger than in the overall extensive study sample, adding on the average 35 boys and 38 girls to the average grade one population in the first year, and 28 boys and 30 girls in the second.

These intensive and extensive study findings support each other nicely. Taken together, the following conclusions may be drawn:

- The effect of the new schools is to bring most, if not all, the remaining boys at each site into grade one. The new schools also brought significant numbers of girls into grade one, but the new schools do not yet have equal proportions of girls and boys in grade one. Overall, the average enrollment of girls is about 42 percent of total enrollment.

Table A-67:

Target Group Enrollments in Grade One[1] Before and After New School[2] Construction

Targets and Comparisons	Four Years Before New School	Three Years Before New School	Two Years Before New School	One Year Before New School	First Year of New School	Second Year of New School
Total Children						
Total 6-year olds	66	87	75	61	80	62
No. enrolled	50	65	58	51	69	54
Percent	(76)	(75)	(77)	(84)	(86)	(87)
Males						
Total 6-year olds	30	43	42	28	36	32
No. enrolled	29	41	39	27	36	32
Percent	(97)	(95)	(93)	(96)	(100)	(100)
Female						
Total 6-year olds	36	44	33	33	44	30
No. enrolled	21	24	19	24	33	22
Percent	(58)	(55)	(58)	(73)	(75)	(73)
The economically disadvantaged[3]						
Total 6-year olds	23	36	27	21	35	19
No. enrolled	14	22	16	17	28	14
Percent	(61)	(61)	(59)	(81)	(80)	(74)
Urban Villages						
Total 6-year olds	39	50	41	35	45	32
No. enrolled	32	43	35	32	42	30
Percent	(82)	(86)	(85)	(91)	(93)	(94)
Rural Villages						
Total 6-year olds	27	37	34	26	35	30
No. enrolled	18	22	23	19	27	23
Percent	(67)	(59)	(68)	(73)	(77)	(77)
Upper Egypt						
Total 6-year olds	31	53	31	33	45	33
No. enrolled	23	42	26	31	42	29
Percent	(74)	(79)	(84)	(94)	(93)	(88)
Lower Egypt						
Total 6-year olds	35	34	44	28	35	29
No. enrolled	27	23	32	20	27	25
Percent	(77)	(68)	(73)	(71)	(77)	(86)

[1]The calculation is based on the assumption that children will be enrolled by age six. Any children who enroll at age seven will therefore increase these ratios. In 1985/1986 three girls of the sample and one boy enrolled at age seven.

[2]Data in this table come from seven villages where new primary schools have opened.

[3]Children from poor and below-average households.

243

Parental Reasons for Not Enrolling Six-Year Old Children in New Schools

Table A-68 summarizes the reasons that parents gave for not enrolling their school entry-age children after primary schools opened in the seven villages. Except for the cases where children were refused admission or there was no birth certificate present, the children remaining outside the system appear to be those whose parents are not strongly motivated to send them or who suffer from economic reasons why they must stay home. Two children were ill.

Table A-68

Reasons for Not Enrolling Children After New Schools Opened

Reason	Number of cases[1]
Males	
School not relevant	1
Females	
School not relevant	7
Child's labor needed	4
Custom prevents	3
Child does not want to go	3
School refused child	2
Sick child	2
Costs of school/family poor	2
No birth certificate	1
No school available nearby	1

[1]The number of cases does not conform to Table A-67 because some schools have been opened three years. Here all children are included who have not enrolled since school opened.

Does the parents' lack of motivation show up generally with regard to past school-sending behavior? Of the 25 families who did not send girls to grade one after the new schools opened, 14 mixed-sex families, enrolled male siblings only, two families enrolled male siblings and other females, and one enrolled no children. The remaining eight families included only eligible-age female children, none of whom were enrolled. Thus in 92 percent of the families, all children were either not enrolled in the past or a consistent bias against girls' enrollment existed. One can safely say then that this group of families, with the exception of the two that sent both boys and girls, displays a hard core resistance to the education of girls in principle and possibly not always for the reasons reported. The remaining few unenrolled six-year olds are thus primarily girls and the economically disadvantaged. It is unlikely in the future that their attitudes will change without some pressure from educational authorities.

PERSISTENCE AT THE PRIMARY LEVEL

Taking the results of the extensive and intensive studies together we arrive at the following conclusions regarding the impacts of the new schools on increasing persistence at the primary level:

(a) In the extensive sample the impacts of the new schools on enrollment in grades two through six were significant, adding 37 boys and 37 girls to the average grades two through six population at each new school site in the first year the new school opened, and 34 boys and 51 girls in the second year. In percentage terms these represent a 6 percent increase in persistence for boys and a 12 percent increase for girls in the first year, and 6 percent for boys and 17 percent for girls in the second year.

(b) Although significant and sizable, the new school impacts were not strikingly visible in the intensive study data. Persistence of all children was historically high and the new schools simply increased persistence further, particularly for girls.

Table A-69 compares cohorts of once-enrolled nine- to twelve-year olds over a six-year span to see the extent to which they continued in school before and after new facilities opened. This age group is chosen because it comprises children in the most critical years for attaining levels of functional literacy, grades four, five and six.[1] If children stay in the system over this period (and few drop out before) it is likely they will take away lasting skills. According to our dropout studies, those who leave the system before grade nine are most likely to do so during these crucial years.

Table A-69 also breaks down the nine- to twelve-year-old cohort by target groups which are the intended beneficiaries of the school construction project. In all categories of target group, the proportion of the group who persist continues to rise after school opening, and usually in a more steady and consistent way than before opening. The new schools help along a trend for all but the very few to persist to the end of primary level once they have enrolled in school. Since most target groups are now approaching or have reached universal levels of persistence to the upper grades of the primary level, little more can be achieved in persistence at this level in these sites, except perhaps for economically disadvantaged children. Indeed, persistence appears again to be a much more well-established fact of primary education than initial enrollment.

Absence Rates: The Community Sample

Parents of children who are currently enrolled were asked to estimate how often children were absent from school using a scale: never absent, rarely absent, sometimes absent, absent a lot, and almost never go to school. As

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[1]Note that these ratios include those who drop out in early years before new schools opened.

245

Table A-69:

Target Groups Persistence at the Primary Level Before and After New School Construction[1]

Targets and Comparisons	Three Years Before New School	Two Years Before New School	One Year Before New School	New School Opened	One Year After New School Opened	Two Years After New School Opened
Total Children						
Total 9-12[2] year olds who enrolled	220	250	255	265	222	131
No. now attending	195	224	228	243	210	126
Percent	(89)	(90)	(89)	(92)	(95)	(96)
Males						
Total 9-12 year olds who enrolled	143	168	167	167	146	79
No. now attending	128	156	153	158	143	78
Percent	(90)	(93)	(92)	(95)	(98)	(99)
Female						
Total 9-12 year olds who enrolled	77	82	88	98	76	52
No. now attending	67	68	75	85	67	48
Percent	(87)	(83)	(85)	(87)	(88)	(92)
The economically disadvantaged[3]						
Total 9-12 year olds who enrolled	54	65	67	72	70	38
No. now attending	44	53	56	62	60	33
Percent	(82)	(82)	(84)	(86)	(86)	(87)
Urban Villages						
Total 9-12 year olds who enrolled	146	157	158	167	123	75
No. now attending	128	139	139	153	118	73
Percent	(88)	(89)	(88)	(92)	(96)	(97)
Rural Villages						
Total 9-12 year olds who enrolled	74	93	97	98	99	56
No. now attending	67	85	89	90	92	33
Percent	(91)	(91)	(92)	(92)	(93)	(95)
Upper Egypt						
Total 9-12 year olds who enrolled	123	133	131	145	103	62
No. now attending	112	122	124	139	99	61
Percent	(91)	(92)	(95)	(96)	(96)	(98)
Lower Egypt						
Total 9-12 year olds who enrolled	97	117	124	120	119	69
No. now attending	83	102	104	104	111	65
Percent	(86)	(87)	(84)	(87)	(93)	(94)

[1]Data in this table come from seven villages where new primary schools have opened.

[2]The age cohort 9-12 was selected as being in the critical last years of primary school where persistence may make the difference in whether literacy skills are retained.

[3]Children from poor and below-average households.

frequently happens when asked for estimates or opinions, parents put a better light on the problem, than may be warranted in actuality. Parents claimed that 783 (92 percent) currently enrolled children were never absent, 27 (3 percent) were rarely absent, 35 (4 percent) were sometimes absent and seven (1 percent) were absent a lot. There was virtually no difference between the absence rates of boys and girls. In the two individual sites with the highest absences (Roda and Beni Rafa), however, boys' rates of absence were higher than girls.

Most certainly absenteeism is higher than what is reported by parents, but overall the rates do not appear to be excessively high. In classrooms when we compared the numbers of children present on a single day with the official roll, we found that about 8 percent of the boys and 6 percent of the girls were absent, and there was little difference between absence rates in new and comparison schools. Accurate attendance records are not kept in many schools so it is difficult to get reliable data from this source.

The reasons reported for absences among the small group admitting absenteeism, were first, illness (74 percent) and then distance (13 percent) with illness affecting higher numbers of boys than girls, and distance affecting higher numbers of girls than boys. Other reasons were reported only for one or two children at a time and therefore were insignificant.

Now that new schools have been opened in most sites for two to three years, there has been a slight decrease in parent-reported absences since our first field trip in 1983. At that time parents reported 86 percent of the boys and 90 percent of the girls never absent, while now the comparable figures are 91 and 93 percent. In 1983, weather was the most significant cause of absence, followed by illness, need for the child's labor, and distance. Now the major reasons have been reduced to illness and distance for the few living in remote satellite villages. Since weather as a problem becomes more critical as a function of distance, this problem is likely to have been reduced by the opening of new schools closer to children's homes. This was certainly the case in the two urban Delta villages of Kafr Nekla and Manshat al Awkaf where the poor roads to previous schools became virtually impassable in the rainy season.

Thus logic and observation suggests that the new schools have reduced the absence rates at least as much as parents report, and probably a great deal more, especially in the Delta villages hard hit in winter rainstorms.

Absence Rates: The Intensive School Sample

In November 1985, in order to assess the nature and extent of dropout in the intensive sample schools, the team visited every class and called the roll in each. Absences and their presumptive reasons were recorded.

Visits were then made to the homes of those absent students reported by their peers or their teacher to be probable dropouts and the homes of those the team suspected, based on the evasiveness, the contradictory nature of the responses, or to the absence of a response to questions about why they were not in school. This pool of potential dropouts was then purged as a result of the home visits leaving a residue of students absent for other reasons.

In March 1986, the team visited the same schools and repeated the process, thereby again reducing the pool of dropouts by eliminating those who had been ill, were intermittent attendees for other reasons, or had been working either at home or on a short-term job. This, then, constituted the pool of non-attendees or truants.

Table A-70, below, shows virtually no difference in the absence rates among the new, comparison, and city primary schools. There are small differences among the preparatory schools. However, they can not be taken to indicate an impact or lack of it for the reason cited below.

Table A-70

Absences, Day of School Visit, November/December, 1985/86 School Year, Intensive School Sample

Primary Schools

	New			Comparison			City		
	#	%	Total	#	%	Total	#	%	Total
B	53	(5)	1159	103	(5.0)	1994	213	(7)	3082
G	35	(5)	684	83	(6.0)	1417	96	(5)	2024
Total	88	(5)	1843	186	(5.5)	3411	309	(6)	5106

The higher absence in the category of new and comparison preparatory schools is accounted for by the fact that the team's visit to one of the two new preparatory schools and its comparison school occurred during a heavy rain during the rainy period in the Delta. The new school is situated in a remote land reclamation area served only by dirt roads from its nearest neighboring village, some five kilometers away.

Preparatory Schools

	New			Comparison			City		
	#	%	Total	#	%	Total	#	%	Total
B	29	(15)	200	53	(7)	807	21	(3)	660
G	13	(4)	351	7	(5)	152	13	(2)	532
Total	42	(8)	551	60	(6)	959	34	(3)	1192

248

In fact, the road was too muddy for an unassisted automobile or van to manage. The team's vans had to be towed to and from the school by tractor from a point about two kilometers from the school. The area is also sparsely populated, so the students must walk varying distances, from one-half kilometer to as much as three kilometers to attend school. Many were absent that day because of the weather. In the comparison school, the absentee rate was lower since the school is situated in the middle of a small, densely settled village served by a paved main road and a majority of the students live within an easy walking distance.

In the other new school, a girls' preparatory school in Upper Egypt, the absentee rate was 2 percent on the day of the team's visit. The absentee rate in the two comparison schools, both boys' preparatory schools, was only .5 percent.

On balance we see no effect in these preliminary data which would suggest that the project's construction or equipment had any impact at all on attendance. Weather clearly still has a significance in the Delta schools in remote, sparsely settled areas served only by dirt roads. Illness, distance from school, the families' need for help intermittently, or the chances of work part of the time do affect attendance, but obviously these factors are independent of whether the school is new or not or furnished with equipment.

BIBLIOGRAPHY

Benson, Charles A., The Economics of Basic Education, A.E.D., September 1984, p. 34.

Hartley, Michael J. and Eric V. Swanson. Achievement and Wastage: An Analysis of the Retention of Basic Skills in Egyptian Primary Education. Washington, D.C.: The World Bank, June 1984.

Ibrahim, Barbara. "Family Strategies: A Perspective on Women's Entry to the Labor Force in Egypt," in International Journal on Sociology and the Family, Vol II, No. 2, July-December 1981.

Papanek, H. and B. Ibrahim. Economic Participation of Egyptian Women: Implications for Labor Force Creation and Industrial Policy. Preapared for USAID, 1982.

Rugh, Andrea. "Coping with Poverty in a Cairo Community," in Cairo Papers in Social Science, Vol 2, Monograph One, 1979.

Rugh, Andrea. Participation and Relevance in Basic Education: Lower Class Parents' Stategies for Educating Their Children. Helwan University Conference on Basic Education, 1981.

ANNEX A-I: BACKGROUND DATA

Table A-I-1:

Family Decision Making by Economic Level and Site Category for All Children

Site Type	Poor No.	Poor %	Below Average No.	Below Average %	Average No.	Average %	Above Average No.	Above Average %	Affluent No.	Affluent %
Families with Eligible-Age Children:										
Rural:										
All children enr.	16	(42)	23	(49)	32	(51)	18	(78)	5	(100)
Some children enr.	18	(47)	17	(36)	27	(43)	4	(17)	0	(0)
Total	38	(100)	47	(100)	79	(100)	23	(99)	5	(100)
Urban:										
All children enr.	8	(53)	22	(47)	57	(79)	26	(72)	15	(100)
No children enr.	3	(20)	4	(9)	1	(0)	2	(6)	0	(0)
Some children enr.	4	(27)	21	(45)	14	(19)	8	(6)	0	(0)
Total	15	(100)	47	(101)	72	(99)	36	(100)	15	(100)
Lower Egypt:										
All children enr.	10	(42)	28	(47)	42	(61)	23	(72)	5	(100)
No children enr.	5	(21)	8	(14)	2	(3)	2	(6)	0	(0)
Some children enr.	9	(38)	23	(39)	25	(36)	7	(22)	0	(0)
Total	24	(101)	59	(100)	69	(100)	32	(100)	5	(100)
Upper Egypt:										
All children enr.	14	(48)	17	(49)	47	(71)	21	(78)	15	(100)
No children enr.	2	(7)	3	(9)	3	(5)	1	(4)	0	(0)
Some children enr.	13	(45)	15	(43)	16	(24)	5	(19)	0	(0)
Total	29	(100)	35	(101)	66	(100)	27	(101)	15	(100)
Assiut:										
All children enr.	2	(20)	8	(47)	17	(63)	14	(82)	13	(93)
No children enr.	3	(30)	3	(18)	4	(15)	0	(0)	0	(0)
Some children enr.	5	(50)	6	(35)	6	(22)	3	(18)	1	(7)
Total	10	(100)	17	(100)	27	(100)	17	(100)	14	(100)

252

Table A-I-2:

Family Decision Making by Site and Economic Level for Males
(In Families with Eligible-Age Males)

Site Type	Enrollment of Eligible-Age Child	Poor		Below Average		Average		Above Average		Affluent	
		No.	%	No.	%	No.	%	No.	%	No.	%
Rural Village	All males enrolled	21	(75)	28	(76)	53	(90)	20	(100)	5	(100)
	Some males enrolled	2	(7)	3	(8)	2	(3)	0	(0)	0	(0)
	Some males enrolled	5	(18)	6	(16)	4	(7)	0	(0)	0	(0)
	Total	28	(100)	37	(100)	59	(100)	20	(100)	5	(100)
Urban Village	All males enrolled	8	(89)	35	(90)	61	(98)	26	(100)	13	(100)
	No males enrolled	1	(11)	1	(3)	0	(0)	0	(0)	0	(0)
	Some males enrolled	0	(0)	3	(8)	1	(2)	0	(0)	0	(0)
	Total	9	(100)	39	(101)	62	(100)	26	(100)	13	(100)
Lower Egypt	All males enrolled	11	(69)	36	(80)	57	(93)	24	(100)	5	(100)
	No males enrolled	3	(19)	3	(7)	1	(.02)	0	(0)	0	(0)
	Some males enrolled	2	(13)	6	(13)	3	(.05)	0	(0)	0	(0)
	Total	16	(101)	45	(100)	61	(100)	24	(100)	5	(100)
Upper Egypt	All males enrolled	18	(86)	27	(87)	57	(.95)	22	(100)	13	(100)
	No males enrolled	0	(0)	1	(3)	1	(2)	0	(0)	0	(0)
	Some males enrolled	3	(14)	3	(10)	2	(3)	0	(0)	0	(0)
	Total	21	(100)	31	(100)	60	(100)	22	(100)	13	(100)
Assiut Villages	All males enrolled	6	(60)	6	(86)	17	(85)	16	(100)	8	(89)
	No males enrolled	3	(30)	1	(0)	0	(0)	0	(0)	1	(11)
	Some males enrolled	1	(10)	1	(14)	3	(15)	0	(0)	0	(0)
	Total	10	(100)	7	(100)	20	(100)	16	(100)	9	(100)

Note: Disaggregated to this extent the case numbers become quite small. However, the very regularit of the patterns gives more credence to the effects than numbers alone would lend.

Table A-I-3:

Family Decision Making by Site and Economic Level for Females
(In Families with Eligible-Age Females)

Site Type	Enrollment of Eligible-Age Child	Poor		Below Average		Average		Above Average		Affluent	
		No.	%	No.	%	No.	%	No.	%	No.	%
Rural Village	All females enrolled	13	(38)	11	(31)	19	(40)	12	(71)	4	(100)
	No females enrolled	17	(50)	16	(46)	20	(43)	3	(18)	0	(0)
	Some females enrolled	4	(12)	8	(23)	8	(17)	2	(12)	0	(0)
	Total	34	(100)	35	(100)	47	(100)	17	(101)	4	(100)
Urban Village	All females enrolled	5	(42)	15	(41)	39	(75)	22	(69)	12	(100)
	No females enrolled	5	(42)	17	(46)	9	(17)	4	(13)	0	(0)
	Some females enrolled	2	(17)	5	(14)	4	(8)	6	(19)	0	(0)
	Total	12	(101)	37	(101)	52	(100)	32	(101)	12	(100)
Lower Egypt	All females enrolled	10	(43)	15	(33)	31	(56)	17	(65)	4	(100)
	No females enrolled	10	(43)	22	(49)	16	(29)	5	(19)	0	(0)
	Some females enrolled	3	(13)	8	(18)	8	(15)	4	(15)	0	(0)
	Total	23	(99)	45	(100)	55	(100)	26	(99)	4	(100)
Upper Egypt	All females enrolled	8	(35)	11	(41)	27	(61)	17	(74)	12	(100)
	No females enrolled	12	(52)	11	(41)	13	(30)	2	(9)	0	(0)
	Some females enrolled	3	(13)	5	(19)	4	(9)	4	(17)	0	(0)
	Total	23	(100)	27	(101)	44	(100)	23	(100)	12	(100)
Assiut Villages	All females enrolled	1	(13)	8	(47)	16	(64)	11	(79)	12	(100)
	No females enrolled	7	(88)	6	(35)	8	(32)	2	(14)	0	(0)
	Some females enrolled	0	(0)	3	(18)	1	(4)	1	(7)	0	(0)
	Total	8	(101)	17	(100)	25	(100)	14	(100)	12	(100)

254

Table A-I-4:
Dropout Reasons[1] by Site Category: Older Generation

Reasons for Dropping Out	Rural Sites		Urban Sites		Females' Sites		Upper Egypt Sites		Lower Egypt Sites		Sample[2] Total	
	M	F	M	F	M	F	M	F	M	F	M	F
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %
Costs of schooling or poverty	14 (25)	3 (8)	24 (22)	5 (13)	9 (21)	4 (15)	28 (35)	6 (15)	10 (12)	2 (5)	47 (23)	12 (11)
Education not relevant	20 (36)	8 (20)	16 (15)	4 (11)	8 (19)	6 (22)	7 (9)	2 (5)	20 (24)	5 (13)	35 (17)	13 (12)
Child refused to continue	8 (15)	5 (13)	9 (8)	4 (11)	4 (14)	1 (4)	7 (9)	3 (8)	10 (12)	6 (16)	23 (11)	10 (10)
Need for child's labor	6 (11)	5 (13)	23 (21)	2 (5)	12 (29)	5 (19)	20 (25)	1 (3)	9 (11)	6 (16)	41 (20)	12 (11)
Schools were inaccessible	13 (23)	3 (8)	19 (18)	4 (11)	2 (5)	0 (0)	15 (19)	5 (13)	17 (20)	2 (5)	34 (17)	7 (7)
Failed exams	1 (2)	6 (15)	11 (10)	3 (8)	3 (7)	0 (0)	1 (1)	5 (13)	11 (13)	4 (11)	15 (7)	9 (9)
Chance to marry	0 (0)	4 (10)	0 (0)	6 (16)	0 (0)	4 (15)	0 (0)	6 (15)	0 (0)	4 (11)	0 (0)	14 (13)
Custom	0 (0)	9 (23)	0 (0)	9 (24)	0 (0)	4 (15)	0 (0)	11 (28)	0 (0)	7 (18)	0 (0)	22 (21)

[1]Reasons that comprise a ratio of less than 2 percent in all site categories were not included.

[2]Sample total includes either urban/rural sites or Upper/Lower Egypt sites and not both.

Table A-I-5:

Dropout Reasons[1] by Site Category: Younger Generation

Reasons for Dropping Out	Rural Sites		Urban Sites		Females' Sites		Upper Egypt Sites		Lower Egypt Sites		Sample[2] Total	
	M	F	M	F	M	F	M	F	M	F	M	F
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %
Costs of schooling or poverty	2 (4)	---	8 (11)	5 (12)	---	1 (2)	6 (14)	3 (11)	4 (5)	2 (5)	10 (7)	6 (6)
Family needs child's work	5 (10)	3 (13)	4 (6)	6 (15)	3 (13)	17 (37)	3 (7)	---	6 (8)	9 (24)	12 (8)	26 (24)
Education not relevant	1 (2)	3 (13)	3 (4)	2 (5)	1 (4)	---	---	1 (4)	4 (5)	4 (11)	5 (3)	5 (5)
Child doesn't want to go	18 (35)	7 (29)	17 (24)	6 (15)	9 (38)	4 (9)	10 (23)	3 (11)	25 (32)	10 (26)	44 (30)	17 (6)
Failed exams	21 (41)	5 (21)	31 (44)	4 (10)	8 (33)	9 (20)	23 (52)	3 (11)	29 (38)	6 (16)	50 (41)	18 (17)
Custom	---	---	---	2 (5)	---	11 (24)	---	2 (7)	--	--	---	13 (12)
Chance to marry	---	---	---	6 (15)	---	3 (6)	---	6 (22)	---	---	---	9 (8)
School inaccessible	1 (2)	2 (8)	3 (4)	6 (15)	---	---	---	5 (22)	4 (5)	2 (6)	4 (3)	8 (7)
School refused child[3]	---	2 (8)	1 (1)	---	---	---	---	---	1 (1)	2 (6)	1 (1)	2 (2)
Illness	1 (2)	---	3 (4)	1 (2)	3 (13)	1 (2)	1 (2)	1 (2)	1 (4)	2 (4)	5 (3)	5 (5)

[1] Reasons that comprised a ratio of less than 2 percent in all site categories were not included.

[2] Sample total includes either urban/rural or Upper/Lower Egypt sites and not both.

[3] Because of lack of birth certificate at time of transfer, no space available or unknown reasons

Table A-I-6:

Costs in LE of Years Wasted by Dropouts and Grade Repetition, Males, Intensive School Study Sample, School Year 1984/85

Grade	Dropouts				Grade Repetition				Grand Total COST LE	Percent Total Cost All Dropouts and Repetition
	Years Used	%	Cost LE/yr	Percent Total Cost All Dropout	Years Used %	Cost LE/yr	Percent Total Cost All Repetition	Total Wasted Years		
1-5	292	(29)	19,926	(9.9)	81 (14)	5,527	(2.8)	373	25,453	(13)
6	222	(22)	15,149	(7.5)	150 (26)	10,236	(5.1)	372	25,385	(13)
Sub-Total	514	(51)	35,075	(17.5)	231 (40)	15,763	(7.9)	745	50,838	(27)
7-9	487	(49)	50,507	(27.4)	352 (60)	36,506	(19.8)	839	87,013	(45)
Total	1001	(100)	85,582	(39.6)	563 (100)	52,269	(27.6)	1584	137,851	(72)

Table A-I-7:

Average Per Family Costs for All Currently Enrolled Children, School Year 1985/86, Community Study Sample

Costs		Urban Sites			Urban Sites						All Sites
Range LE	Median Cost LE	Families	Total Cost LE	Average Cost LE	Fami- lies	Total Cost LE	Average Cost LE	Families	Total Cost LE	Average Cost LE	Average Cost LE
0-100	50	58	2900		53	2650		24	1200		
-200	150	42	6300		52	7800		24	3600		
-300	250	26	6500		19	4750		9	2250		
-400	350	12	4200		16	5600		6	2100		
-500	450	4	1850		6	2700		4	1800		
-600	550	4	2200		5	2750		2	1100		
-700	650	2	1300		4	2600		1	650		
-800	750	0	0		1	750		0	0		
-900	850	1	850		0	0		0	0		
-900+	1050	2	2100		3	3150		2	2100		
Total		151	28200	186.8	159	32750	206	72	14800	205.6	198.3

Table A-I-8:

Average Yearly Cost to Families of Sending A Child to Primary School, School Year 1985/86, Community Study Sample

Costs		Rural Sites			Urban Sites			Female's Study Site			All Sites
Range LE	Median Cost LE	Families	Total Cost LE	Average Cost LE	Families	Total Cost LE	Average Cost LE	Families	Total Cost LE	Average Cost LE	Average Cost LE
0- 20	10	2	20		1	10		1	10		
- 40	30	18	540		23	690		9	270		
- 60	50	41	2050		38	1900		20	1000		
- 80	70	26	1820		31	2170		14	980		
-100	90	14	1260		18	1620		5	450		
-100+	120	36	4320		36	4320		12	1440		
Sub-total		137	10010	72.6	147	10710	72.9	61	4150	68	72
Don't Know		2			3			1			
Total		139			150			62			

Note the remarkable similarity in cost among the three site categories, about LE 1 difference between first two and the females' site.

Table A-I-9:

Average Yearly Cost to Families of Sending A Child to Preparatory School, School Year 1985/86, Community Study Sample

Costs		Rural Sites			Urban Sites			Female's Study Site			All Sites
Range LE	Median Cost LE	Families	Total Cost LE	Average Cost LE	Families	Total Cost LE	Average Cost LE	Families	Total Cost LE	Average Cost LE	Average Cost LE
0- 20	10	1	10		0	10		1	10		
- 40	30	2	60		1	30		1	30		
- 60	50	4	200		3	300		2	100		
- 80	70	8	560		12	840		1	70		
-100	90	10	900		15	1350		7	630		
-100+	120	39	4680		39	4680		27	3240		
Sub-total		64	6410	100	70	7210	103	39	4080	104.6	102.3
Don't Know		1			2			1			
Total		65			72			40			

Table A-I-10:

Private Costs to Families of Years Wasted by Male Dropouts and Grade Repetition, Intensive School Sample, School Year 1984/85

Grade	Dropouts				Grade Repetition				Grand Total Cost LE	Percent Total Cost
	Average Cost LE/yr	Years Used	Total Cost LE	Percent Total Cost	Average Cost LE/yr	Years Used	Total Cost LE	Percent Total Cost		
1-5	72	292	21.024	(11)	81	5,832	373	(3)	26,856	(14)
6	72	222	15,984	(8)	150	10,800	372	(6)	26,784	(14)
Subtotal		514	37,008	(19)	231	16,632	745	(9)	53,640	(28)
7-9	102	487	49,674	(26)	352	35,904	839	(19)	85,578	(44)
Total		1001	86,682	(45)	583	52,536	1584	(27)	139,218	(72)

Note: Implications of wastage differ at different levels of schooling.

Table A-I-11:

Birth Order Effects on Educational Participation As A Function of Place in Family: Younger Generation

Birth Order	Never Enrolled		Enrolled At One Time		Dropped Out[1]		Completed Grade Nine[2]		Total Children	
	M	F	M	F	M	F	M	F	M	F
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %		
1	40 (18)	133 (57)	180 (43)	99 (43)	39 (22)	35 (35)	41 (23)	17 (17)	220	232
2	28 (14)	111 (53)	176 (86)	97 (47)	36 (20)	21 (23)	35 (20)	8 (8)	204	208
3	24 (14)	87 (48)	152 (86)	96 (52)	28 (18)	19 (20)	26 (17)	4 (4)	176	183
4	14 (9)	63 (43)	135 (91)	85 (57)	19 (14)	15 (18)	11 (8)	1 (1)	149	149
5	4 (4)	44 (43)	115 (96)	58 (57)	12 (10)	12 (21)	4 (3)	-- (0)	120	102
6	7 (10)	21 (36)	65 (90)	38 (64)	4 (6)	8 (21)	2 (5)	2 (5)	72	59
7	3 (9)	22 (45)	32 (91)	27 (55)	2 (6)	----	----	----	35	49
8	4 (17)	6 (29)	19 (83)	15 (71)	3 (16)	----	----	----	23	21
9	2 (22)	1 (11)	7 (78)	8 (89)	2 (12)	1 (13)	----	----	9	9

[1]Dropout is expressed as a ratio of enrolled at one time.

[2]Completed grade nine is expressed as a ratio of enrolled at one time.

Table A-I-12:

Ratio of Age Groups Enrolled in Grade One (Older Generation[1])

Age Group	Males			Females			Total		
	No. Enr.	%	Total	No. Enr.	%	Total	No. Enr.	%	Total
11-15	7	(70)	10	1	(10)	10	8	(40)	20
16-20	17	(65)	26	12	(27)	44	29	(41)	70
21-25	25	(58)	43	14	(20)	70	39	(35)	113
26-30	47	(66)	71	17	(17)	102	64	(37)	173
31-35	41	(44)	93	22	(18)	122	63	(29)	215
36-40	47	(51)	93	16	(17)	95	63	(34)	188
41-45	36	(51)	70	14	(19)	73	50	(35)	143
46-50	25	(43)	58	9	(18)	51	34	(31)	109
51-55	22	(45)	49	5	(12)	43	27	(29)	92
56-60	11	(31)	36	3	(9)	32	14	(21)	68
61-65	4	(13)	32	0	(0)	15	4	(9)	47

[1]The cases above and below the age groups reported here were so few that they are not reported.

Table A-I-13:

Ratio of Age Groups Enrolled in Grade One (Younger Generation)

Sites	No.	6-10 M	6-10 F	11-15 M	11-15 F	16-20 M	16-20 F	21-25 M	21-25 F	26-30 M	26-30 F	31-35 M	31-35 F
Rural	Enr.	96	51	113	54	73	26	37	8	10	6	2	0
	%	(93)	(48)	(90)	(48)	(74)	(31)	(73)	(16)	(71)	(32)	(50)	(0)
	Total	102	100	126	113	99	85	51	50	14	19	4	1
Urban	Enr.	92	85	117	75	88	42	45	18	28	2	9	2
	%	(100)	(81)	(97)	(66)	(92)	(42)	(80)	(35)	(85)	(8)	(82)	(13)
	Total	92	105	121	114	96	99	56	51	33	25	11	15
Lower Egypt	Enr.	88	77	120	73	79	38	50	11	18	2	4	2
	%	(95)	(68)	(90)	(57)	(79)	(38)	(78)	(19)	(75)	(22)	(57)	(22)
	Total	93	114	133	127	100	101	64	58	24	18	7	9
Upper Egypt	Enr.	99	69	110	56	82	30	32	15	20	4	7	0
	%	(98)	(76)	(96)	(56)	(86)	(36)	(74)	(35)	(87)	(15)	(88)	--
	Total	101	91	114	100	95	83	43	43	23	26	8	7
Ass-iut	Enr.	36	42	47	42	40	35	27	14	8	9	6	1
	%	(95)	(67)	(85)	(68)	(91)	(67)	(87)	(48)	(73)	(47)	(86)	(17)
	Total	38	63	55	62	44	52	31	29	11	19	7	6
Total	Enr.	410	334	507	300	362	171	191	66	84	25	28	5
	%	(96)	(71)	(92)	(58)	(83)	(41)	(78)	(29)	(80)	(23)	(76)	13
	Total	426	473	549	516	434	420	245	231	105	107	37	38

Table A-I-14:

Ratio[1] of Enrolled Age Groups Reaching Various Grade Levels

Age		Grade Level Reached																Total Once En-rolled
		3		4		5		6		7		8		9		9+		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
7	M	2	(6)	-	(2)	1	(2)	---		---		---		---		---		53
	F	1	(2)	---		---		---		---		---		---		---		56
8	M	21	(66)	---)		---		---		---		---		---		---		32
	F	23	(63)	---		---		---		---		---		---		---		38
9	M	26	(100)	14	(38)	2	(5)	---		---		---		---		---		42
	F	21	(82)	7	(21)	---		---		---		---		---		---		34
10	M	1	(98)	47	(96)	6	(11)	---		---		---		---		---		55
	F	2	(91)	22	(84)	3	(16)	2	(6)	---		---		---		---		32
11	M	1	(98)	1	(96)	41	(94)	6	(12	---		---		---		---		51
	F	1	(91)	-	(88)	22	(88)	6	(19)	---		---		---		---		32
12	M	2	(100)	-	(96)	4	(96)	44	(89	6	(11)	---		---		---		56
	F	-	(95)	2	(95)	2	(90)	30	(86)	6	(14)	---		---		---		42
13	M	3	(100)	1	(95)	2	(94)	6	(90)	48	(81)	2	(5)	1	(2)	---		63
	F	-	(97)	3	(97)	3	(94)	7	(86)	19	(53)	5	(14)	---		---		36
14	M	1	(98)	-	(96)	6	(96)	2	(84)	5	(80)	29	(70)	6	(12)	---		50
	F	-	(85)	-	(85)	2	(85)	2	(79)	3	(74)	18	(65)	4	(12)	---		34
15	M	4	(98)	1	(91)	1	(89)	3	(88)	2	(82)	8	(68)	32	(65)	5	(9)	57
	F	-	(93)	1	(93)	1	(89)	1	(85)	3	(81)	2	(70)	13	(63)	4	(15)	27
16	M	-	(93)	-	(93)	2	(93)	1	(89)	3	(87)	7	(82)	15	(67)	15	(33)	45
	F	-	(93)	4	(93)	2	(79)	1	(72)	-	(69)	4	(69)	6	(55)	10	(34)	29
17	M	2	(98)	2	(95)	2	(90)	1	(85)	2	(83)	2	(79)	4	(75)	32	(67)	48
	F	-	(95)	-	(95)	4	(95)	1	(76)	-	(71)	-	(71)	3	(71)	12	(57)	21
18	M	1	(90)	-	(87)	1	(87)	1	(83)	1	(80)	1	(77)	2	(73)	20	(67)	30
	F	2	(100)	-	(90)	4	(90)	-	(71)	-	(67)	1	(67)	1	(62)	12	(57)	21
19	M	1	(89)	2	(87)	5	(83)	3	(72)	2	(66)	1	(61)	-	(60)	28	(60)	47
	F	1	(100)	-	(94)	3	(94)	1	(76)	1	(71)	-	(65)	1	(65)	10	(58)	17
20	M	-	(84)	2	(84)	5	(77)	-	(61)	-	(61)	-	(61)	-	(61)	19	(61)	31
	F	1	(100)	1	(93)	3	(87)	1	(67)	-	(60)	1	(60)	-	(53)	8	(53)	15

[1]Ratios are expressed as cumulative totals since those who reach higher grades have necessarily passed lower grades.

ANNEX A-II: HASSAN HARRASS REPORT

266

TESTING TEAM LEADER'S REPORT
ON
EVALUATION VISITS TO BASIC EDUCATION SCHOOLS
TO TEST FOR PHYSICAL SKILLS LEARNING

His Excellency, HASSAN HARRASS

(February 17-March 16, 1986)

267

EVALUATION VISITS TO BASIC EDUCATION SCHOOLS
(February 17-March 16, 1986)

H. Harrass

- The characteristics of the tests

  - a very short test, not to exceed one half an hour;

  - measures more than one operation at one time--in carpentry, for example, it measures drawing, sawing, smoothing, and nailing, and in electricity it measures connecting wires, kinds of electric circuits, wire cutting, lamp fixing, and detecting defects in circuits;

  - the tests were designed to have students make as much use as possible of tools and devices; and

  - they measure student achievement and their skill levels in the field of industry.

- The output of the visit

  - With regard to teachers

    -- They need more information on how to use some of the equipment and how to maintain them.

    -- The tests gave the teachers a good model for testing.

    -- The team suggested to teachers they could solve the problem of the shortage of raw materials in carpentry by using small models which would give children the chance to do the work themselves.

    -- The visits should have convinced the teachers of the practical fields that it's not important for them to be specialists or as professional as the curriculum, and the practical exercises are easy to be done.

    -- The visits should have convinced teachers to make use of batteries as a power source in teaching electricity instead of the school's regular current to avoid the danger of using the 220 volt electricity, to avoid the problem of not having electricity at all, and the problem of breaks in electrical service.

    -- Teachers should know safety measures in using equipment.

    -- Teachers should know how to store the tools and equipment properly when they are not in use.

-- Teachers should know their students' weak points and the test persuaded the teachers of our sample that it is possible to give each child the chance to practice himself and use his own hands to make things.

- With regard to the students

  -- It was a chance for the students who were examined to do the practical exercises themselves and to do some basic operations in carpentry and electricity.

  -- The testing provided the students with information about the tools and equipment and about the right way to use them through quick explanations of the examiners.

  -- The testing may have helped remove the students' fear of doing practical work because it was done as a competition among the students.

  -- The examined students gained a lot of experiences and skills.

  -- The examiners, in some cases, had to take some of the equipment out of its boxes and give instructions on how to organize the workshop so as to provide the students the chance to use their hands instead of just watching someone else, usually "the teacher" or the teaching assistant do the work.

- With regard to the local Basic Education officials

  -- The team talked with them about the problems of making use of the buildings that have more than one school in them, as each should use the facilities of the other.

  -- The team found that it is essential to redistribute the tools and equipment. Some of the schools which do not have any should receive some from the other schools that have a lot.

  -- The tools should be well-maintained and stored properly when not in use.

  -- The team found that some of the schools neglected teaching the practical fields curriculum, as some do not teach carpentry and electricity.

  -- It is necessary for the supervisors to double their efforts in supervising and training the teachers and solving their problems.

-- It is essential for the teachers to visit each other, to visit the workshops in their community to exchange experiences.

-- The Ministry needs to explain the philosophy and goals of Basic Education much more to the supervisors, headmasters, and teachers.

- The impressions of the visit

-- The meaning and the goals of Basic Education are not clear for many of the leaders, supervisors, headmasters, and teachers.

-- The teachers do not make connections between the academic and the practical subjects.

-- There is a weak connection between the school and the environment.

-- Many of the teachers need more training on how to use the equipment and how to maintain them.

-- It is essential to double the output of supervisors' visits to schools as they should exert more effort to solve the problems that face some of the teachers.

-- The tools and equipment lists should be revised in order to increase the units that are widely used and decrease those that are seldom used.

-- A system of teacher visits should be arranged between schools, and teachers should be encouraged to visit the workshops in their communities.

-- We should have more and better training courses for each of the Basic Education leaders in governorate offices and for teachers in the schools.

- General remarks about the exam results

  - We examined twenty-three primary and nine preparatory schools in five governorates (Qena, Sohag, Assiut, Bahira, and Kafr al Shaikh). The average for all of the students in both carpentry and electricity is 50 percent (maximum 100 percent). The primary level average is 62 percent and in the preparatory, 39 percent.

  - In primary the highest average is in Assiut and Sohag (64 percent) and the lowest is in Bahira (59 percent). In the preparatory level the highest average is in Assiut (47 percent) and the lowest is in the Kafr al Shaikh (34 percent).

- In grade five, the highest average is in Assiut (66 percent), lowest in Sohag (54 percent). In grade six the highest average is in Sohag (70 percent) and lowest in Qena (57 percent). In grade seven the highest is in Kafr al Shaikh (41 percent) and the lowest in Assiut (3.64). In grade eight the highest is in Assiut (48 percent) and the lowest is in Kafr al Shaikh (32 percent). In grade nine the highest is in Assiut (55 percent) and the lowest is in Kafr al Shaikh (32 percent).

- Electricity

	Highest	Lowest
Grade 5	Qena (73 percent)	Sohag (46 percent)
6	Qena (66 percent)	Assiut (47 percent)
7	Kafr al Shaikh (44 percent)	Assiut (35 percent)
8	Assiut (41 percent)	Kafr al Shaikh (24 percent)
9	Assiut (53 percent)	Kafr al Shaikh (28 percent)

- Carpentry

	Highest	Lowest
Grade 5	Assiut (67 percent)	Qena (52 percent)
6	Sohag (74 percent)	Assiut (48 percent)
7	Assiut (39 percent)	Kafr al Shaikh (34 percent)
8	Assiut (53 percent)	Kafr al Shaikh (34 percent)
9	Assiut (50 percent)	Kafr al Shaikh (32 percent)

- In the primary Level, (the average of electricity and carpentry)

Highest	Lowest
Banat al Atf (77 percent) (Bahira)	Naqada (40 percent) (Qena)

- Preparatory Level

Highest	Lowest
Gedida Banat (54 percent) (Manfalut-Assiut)	Abu Draz (24 percent) (Kafr al-Shaikh)

271

- Electricity was not taught in the following
  - Primary Schools:
    - -- Nag al Harif (Sohag)
    - -- Omar bin il Khatab (Assiut)
    - -- Beni Rafa (Assiut)
    - -- Kafr Nakla
  - Preparatory Schools:
    - -- El Ghanayim Banat, grade seven (Assiut)
    - -- El Ghanayim Banin, grades seven and eight (Assiut)
    - -- El Roda (Kafr al Shaikh)
- Carpentry was not taught in
  - Primary Schools:
    - -- Nag al Khutaba (Qena)
    - -- Monshat al Awkaf (Bahira)
- Average of carpentry and electricity scores

	New Schools	Related Schools	City Schools
Primary	62%	60%	60%
Preparatory	43%	40%	34%

FIG. II—1: CARPENTRY SKILLS TEST AVERAGE SCORES FOR MALES, GRADE 5

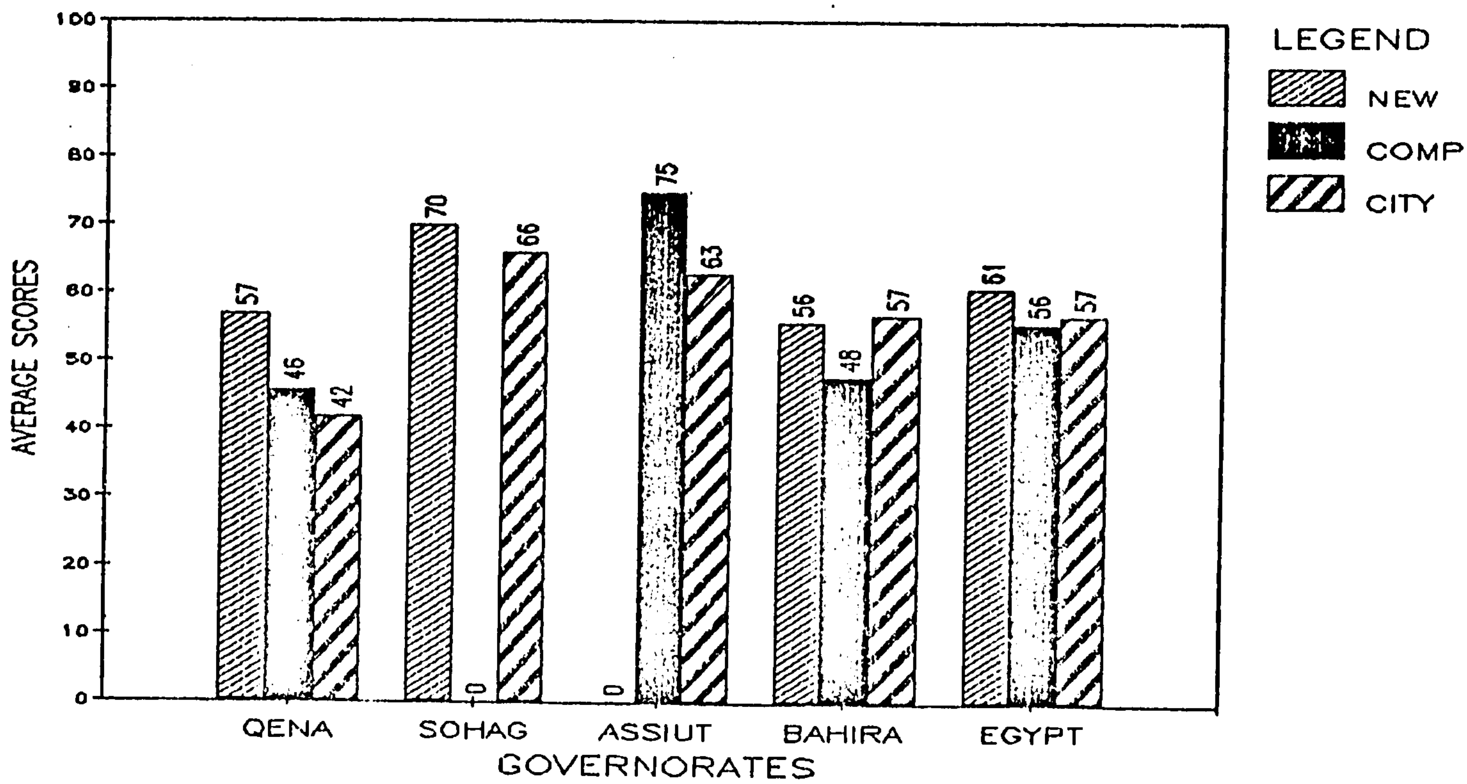


FIG. II—2: CARPENTRY SKILLS TEST AVERAGE SCORES FOR FEMALES, GRADE 5

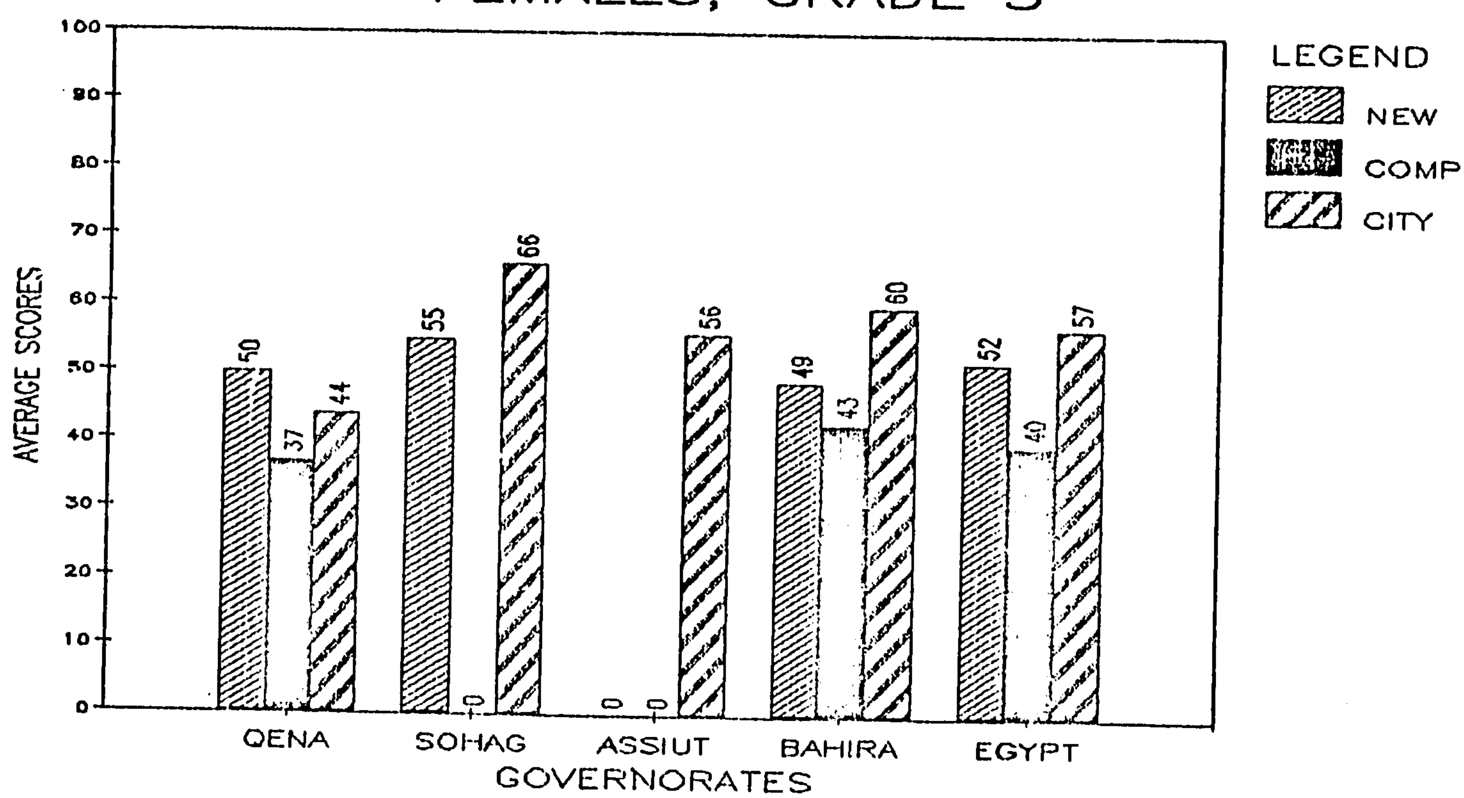


FIG. II—3: CARPENTRY SKILLS TEST AVERAGE SCORES FOR MALES, GRADE 6

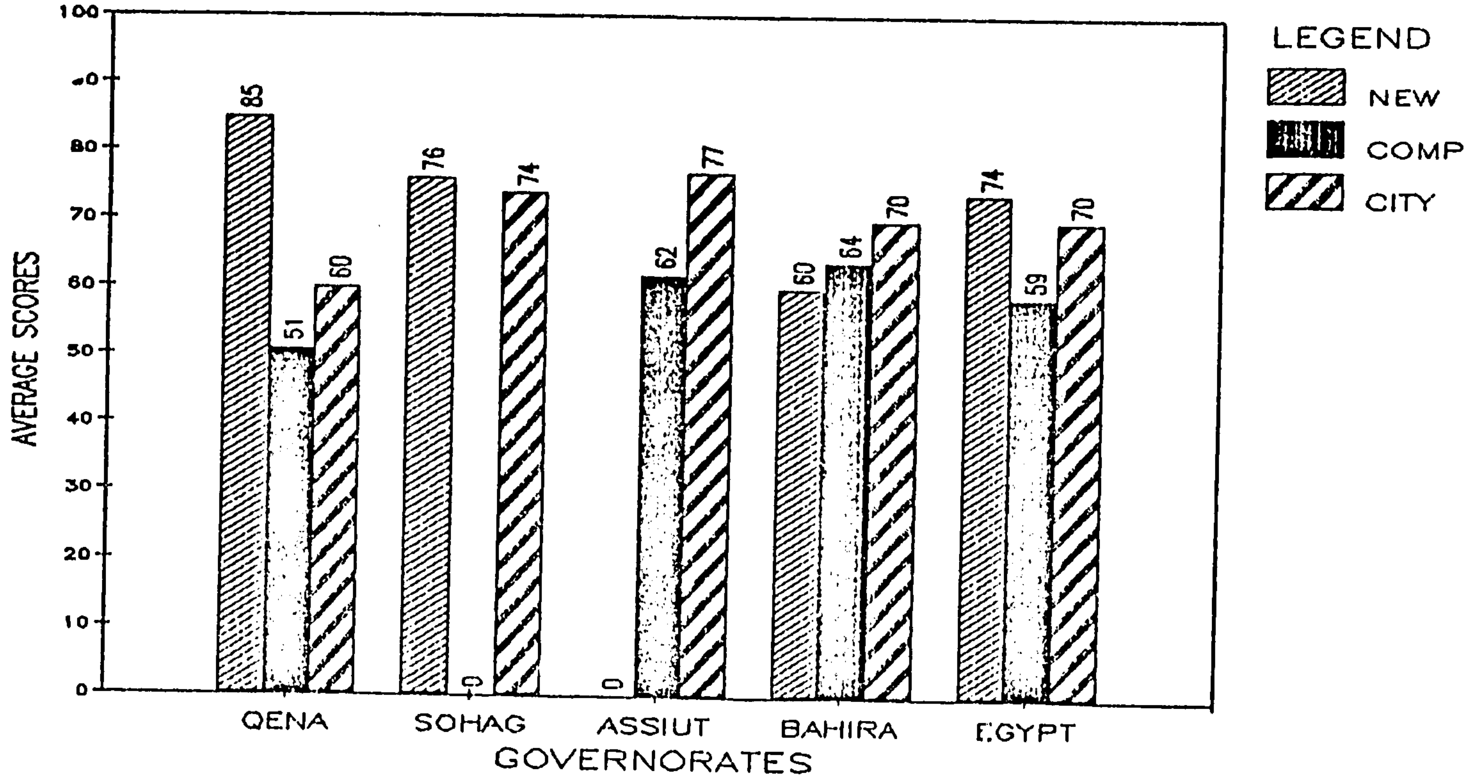
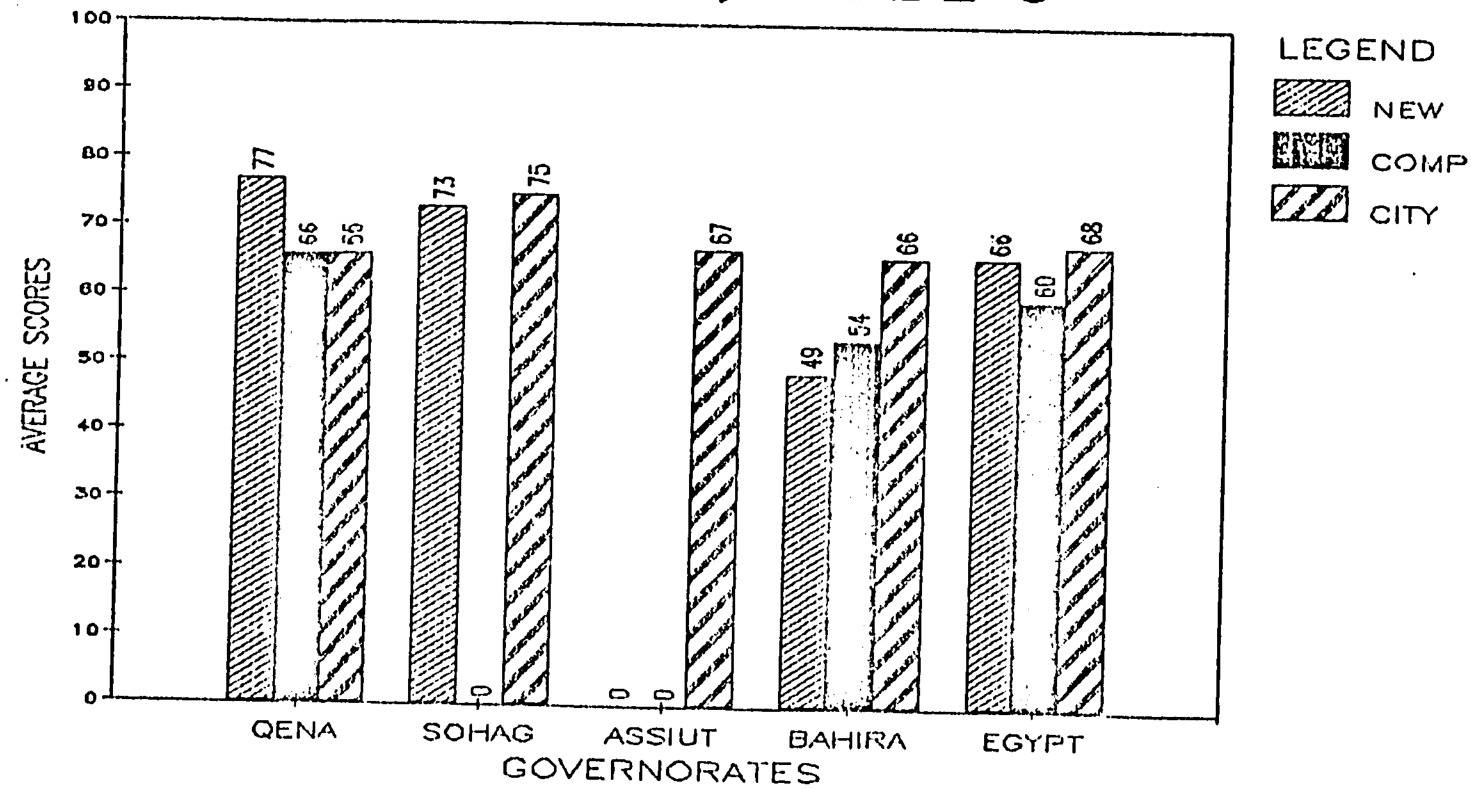


FIG. II—4: CARPENTRY SKILLS TEST AVERAGE SCORES FOR FEMALES, GRADE 6



274

FIG. II—5: ELECTRICAL SKILLS TEST AVERAGE SCORES FOR MALES, GRADE 5

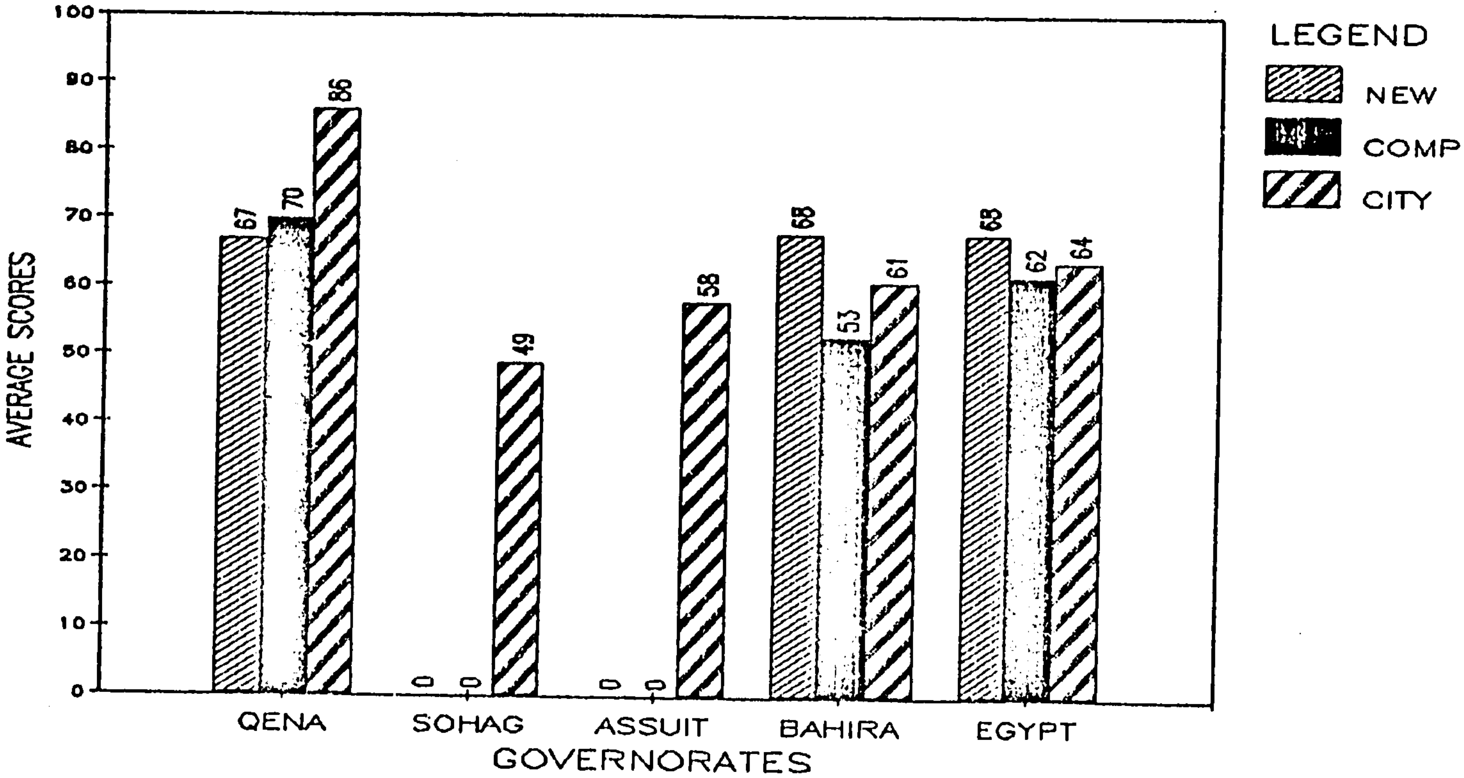


FIG. II—6: ELECTRICAL SKILLS TEST AVERAGE SCORES FOR FEMALES, GRADE 5

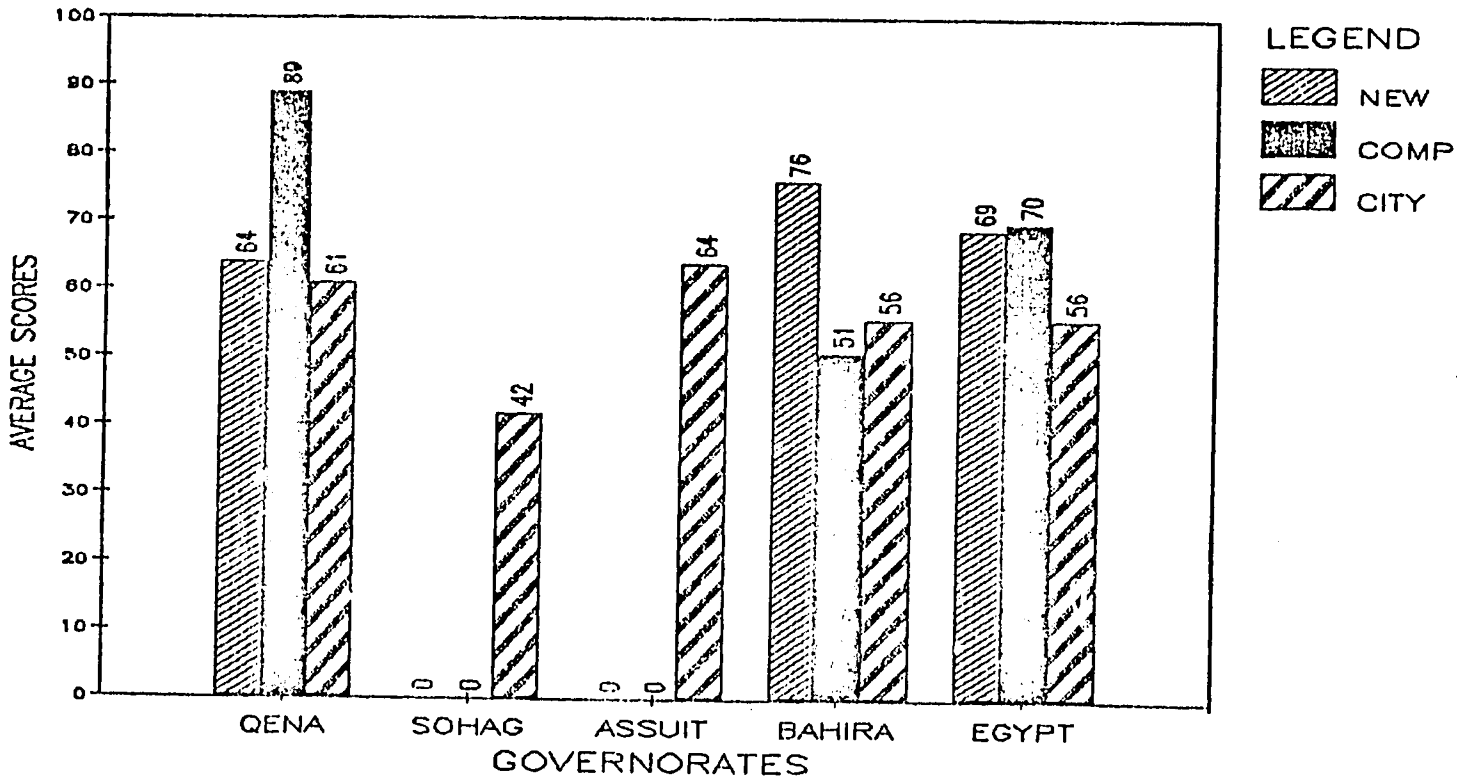


FIG. II-7: ELECTRICAL SKILLS TEST AVERAGE SCORES FOR MALES, GRADE 6

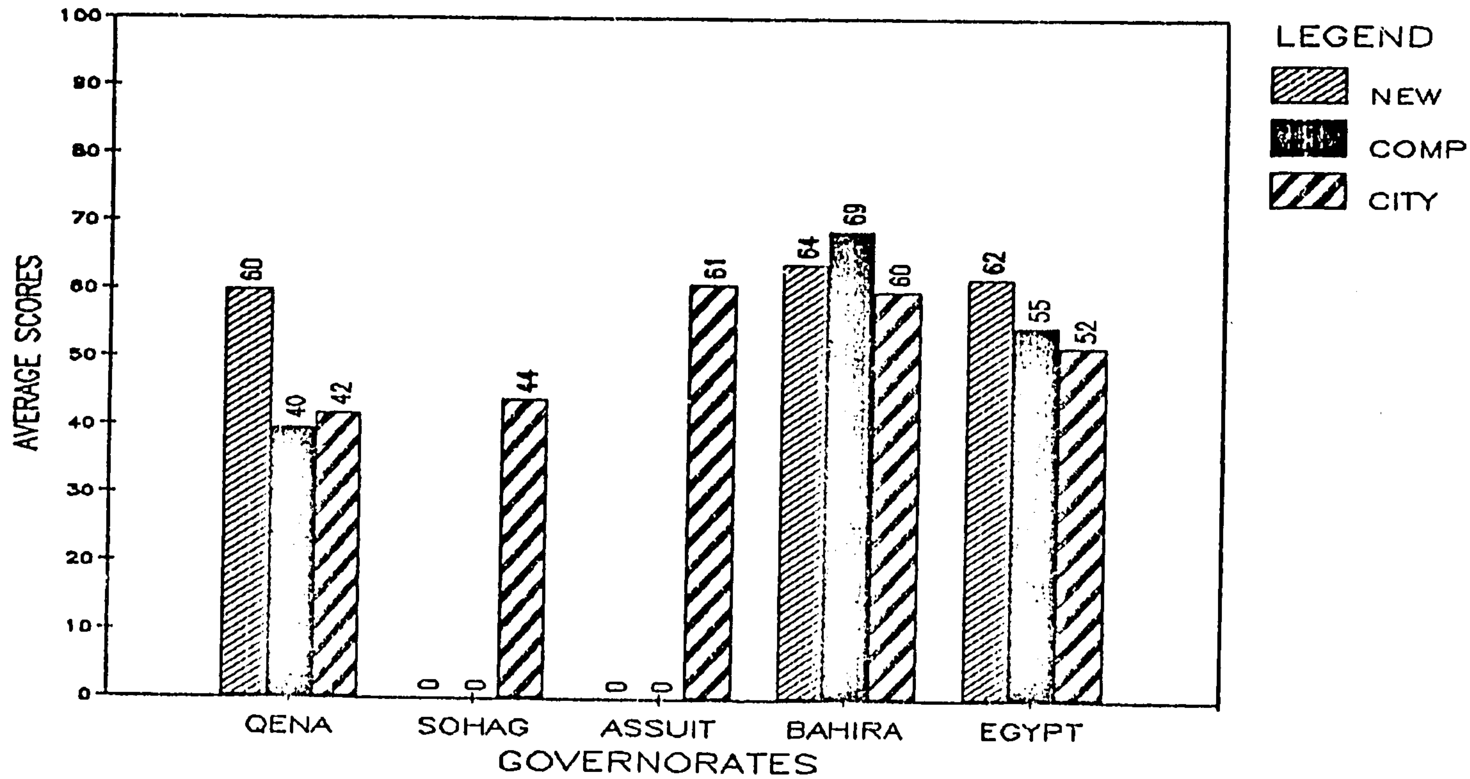
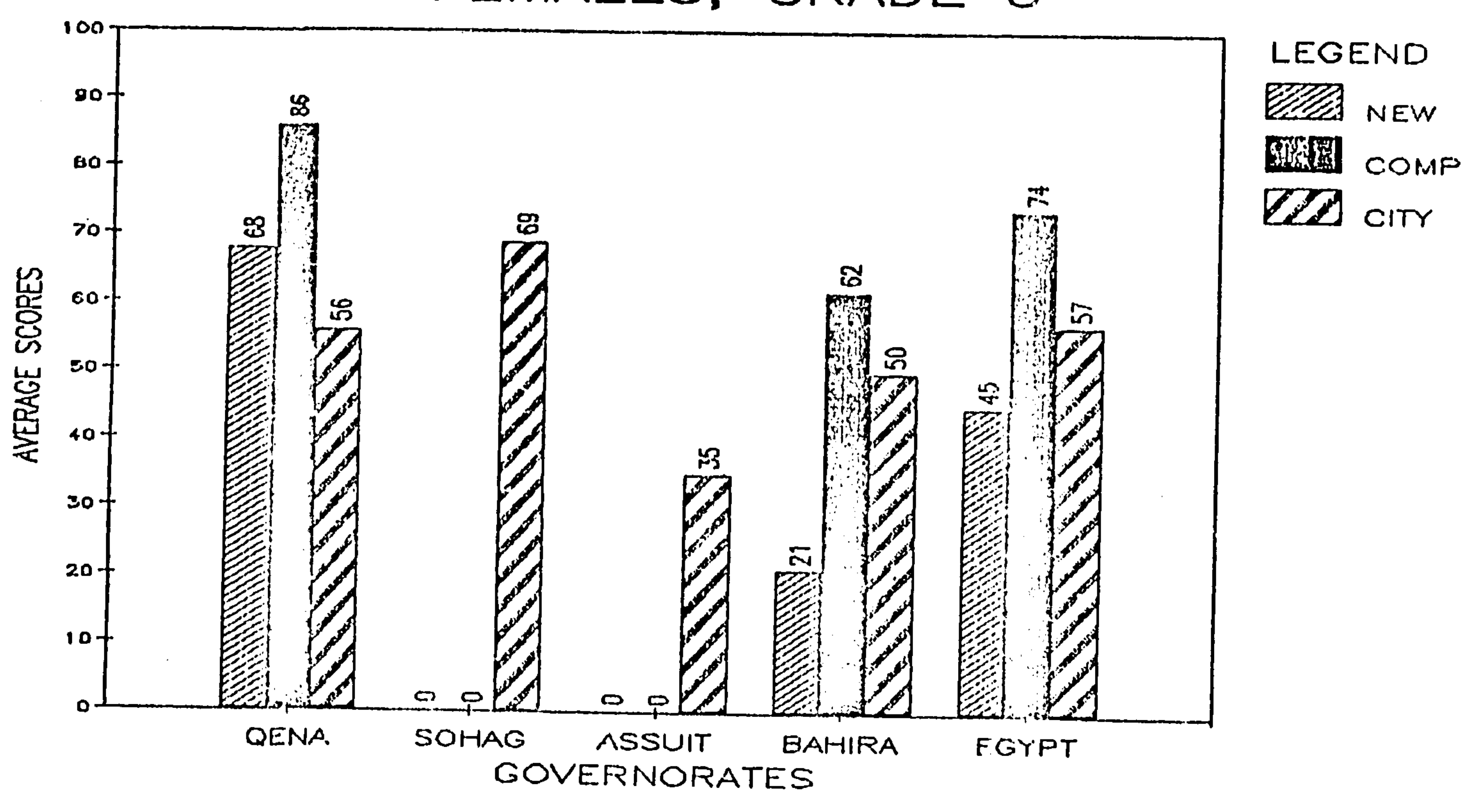


FIG. II-8: ELECTRICAL SKILLS TEST AVERAGE SCORES FOR FEMALES, GRADE 6



276

APPENDIX B: EXTENSIVE STUDY OF THE IMPACT OF NEW SCHOOLS

IMPACT OF NEW SCHOOLS ON ENROLLMENT

METHOD

Review of Design

Selection of New School and Comparison Control Sites

From the lists of 1983 new school sites in each governorate (Assiut, Bahira, Kafr al Shaikh, Qena, and Sohag), the research team chose 4 sites at random, a total of 20 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 4 schools from each list. This procedure was designed to select a quasi-random group of 1983 new school sites totaling 20 schools, 4 from each of the 5 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 20 such sites were identified, 4 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 B-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.

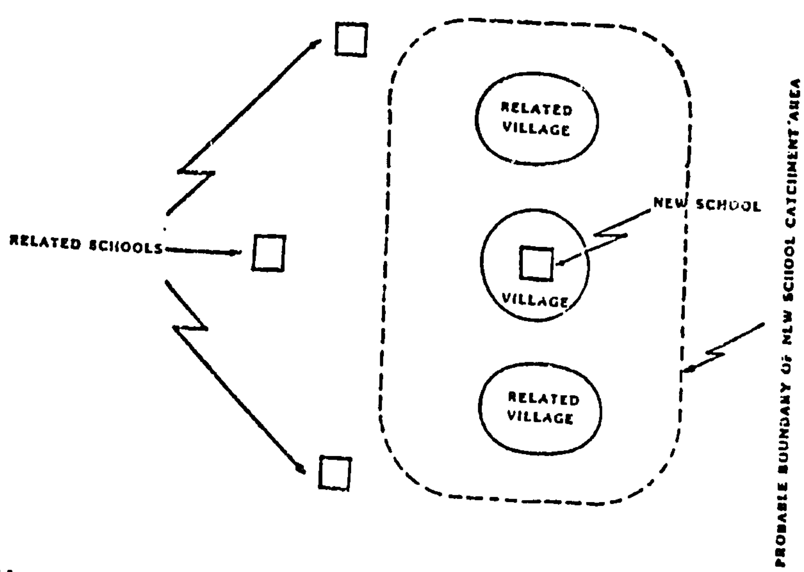


Figure B-1: Diagram of Typical New-School Site

Identification of Related Schools

As shown in Figure B-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 subsequent years 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

279

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

Composition of the Data Set for 1986

Table B-1 contains the list of all sites now included in the study. It has been necessary to complete the original sampling plan by degrees as reliable data became available, so the actual list of sites has changed each year as new sites have been added, new data have been collected, or problems discovered in the data have required that old sites be dropped. The following changes have been made since the 1985 Annual Report.

Extensive 1983 New School Sites

- Sites in which the new school was discovered to be grades seven to nine only, although expected to be one through nine:
  - al Ghanayim (Assiut).
- Sites that have updated data:
  - Sarur (Assiut) [Last year's code: 2, SERUR]
  - Izbit Sitta (Bahira) [Last year's code: 7, ESETT]
  - Kafr Nakla (Bahira) [Last year's code: 8, KNEKL]
  - Al Manshiya (Bahira) [Last year's code: 9, MANSH]
  - Al Muaisara (Qena) [Last year's code: 12, MOYSA]
- Sites added:
  - Nag Harif (Sohag).

Extensive 1984 New School Sites

- Sites eliminated because the new school did not open:
  - Bani Rafa (Assiut) [Last year's code: 41, BANIR]
  - Al Nasariya (Kafr al Shaikh) [Last year's code: 53, INASE].

- Sites in which the new school was discovered to be grades seven through nine only:
  - Al Manshat al Kubra (Kafr al Shaikh) [Last year's code: 49, IMIKO]
  - Zidan (Kafr al Shaikh) [Last year's code: 51, ZIDAN]
  - Al Bayada (Kafr al Shaikh) [Last year's code: 52, IBAYA]
  - Kudyat el Islam (Assiut) [Last year's code: 57, KODIE]
  - Al Shamiya (Assiut) (Assiut) [Last year's code: 58, ISHAM].
- Sites added:
  - Ali al Shaikh (Bahira)
  - Nag Mahdy (Sohag)
  - Nag Sarur (Sohag)
  - Nag Manna (Sohag)
  - Ibada (Sohag).
- Sites dropped:
  - Nag al Tarif (Qena) is not included because the new school did not open in 1984/85.

Control Sites

- The following two sites are added after their data were completed:
  - Izbet Yusif (Bahira); and
  - Al Malaf al Sharki (Assiut).

<u>Review of Statistical Methods Used in 1986</u>

Linear Regression, Confidence Limits

Using the five years' historical enrollments for each site in a given study, a linear regression line was fitted to show the general trend of enrollments over time. In addition to the general trend there are random factors affecting enroll[illegible] The effect of these factors--i.e., the standard error--[illegible] since it is a function of the observed variability of en[illegible] the estimated regression line.

281

Table B-1:

List of All Sites Included in the Study

Governorate	1983 New School Sites		1984 New School Sites		Control Sites	
	Markaz	Site	Markaz	Site	Markaz	Site
Bahira	Al Mahmacha	Kafr Nakla	Hosh Isa	Ali al Shaikh xxx/*	Itay al Barud	Azbit Abu al Fadl
	Hosh Isa	Al Manghia xxx	Kafr al Duwar	Matuk	Hosh Isa	Azbit
	Edko	Azbit Sitta xxx	Kafr al Duwar	Manshat al Awkaf	Hosh Isa	Azbit al Wani
	Shobra Khiat	Sanachidi	El Rahmaniya	Al Masri	Mahmudiya	Azbit al Shaikh Ali
	Itay al Barud	Ibrahimiya	Abu Humus	Byrgal		
	Shobra Khiat	Al Kumy				
[illegible]	[illegible]mul	Al Magaz al Sharki xxx	Mutubis	Al Roda **		
	Kafr al Shaikh	Mustafa Kamil xxx	Desuk	Al Baisda **	Kilim	Al Munghas al Sagr
	Sidi Salim	Abd al Wahidtid	Kilim	Al Kunsha al Kubra **	Al Hamul	Kariyat Ashara
	Bejala	El Bnabul			Biyala	Azbit Ibrahim Mustafa
			Fiwa	Al Sulka xxx	Desuk	Azbit Framund

*Added in the last year

**Have seven to nine new schools

xxxThe most rural sites

282

Table B-1:

List of All Sites Included in the Study
(Continued)

Governorate	1983 New School Sites		1984 New School Sites		Control Sites	
	Markaz	Site	Markaz	Site	Markaz	Site
Assiut	Al Ghanayim	Al Ghanayim **	Sahil Salim	Al Shamia **	Manfalut	Al Kawatka
	Al Bidari	Sarur xxx	Abu Tig	Hagar Dakran	Al Badari	Azbit Amir
	Abu Tig	Abu Kaab	Al Kosiya	Rizkt al Dir	Abu Tig	Nazlit Bakor
			Sahel Salim	Azbit Sabit Basta xxx	Sidfa	Al Malaf al Sharki *
			Dayrut	Kochlit al Islam **		
Sohag	Akhmim	Nag Harif *	Akhmim	Nag Mahdy xxx/*		
	Tahta	Nag Shanadi xxx	Sohag	Nag Hannaa		
	Akhmim	Nag Ahmid Asmail	Tahta	Ibada *	Akhmim	Nag al Sahel
	Akhmim	Nag al Araya	Sohag	Nag Sarur xxx/*	Sohag	Nag Edfa
	Sohag	Nag Hatrud xxx			Sohag	Nag al Arab
Qena	Neqada	Nag Khutaba xxx			Qena	Nag Abu Zed
	Nag Hamadi	Nag al Kilh	Abu Tisht	Dar al Nawahid	Kus	Nag Abu Humus
	Qena	Nag al Gibil xxx	Isna	Sahal al Duk Kira xxx	Nag Hamadi	Ziltin
	Abu Tisht	Al Muaisara	Farshut	Nag Kharka	Abu Tisht	Nag al Yud
	Armant	Nag al Bakala	Kus	Nag al Awari		
	Kus'	Hamid Ahmid Ramadin				

*Added in the last year

**Have seven to nine new schools

xxxThe most rural sites

In order to forecast enrollment in a given year the estimated regression line was used to obtain the expected enrollment due to the trend effect. Then the expected effect of the random factors--at the required confidence level--was added and subtracted from the calculated expected enrollment in order to obtain a confidence interval within which the observed enrollment in that given year should lie if there were no unusual factors affecting it. If the observed enrollment lies outside the confidence interval, this indicates that there was something unusual--other than the trend and the usual random factors--affecting enrollment in that particular year.

Therefore, if the observed enrollment for all the sites in a given study*--in a particular year--fell outside the confidence interval, then the difference between this observed enrollment and the corresponding expected enrollment was considered a real or a significant difference. Table B-2 shows the regression lines for the groups included in each study.

Annual Rates of Increase

An alternative method to assess the changes over time and to detect special events is to look at annual rates of change. These are obtained by the formula $\frac{y}{p} - 1$ where y is the enrollment for any given year and p is the enrollment for the preceding year. A positive figure indicates an annual rate of increase and a negative one indicates a rate of decrease.

RESULTS

Grade One Enrollment

Linear Regression

Linear regression showed that the impact of new schools was to add, on the average, 24 boys and 27 girls to the grade one population of each new school site during the first year that the new school opened. During the second year of operation the impact was smaller: on the average, 18 boys and 18 girls were added beyond the projected expectation. (See Table B-3.)

The first-year impact was statistically significant at the .05 level for both boys and girls. The second-year impact was significant for boys and girls in the 1983 new school sites, and for girls but not boys in the 1984 new school sites.

Observed enrollments, calculated without including the new schools, were within the confidence limits of the regression line in all years, indicating that the significant differences can be attributed to the new schools.

*The regression line for all the sites in any given study is the sum of the regression lines for all sites included in the study.

Table B-2:

Regression Lines Used in Time-Series Analysis

Grade One All Sites

Study Type	# of Sites	Sex	Estimated Regression line X = 0 in 1980/81	S_e^2	1983/84 E	1983/84 O	1983/84 O-E	1984/85 E	1984/85 O	1984/85 O-E	1985/86 E	1985/86 O	1985/86 O-E
Control	19	M	1655 + 44.8x	2006.5	1789.4	1895	106.6	1834.2	[illegible]	-5.2	1937	1879.0	58.0
		F	874 + 79.2x	2006.5	1111.6	1235	123.4	1190.8	1252	61.2	1274	1270.0	4.0
Ext 83	23	M	3224.8 + 138.5x	7951.4	3640.3	4068	427.[illegible]	3778.8	[illegible]	384.2	4065	3917.3	147.7
		F	1687.8 + 157.6x	7623.1	2160.6	2753	592.4	2319.2	2746	427.8	2809	2475.8	333.2
Ext 84	17	M	2180.4 + 35.9x	8277.0	-	-	-	2324.0	2793	469.0	2607	2359.9	247.1
		F	1274.2 + 74.3x	3758.0	-	-	-	1571.4	2048	476.6	1885	1645.7	240.3

Grade One Rural Sites

Study Type	# of Sites	Sex	Estimated Regression line X = 0 in 1980/81	S_e^2	1983/84 E	1983/84 O	1983/84 O-E	1984/85 E	1984/85 O	1984/85 O-E	1985/86 E	1985/86 O	1985/86 O-E
Ext 83	9	M	1132 + 40x	4120.4	1252.4	1575	322.6	1292.4	1509	216.6	1535	1332.4	202.6
		F	511.6 + 51.9x	2267.0	667.3	948	280.7	719.2	917	197.8	968	771.1	196.9
Ext 84		M	746.6 - 17.6x	574.5	-	-	-	676.2	863	186.8	821	658.6	162.4
		F	510.2 - 15.5x	1591.4	-	-	-	448.2	712	263.8	657	432.7	224.3

Grades Two through Six All Sites

Study Type	School Year	# of Sites	Males: Estimated Regression line X = 0 in 1980/81	Males: S_e^2	Males: E	Males: O	Males: O-E	Females: Estimated Regression line X = 0 in 1980/81	Females: S_e^2	Females: E	Females: O	Females: O-E
Control	83/84	19	7206.4 + 279.4x	13384.5	8044.6	8046	1.4	3163.6 + 234.5x	7038.2	3867.1	4060	192.9
	84/85	19	7206.4 + 279.4x	13384.5	8324.0	8368	44.0	3163.6 + 234.5x	7038.2	4101.6	4487	385.4
	85/86	19	7206.4 + 279.4x	13384.5	8603.4	8209	-394.4	3163.6 + 234.5x	7038.2	4336.1	4603	266.9
Ext 83	83/84	20	11356.8 + 503.1x	5804.9	12866.1	14028	1161.9	5015.6 + 423.9x	10475.0	6287.3	7174	886.7
	84/85	23	12416.2 + 517.8x	3000.9	14487.4	15390	902.6	5425.4 + 461.3x	4877.4	7270.6	8540	1269.4
	85/86	23	12944.2 + 543.1x	3018.2	15659.7	16764	1104.3	5612.4 + 486.3x	3624.1	8043.9	9628	1584.1
Ext 84	84/85	14	7656.0 + 214.7x	14867.0	8514.8	8740	225.2	3998.8 + 221.4x	3997.1	4884.4	5312	427.6
	85/86	17	8355.6 + 222.6x	21939.2	9466.6	10020	551.4	4318.0 + 247.1x	11086.0	5553.5	6474	920.5

E = Expected enrollment O = Observed enrollment S_e^2 = Mean of the squared errors (or residuals) [MSE]

As previously reported, observed enrollments in control sites (where new schools were not constructed) tended to be slightly higher than their expected values. In the regression analysis this effect was statistically significantonly for girls in the school year 1983/84. However, the size of the effect (an average increase of seven students) was small in comparison to the size of the effect in new school sites in the same year (an average increase of 27 students).

Annual Rates of Increase

Annual rates of increase in the grade one school population at each site also clearly show the impacts of the new schools. (See Tables B-4 and B-5.) The highest rates of increase for the 1983 new school sites occurred in the year 1983/84 (13.6 percent for boys and 29.07 percent for girls), and the highest rates for the 1984 new school sites occurred in 1984/85 (23.43 percent for boys and 34.96 percent for girls). In all the studies, annual rates of increase for girls were generally (i.e. in most years) higher than the corresponding rates for boys.

Ratios of Girls to Boys Enrollment

Table B-6 shows that the ratios of girls to boys enrollment have been increasing in all sites included in all the studies from 1978/79 to 1985/86 and that no special impacts of new schools on this ratio can be seen in the school years 1983/84 or 1984/85. Table B-7 shows that the ratios of girls to boys enrollment also did not differ systematically or significantly between the new schools and their matched comparison schools. This finding held consistently even for the most rural sites. Thus, in the first two or three years of operation, the new schools appear to be having substantial impacts not only on girls enrollment but also on boys. In addition, the new schools make further increases in the ratios of girls to total enrollment possible.

Impacts in the Most Rural Sites

When the impacts of the new schools were calculated for a subset of the most rural sites, these were found to be much larger than the overall impacts in all the new school sites (see Table B-8). Thus, the new schools had their greatest impact, as intended, in the most rural and isolated communities.

Decreasing Impacts in Second Year of Operation

In Table B-3 one can see that the average impacts of the new schools consistently decreased in the second and third years of operation. There is some evidence that this may be due to crowding in the first year. Of the 23 1983 new schools, 11 contained first-grade classes of 45 or more children in the first year; of these, 8 had smaller impacts in the second year than in the first. Twelve schools had fewer than 45 children in their first year, first-grade classes, and of these, only 4 had smaller impacts in the second year. Thus, the larger the enrollment in the first year of the new school's operation, the smaller the impact in the second year.

Relaxation of Crowding

The average grade one enrollment in the new schools is given in Table B-9. By subtracting the average impact on enrollment obtained from the regression analysis, we can estimate on the average the number of students who were drawn to the new school over and above the new enrollment, thereby relaxing crowdedness in the related schools. These estimates of "relaxation" are also shown in Table B-9. On the average, each 1983 new school created places for approximately 6 first graders and each 1984 new school created places for approximately 11. It is interesting to note that the relaxation impact for girls was negative. This suggests that girls might be taking the

Table B-3:

The Average New School Impact (Observed Minus Expected)
Per Site in Grade One for All Studies

Years	Study Type					
	Control (19 sites		Ext 83 (23 sites)		Ext 84 (17 sites)	
	Males	Females	Males	Females	Males	Females
1983/84	5.7	6.5*	21.4*	26.7*	-	-
1984/85	0	3.2	20.4*	20.0*	27.6*	28.0*
1985/86	3	0	11	14.4	14.5	14.1*

	Males	Females
All First-Year New School Sites	24.0	27.3
All Second-Year New School Sites	17.9	17.5

*Significant Differences (x = .05)

Table B-4:

Annual Rates of Increase (Percentage) for Males' Grade One Enrollment in All Studies

School Year	Study Type					
	Control		Extensive 83		Extensive 84	
	Enrollment	Rate	Enrollment	Rate	Enrollment	Rate
78/79	1572		2929		2322	
79/80	1631	3.75	3154	7.68	2299	0.99
80/81	1639	0.49	3219	2.06	2408	4.74
81/82	1643	0.24	3247	.87	2289	-4.94
82/83	1790	8.95	3575	10.10	2499	9.17
83/84	1896	5.92	4068	13.68	2497	-0.08
84/85	1829	-3.53	4163	2.34	3082	23.43
85/86	1937	5.9	4065	-2.35	2943	-5.00

260

Table B-5:

Annual Rates of Increase (Percentage) for Females' Grade One Enrollment in All Studies

School Year	Study Type					
	Control		Extensive 83		Extensive 84	
	Enrollment	Rate	Enrollment	Rate	Enrollment	Rate
78/79	731		1382		1289	
79/80	756	3.42	1551	12.23	1243	3.57
80/81	922	21.96	1700	9.61	1458	17.30
81/82	912	-1.08	1721	1.24	1501	2.95
82/83	1049	15.02	2133	23.94	1577	5.06
83/84	1235	17.73	2753	29.07	1696	7.55
84/85	1252	1.38	2746	-0.25	2289	34.96
85/86	1274	1.76	2809	2.29	2088	-8.78

289

Table B-6:

Ratios of Grade One Female to Male Enrollments in All Studies

School Year	Study Type		
	Control	Extensive 83	Extensive 84
	Ratio	Ratio	Ratio
78/79	46.50	47.18	55.51
79/80	46.35	47.18	54.07
80/81	56.25	52.81	60.55
81/82	55.51	53.00	65.57
82/83	58.60	59.97	63.11
83/84	65.14	67.67	67.92
84/85	64.85	65.96	74.27
85/86	65.77	69.10	70.95

290

Table B-7:

Ratios of Females to Males in Grade One of the New Schools, Matched Schools, and Related Schools in All Studies

Study Type	Control	Extensive 83						Extensive 84					
School Group		All Related Schools		Matched Schools		New Schools		All Related Schools		Matched Schools		New Schools	
Site Group	All Sites	Sites		Sites		Sites		Sites		Sites		Sites	
		All	Rural	All	Rural	All	Rural	All	Rural	All	Rural	All	Rural
1983/84	.65	.68	.57	.65	.66	.73	.65	-	-	-	-	-	-
1984/85	.68	.66	.61	.65	.58	.64	.59	.74	.84	.74	.79	.63	.62
1985/86	.66	.70	.62	.61	.55	.63	.67	.71	.85	.68	.81	.58	.69

Table B-8:

The Average New School Impact Per Site in Grade One for the Most Rural Sites

	Study Type			
# of Rural Sites	Extensive 83 (9 Sites)		Extensive 84 (6 Sites)	
Year | Sex	Males	Females	Males	Females
1983/84	39.4*	32.8*	-	-
1984/85	28.8*	24.4*	31.1*	44.0*
1985/86	28.1*	24.9*	27.1*	37.4*

*Significant differences (x = .05)

Table B-9:

Average Impacts of New Schools on Crowdedness of Grade One in Related Schools in Each Study

Average Grade One Enrollment in New School						Average Relaxation					
Extensive 83			Extensive 84			Extensive 83			Extensive 84		
Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total
31	23	54	41	26	67	10	-4	6	13	-2	11

places of boys who left a related school to attend the new one. Observations from the intensive study support these findings. More mobile boys who were more likely to have gone the long distances to related schools in these areas than girls, as a consequence of their greater numbers, contribute a larger share to easing crowding when they return to new schools in their home villages. Their dropout rates also decrease. Girls from the new school community not only constitute a smaller group compared with boys but those who return home to the new school tend to be the ones who would otherwise have dropped out of the old school, thus not contributing to the relaxation of crowding in that old institution. However, by returning to the home village, their vulnerability to dropout, largely a result of the distance to the related school, is reduced and their persistence levels rise.

Grade Two-Through-Six Enrollments

Linear Regression

Linear regression showed that the impact of the new schools in decreasing dropouts was to hold in school, on the average per site, an additional 37 boys and 37 girls in grades two through six during the first year that the new school opened. During the second year of operation the impact was, on the average, to hold in school 34 boys and 51 girls. These impacts were all statistically significant at the .05 level except for the impact on boys in the first year at the 1984 new school sites. (See Table B-10.)

Differences between the observed and expected average enrollments in the control sites ranged from -20.8 to 20.3. The latter difference, for girls in 1984/85 was statistically significant, but overall the differences seem to be due to random variables.

292

Observed enrollments, calculated without including the new schools, were within the confidence limits of the regression line in all years, indicating that the significant differences can be attributed to the new schools.

Annual Rates of Increase

Annual rates of increase in the grades two-through-six population at each site also reflect the impacts of the new schools (see Tables B-11 and B-12). For the 1983 new schools, the highest rates of increase (12.50 percent for boys and 18.93 percent for girls) occurred in 1983/84. In the 1984 new schools, the impact appears to have been delayed because several schools did not have all grades from two through six in operation during 1984/85. The highest rates of increase for the 1984 new schools came in 1985/86 (6.80 percent for boys and 12.2 percent for girls).

Ratios of Girls to Boys Enrollment

The new schools may have had a differential impact in reducing girls' dropout in grades two through six: the impacts shown in Tables B-10 and B-11 tended to be higher for girls than boys. However, the differential impact on girls was not detected in historical analysis of girls to boys ratios (see Table B-13), or in comparison of the ratios of girls to boys in the new schools

Table B-10:

The Average New School Impact Per Site on
Grade Two-Through-Six Enrollment in All Studies

Years	Study Type					
	Control (19 sites)		Extensive 83 (23** sites)		Extensive 84 (17*** sites)	
	Males	Females	Males	Females	Males	Females
1983/84	0	10.2	58.1*	43.7*	-	-
1984/85	2.3	20.3*	39.1*	54.4*	16.1	30.5*
1985/86	-20.8	14.0	47.9*	67.6*	29.0*	48.4*

	Males	Females
All First-Year New School Sites	37.1	37.1
All Second-Year New School Sites	34.1	51.4

*Significant Differences (x = .05)
**20 in 1983/84: Two new schools had only grade one classes.
***14 in 1984/85: Three new schools had only grade one classes.

Table B-11:

Annual Rates of Increase (Percentage) for Males
Grades Two-Through-Six Enrollment in All Studies

School Year	Study Type					
	Control		Extensive 83		Extensive 84	
	Enrollment	Rate	Enrollment	Rate	Enrollment	Rate
78/79	6672		11909		8683	
79/80	7010	5.07	12337	3.59	9117	5.0
80/81	7045	0.5	12918	11.71	9046	-0.78
81/82	7462	5.92	13528	4.72	9555	5.63
82/83	7843	5.17	14029	3.70	9639	0.88
83/84	8046	2.59	15783	12.50	9964	3.37
84/85	8324	3.46	15917	0.85	10300	3.37
85/86	8209	-1.38	16764	5.32	11000	6.80

Table B-12:

Annual Rates of Increase (Percentage) for Females
Grades Two-Through-Six Enrollment in All Studies

School Year	Study Type					
	Control		Extensive 83		Extensive 84	
	Enrollment	Rate	Enrollment	Rate	Enrollment	Rate
78/79	2091		4699		4238	-
79/80	2303	10.09	5092	8.36	4669	10.17
80/81	2432	5.65	5548	8.96	4724	1.18
81/82	2612	7.40	6093	9.82	5048	6.86
82/83	2942	12.63	6630	8.81	5517	9.29
83/84	3231	9.82	7885	18.93	5965	8.19
84/85	3601	11.45	8782	11.38	6476	8.57
85/86	3659	1.61	9628	9.63	7270	12.26

Table B-13:

Ratios of Grade Two-Through-Six Female-to-Male Enrollments in All Studies

School Year	Study Type: Control	Extensive 83	Extensive 84
	Ratio	Ratio	Ratio
78/79	31.34	39.46	48.81
79/80	32.84	41.27	51.21
80/81	34.52	42.95	52.22
81/82	35.00	45.04	52.83
82/83	37.51	47.26	57.24
83/84	40.16	49.96	59.87
84/85	43.26	55.17	62.87
85/86	44.57	57.43	66.09

296

versus matched comparison schools (Table B-14). Apparently the increases in girls' enrollment were masked by the larger enrollments of boys used in calculating the ratios.

Enrollment in the Most Rural Sites

We were unable to evaluate new school impacts for grades two through six in rural sites because the selected schools had different numbers of grades in operation and the number of sites was too small to permit comparison of a subset having the same numbers of grades.

Relaxation of Crowding

The analysis of a new schools' impact on relaxation of crowdedness in grades two through six follows a similar argument to that used for grade one. The impact of the new schools is an estimate of the number of children who might have dropped out if the new school had not been built. The new school picks these students up and keeps them in school. If, in addition, more students on the average come to the new school, this would also relax crowding in the related schools. Table B-15 shows these results. One can see that the main effect of the new school for boys is relaxation of crowdedness beyond the expectation in the related schools, while the main effect for girls is in reducing dropout. These results are similar to those found for grade one.

Summary of Impacts on Enrollments

The 1986 results, carried out with more complete data and with a refined method of statistical analysis, confirmed the results from preceding years. The estimates of average impacts were somewhat larger than preceding years. The fact that the new schools had their largest impacts on grade one enrollment in the very rural areas continued to be confirmed.

An unexpected result was the finding that the impacts on enrollment in grade one were as large for boys as for girls. The impacts on dropout in grades two through six appeared to be somewhat greater for girls. Apart from the new schools, the ratio of girls to boys enrollment improved strikingly during the years covered by this study, from approximately 50 percent in 1978/79 to approximately 70 percent in 1985/86 for grade one, and from 40 percent in 1978/79 to approximately 55 percent in 1985/86 for grades two through six.

New school impacts on enrollment may perhaps best be summarized by expressing them as percentages of increase calculated by dividing the impact by the expected value of the enrollment. Tables B-16 and B-17 show the results expressed in this form. When the 1983 new schools opened in 1983/84 they produced, on the average, a 12 percent increase in first-grade enrollment of boys and a 27 percent increase in first-grade enrollment of girls, for an overall impact of 18 percent. When the 1984 new schools opened in 1984/85 they produced a 20 percent increase in first-grade enrollment of boys and a 30 percent increase in the first-grade enrollment of girls, for an overall impact of 24 percent (Table B-16). These are very satisfying overall impacts taken against the original Ministry target of a 9 percent increase in enrollment.

Table B-14:

Ratios of Females to Males in Grades Two-Through-Six of the New Schools, Matched Schools, and Related Schools, All Studies

Study Type	Control	Extensive 83						Extensive 84					
School Group		All Related Schools		Matched Schools		New Schools		All Related Schools		Matched Schools		New Schools	
Site Group	All Sites	Sites All	Sites Rural	Sites All	Sites Rural	Sites All	Sites Rural	Sites All	Sites Rural	Sites All	Sites Rural	Sites All	Sites Rural
1983/84	.50	.53	.45	.41	.40	.41	.37	-	-	-	-	-	-
1984/85	.54	.57	.51	.51	.49	.47	.40	.65	.71	.49	.54	.41	.44
1985/86	.56	.59	.54	.54	.48	.57	.55	.70	.62	.68	.55	.52	.53

Table B-15:

Average Impacts of New Schools on Crowdedness of Grades Two-Through-Six in Related Schools in Each Study

Average Grade One Enrollment in New School						Average Relaxation					
Extensive 83			Extensive 84			Extensive 83			Extensive 84		
Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total
93	38	131	89	36	125	34	-6	28	73	6	79

Table B-16:

The Estimated Percentage Increases in Grade One Enrollment as a Result of Project-Financed Construction in the Sites Studied

School Year	Study Type					
	Extensive 83			Extensive 84		
	Males	Females	Total	Males	Females	Total
1983/84	12	27	18	-	-	-
1984/85	10	18	13	20	30	24
1984/85	4	13	7	10	15	12

	Males	Females	Total
All First-Year New School Sites	15	29	20
All Second-Year New School Sites	10	17	13

Table B-17:

The Estimated Percentage Decrease in Grades Two-Through-Six Dropouts as a Result of Project-Financed Construction in the Sites Studied

School Year	Study Type					
	Extensive 83			Extensive 84		
	Males	Females	Total	Males	Females	Total
1983/84	9	14	11	-	-	-
1984/85	6	17	10	3	9	5
1984/85	7	20	11	6	17	10

	Males	Females	Total
All First-Year New School Sites	6	12	8
All Second-Year New School Sites	6	17	10

299

Percentage decreases in dropouts were smaller because the grades two-through-six populations were much larger. Still, they were respectable: 9 percent for boys and 14 percent for girls in 1983, for an overall decrease of 11 percent; 3 percent for boys and 9 percent for girls in 1984, for an overall decrease of 5 percent (Table B-17).

Examination Results

Analysis of the examinations taken yearly by the children in grades two and four produced no data which could be used to evaluate the impact of the new schools. This was because these examinations had such high passing levels for all children in all sites that they produced no variance which could be analyzed (see Table B-18).

Passing scores for the grade six examination were lower, particularly in the extremely rural sites, so they did supply variance which could be analyzed (Table B-19). The most direct evaluation of the impact of the new schools, using these grade six data, was to compare the passing rates of children in the new schools to the passing rates of children in nearby matched comparison schools. When this was done for the 1983 sites (Table B-19) the results showed no clear advantage to either group. Essentially, one might conclude that the children in the new schools performed at the same level as those in the matched comparison schools. Of course, it would be unrealistic to expect an impact of a new school during its first year of operation on grade six examinations. Furthermore, it is possible to create conflicting hypotheses about the direction of the impact, based on the characteristics of the schools and the population of children who came to them (see the Study of School Characteristics).

In 1986 we have analyzed sixth-grade examination impacts for two years of operation of the 1983 new schools. (See Tables B-18 and B-19.) Analysis of the first-year impacts in the 1984 sites would be fruitless. Next year we will be able to analyze three years of impact for the 1983 sites and two years for the 1984 sites, but we do not expect to find different results.

The original design contemplated assessing major impacts of the new schools on examinations at grades two and four but lack of variance has made that impossible.

Analysis of the Impacts of New Preparatory Schools

The original design for the extensive study was based on the assumption that new schools would include grades one through six or grades one through nine. In actuality most were grades one through six, but a sizeable number (see Table B-1) turned out to be grades seven through nine only (preparatory schools). An attempt to apply the grade one-through-six design to analyze this group of seven-through-nine schools did not succeed for the following reasons.

- The seven-through-nine schools were not intentionally sampled. Rather, they turned up in the sample because they were originally thought to be one-through-nine schools, but later turned into seven-through-nine schools.

Table B-18:

Success Rates for Examinations in All Studies

	Grade Two				Grade Four				Grade Six			
	Control		Extensive 83		Control		Extensive 83		Control		Extensive 83	
	Males	Fe-males	Males	Fe-males	Males	Fe-males	Males	Fe-males	Males	Fe-males	Males	Fe-males
All	95.9	95.7	94.5	94.6	92.4	89.3	96.2	96.8	83.72	86.27	87.96	84.84
Rural	-	-	95.1	93.4	-	-	93.4	93.8	-	-	83.5	77.9

Table B-19:

Success Rates for 1983 New Schools and Matched Comparison Schools on Grade Six Examinations

		Males	Females
1983/84	New School	83.7	85.0
	Matched School	89.5	88.4
1984/85	New School	83.8	84.1
	Matched School	90.4	82.1

301

- Unexplained and very large variations in the historical data occurred in many of the records and could not be removed by repeated questions to the Ministry staff.

- Changes in the organization of the schools were frequent, e.g., closing of one preparatory school in a site coincident with opening another. We may not be aware of all these changes, which might (if known) account for some of the unexplained variability.

Table 20 shows the problems in interpreting the results of applying the regression analysis to this sample of seven-through-nine schools. Note that the largest and most consistent "impacts" were in the control group, and these were negative!

In other words, the historical data from 1978/79 to 1982/83 produced regression lines which consistently and significantly overestimated the control site enrollments in 1983/84 to 1985/86. In contrast, impacts of the new schools may be seen as relatively small and non-significant positive differences. These might, perhaps, take on more meaning when compared with the large and significant negative differences in the control group, but the number of sites was too small and their choice was too unsystematic to permit drawing conclusions.

302

Table B-20:

The Average Increase in Grades Seven-Through-Nine Enrollment Per Site in All Studies

Type of Study	Number of Sites	Males	Females
Extensive 83			
83/84	1 2	-20.7	10.7
84/85	4 4	42.0	25.0
85/86	4 5	-43.1	124.0*
Extensive 84			
84/85	5 5	9.4	17.9
85/86	5 5	111.4*	78.6*
Control			
83/84	10 10	-110.0*	15.7*
84/85	10 10	-134.4*	-19.4*
85/86	10 10	-108.0*	-59.1*

APPENDIX C: TECHNICAL ASSISTANCE

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 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.[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 state policy goals."[3] In addition, the consultants were to hold seminars and workshops for interested Ministry employees whenever there was an opportunity.

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[1]This section is from the First Annual Report. The reader familiar with that document may wish to skip the "Background" and begin reading the sub-section entitled "Organization of the Technical Assistance Project."

[2]From the proposal presented by the Academy for Educational Development for the Basic Education Project, Ministry of Education, Arab Republic of Egypt, (USAID Grant #263-0139).

[3]Ibid.

The Academy proposed to "supplement the . . . knowledge of its American consultants or employees with a broader familiarity of Egyptian education 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."[1] 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)."[2]

The study of technical assistance was 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.

- 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.

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[1] Ibid.

[2] Project Paper, Egypt Basic Education, Project Number 263-0139.

- 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 used data from interviews of key technical assistance providers, key recipients of the advice, and key department staff in the areas in which technical assistance was provided to see if they perceived 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 included the documents generated in the course of the technical assistance program. Document analysis played a prominent role in guiding the interviews. In-system observations of changed practices brought about by the Technical Assistance effort were to have been made in the schools and in administrative offices at Ministry and governorate levels.

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 to be 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.

It was a "formal" system in that it contained the mechanisms for, and its legitimacy depended upon, the careful definition and negotiation of rights, responsibilities, and procedures. It was a "temporary" structure in 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 rather than by their roles and responsibilities in the client system, the MOE.

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 consisted 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" authority for policy, procedural matters, and for evaluation of the TA project itself as well as the services it was to deliver. 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.

The Technical Secretariat 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 or what the procedures are to be for conducting further needs assessment. Those who prepared the "charter" may not have felt any necessity to include anything on these matters since they had contracted to provide "appropriate technical expertise in Ministry-designated high-priority areas." How those "high-priority areas were to be identified was the Ministry's affair unless specifically called for in an authorized work order, as was the case in Work Order No. 2, "Assessing the State of the Art of Basic Education."

The "charter" also stands silent on the matter of what decision-making processes, procedures, or policies will guide implementing the changes recommended in the final reports of the various work orders and whether the Technical Assistance Contractor will provide assistance in that vital process. Orders Nos. 5, 6, 7, and 9 have training of MOE staff and officials built into them, and in that sense, do perform one of the first functions necessary to the implementation process. Work Order No. 8 called for the American experts to "monitor the execution" (of) and "suggest corrections when necessary" on changes to be made in the organization and management of the Ministry, a process designed to help ensure that the changes made during implementation were in line with or appropriate to those intended.

Figure C-1, a verbatim copy from Work Order No. 1, shows the flow cycle of project activities.

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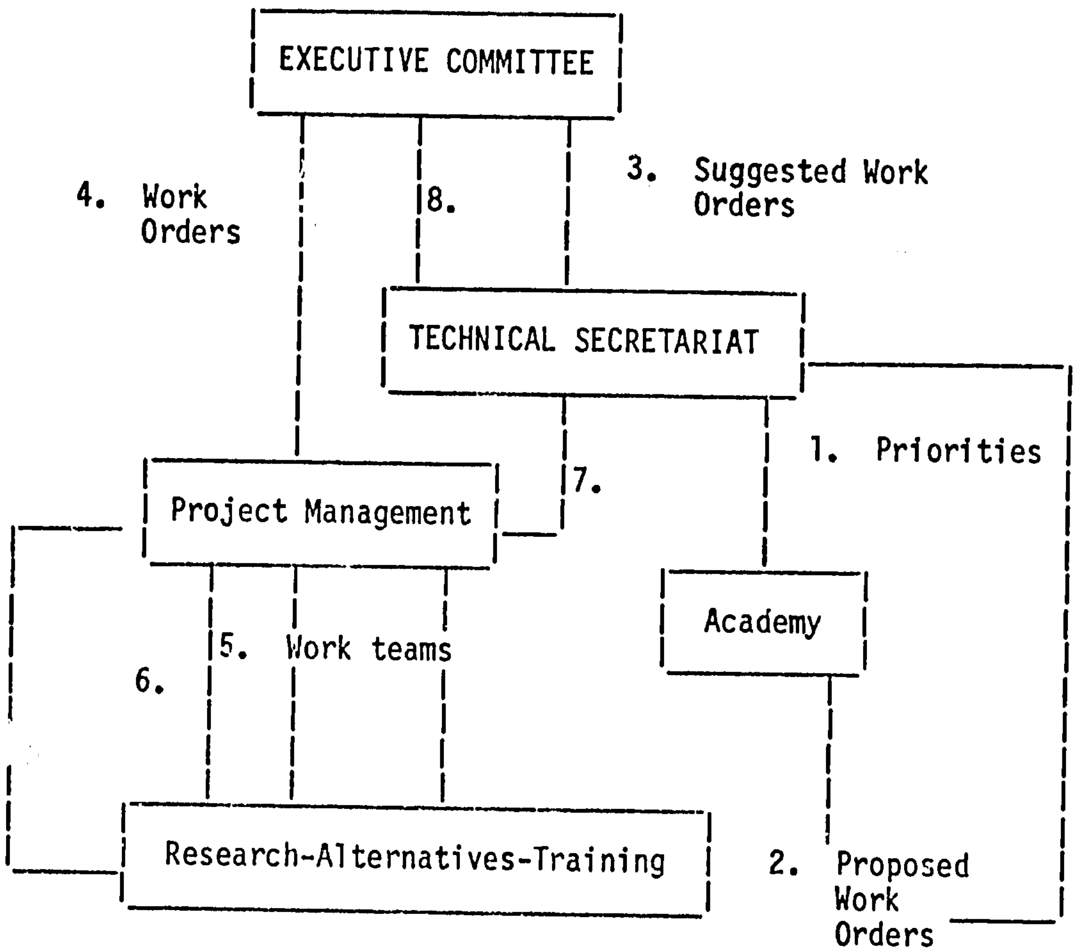
[1]From p. C-1.

Figure C-1

Project Implementation Process Showing 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 (Steps 1, 2, and 3). 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.

*The numbers show the sequence of activities.

SERVICES TO BE DELIVERED

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, before the Technical Assistance Contract had begun, 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 needed and had delineated in their priority paper.[1]

The first five work orders were formally authorized on June 2, 1983. Work Order No. 1 authorized and established the technical assistance delivery system in line with the negotiated organizational design and "charter" for its operation that had been discussed at length with MOE officials in May.

Work Orders 2, 3, and 4 were aimed at the essential elements of the Basic Education Program. No. 2" "Assessing the State of the Art of Basic Education," was the broadest. It was designed to serve as the analytical foundation for the entire program, as well as delve into its operational heart--curriculum, instruction, teacher and administrator training. It called for a committee of three foreign and three Egyptian experts who were to establish the philosophical and legal bases for Basic Education." They were to review and examine "all relevant studies, experiments, policies, and laws related to Basic Education," assess the curriculum and suggest "alternative models" for curriculum and delivery (the instructional system), and establish "criteria for selecting, preparing, and training . . . teachers and . . . administrators."[2]

No. 3, "Educational Economics of Basic Education," was designed to "raise the (economic) effectiveness of Basic Education" through the study of "flow and dropout ratios, class size, school shifts." The experts were to suggest approaches to reducing these, to "prepare projections for the coming development plan," and through the study of the effects of the MOE budgets on Basic Education "to develop" cost-effective techniques to maximize use of funds."[3]

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[1] Priorities of Special Importance in the Different Areas of the Required Studies on Basic Education (Arab Republic of Egypt, Ministry of Education, October 1982).

[2] See Annex.

[3] See Annex.

Work Order No. 4: "School Designs for Basic Education," was to develop new school building designs and construction techniques for a nine grade Basic Education school after surveying existing schools, and determining what local materials could be used that would "reduce costs and be more adaptive to the environment."[4]

There were three other studies called for in the MOE' priority paper: one on educational planning, one on school administration, and a third on student flow and dropouts.

The educational planning study asked for:

- 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; and
- submitting a time-plan for introducting Basic Education in areas that are less-favored educationally, culturally, socially, and economically.

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 study of school administration was dropped, but questions from the student flow and dropout area (another priority which did not become a separate work order) were incorporated into Work Order No. 3: "Educational Economics of Basic Education."

The Academy did design an educational planning study, however, which became Work Order No. 5, "A Computer-Based Planning Model for Basic Education." Though neither derivative of nor specifically responsive to the particular concerns expressed in the educational planning study in the Ministry's priority paper, it reflected what the Academy felt was a more basic need--that of helping the Ministry sophisticate its current planning system. After discussion, MOE officials agreed and Work Order No. 5 was authorized.

No additional work orders were negotiated and approved until February 19, 1985--nine months after the start of the second contract year. With the beginning of the new contract year (June 1, 1984-May 30, 1985), a change took

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[4]See Annex.

311

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.

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 Proposed Work Order Six and Memorandum of Understanding . . . in the Annex to this Appendix.)

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 and secure their approval on February 19, 1985.

The first, Work Order No. 6, entitled "Development of Basic Education Teachers Inservice Training--Programs and Techniques," called for an assessment of the organizational structure for and the status and conditions of the existing "inservice training program, techniques and practices for Basic Education teachers," the development of a list of "needed inservice

312

training modules," and "guidelines to prepare (the) new inservice models." A sample of prototype material was then to be prepared and a intensive training workshop conducted "to improve the training skills of Basic Education training staff."[1]

The second new order, Work Order No. 7, was entitled "Handicapped in Basic Education" and was designed "to assess . . . (existing) testing, evaluation, placement and counseling techniques used with handicapped children" (ages 6-15), "evaluate . . . systems, . . . services, and tools (used or for use in Basic Education for the handicapped)." From these evaluations, "prototype . . . additional tools were to be developed" and staff trained in their use. In addition, a study was to be made of the "possibilities of providing modern equipment to enhance the educational and rehabilitation processes for the handicapped."[2]

Work Order No. 8: "Organization and Management" had one overarching objective: ". . . 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." The order was divided into three parts: "diagnostic, policy planning, and execution monitoring." The diagnostic function was to include "an analysis of the existing system . . . defining job functions and the division of labor and levels of responsibility."

Policy planning was to be based on the analysis. The team of foreign and national consultants were then "to propose structural . . . functional alternatives to strengthen . . . goal setting, policy formation, resources, distribution (sic), decision-making procedures, information gathering, processing and distribution, inservice training and career mobility, performance evaluation, incentive systems, managerial and institutional leadership." They were also "to suggest staffing and orientation training programs . . . (for) new organizational systems." Finally, they were "to monitor execution and suggest mid-course corrections when necessary."[3]

Of these three, No. 6 was the only one of the three related to recommendations from a previously completed work order. In the final report of Work Order No. 2, the American experts had recommended four "priorities for reform." Their number two priority had been to "develop a short-range and a long-range inservice training plan for teachers and administrators of Basic Education." The new Minister had also listed inservice teacher training and a "Review of the Ministry's organizational structure, and development of . . . (its) management capabilities" as two of six priority areas for new technical assistance work. (See Priority Numbers 6 and 4, Memorandum of Understanding, in the Annex to this Appendix.)

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[1]See Annex to this Appendix.

[2]See Annex to this Appendix.

[3]See Annex to this Appendix.

Coincidentally, the technical assistance evaluation team had also recommended to AID and the MOE that the current inservice training system for Basic Education teachers and administrators be redesigned and that the redesign be made a responsibility of the technical assistance project.

No further work orders were authorized in that second contract year--school year 1984/85.

Shortly following the beginning of the third contract year, school year 1985/86, a new Minister of Education was appointed following the resignation of the former Minister, His Excellency, Dr. Abdel Salam Abdel-Ghaffar. The new Minister, His Excellency Mansur Hussein, had been the Deputy Minister when the Technical Assistance Project began. He kept his predecessor's First Undersecretary who continued to be responsible for the Technical Assistance contract until his retirement in March 1986.

In late winter 1985, the Academy negotiated two new work orders which were approved by the First Undersecretary on February 29, 1986. The first, Work Order No. 9, entitled "Experimental Schools," has as its major objective "assist(ing) the Ministry in achieving the objectives set for . . . establishing Experimental Schools in some selected governorates." The Technical Assistance services to be delivered under this work order are quoted verbatim below from the work order.

"The contractor shall appoint upon the recommendation of the Ministry of Education a team of national and foreign consultants who will:

1. Evaluate previous experiences, efforts, and research in Egypt regarding the Experimental Schools.

2. Develop operational objectives to be achieved by these schools.

3. Suggest, in cooperation with concerned personnel and committees within the Ministry of Education, purposes, ways, and means of activities to be conducted within the experimental schools in the following domains:

   - Types of research (experimental, action, descriptive, and other research) needed for curriculum and instruction development.

   - School management

   - Educational supervision

   - Student evaluation

   - Connecting schooling with the socioeconomic needs of communities in which the schools are located

   - Staff development (teachers, administrators, supporting personnel)

314

- Relationships of the Experimental Schools with: (a) Ministry of Education, (b) Colleges of Education to which each school is to be subordinated, (c) Educational authority of the governorate

- Disseminating the Experimental Schools' outputs to other schools within the same governorate

- Effective ways and means through which other schools can adopt innovations made in the Experimental Schools and were proven to be valid and reliable.

- Discovery of both gifted and talented (with special abilities) students together with suggested programs for their development

- Suggestions regarding financial resources needed to support activities and additional educational services to be performed within the Experimental Schools."[4]

A general prototype design for an experimental school had been presented and discussed at length in the Final Report of Work Order 2. In that general sense, Work Order 9 can be seen to be derivative of Work Order No. 2. Whether the models discussed there will be adopted and carried through in this work order remains to be seen.

One notes the "Experimental Schools" are to "be subordinated" to Colleges of Education. Given the dismal history in other countries of experimental schools affiliated to Colleges of Education, great care should be taken to analyze the need for such a system of "Experimental Schools" and the purposes for which they are to be established before deciding on their placement within the authority structures of education in Egypt.

The second, Work Order No. 10, entitled "Educational Supervision," has as its objective the assessment of the current status of school supervision procedures and practices in light of the Basic Education philosophy and the preparation and field test of an inservice training module to upgrade practice.

The technical assistance services to be delivered:

"The contractor shall appoint upon the recommendation of the Ministry of Education a team of national and foreign consultants who will:

1. Analyze and evaluate the existing supervision procedures and practices.

2. Conduct field visits to observe supervision in action.

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[4]See the Annex to this Appendix.

2. Conduct field visits to observe supervision in action.

3. Suggest an improved system for Educational Supervision.

4. Develop an inservice training module for supervisors that meets the Basic Education philosophy.

5. Conduct a three-week workshop for 30 supervisors to field-test the training module."[5]

The need to examine and revise the current supervisory system had also been defined as a need in Work Order No. 2. Certainly the need exists, for, as former MOE officials in position to know have said, "We have an excellent supervisory system in principle. In practice it is not working at all well now." In addition, school observations and the results of the practical skills testing support their assertion, particularly in the supervision of the new industry course in the more remote rural primary schools and generally in the preparatory schools. (See Annex II to Appendix A.)

A third possible work effort to establish a unit on tests and measurements within the Ministry was discussed but no final decisions made by May 31, 1986.

TECHNICAL ASSISTANCE WORK STAGES

In the typical technical assistance delivery system, decision making, work and other authorizations, and the conduct of the authorized work follow a certain general pattern. We have combined the steps in that pattern with the Academy's "flow cycle of project activities" (in Figure C-1) to fashion an outline of the stages through which work should flow in an orderly and timely fashion from the inception of the system itself to the disposition of the finished products of the system.

Table C-1:

Work Flow Action Stages

A. <u>Design Stage</u>

- Design technical assistance system in consultation with MOE officials.
- Propose system to MOE.
- Negotiate system with MOE.
- MOE approves.

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[5]See Annex to this Appendix.

- 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 reviewed systematically so that identified needs statements can be accepted or modified.

C. Specification of Work

- Translate priorities (needs statements) into formal work orders that contain objectives, describe services to be performed, including person-hour needs, estimate levels of effort, and stipulate activities, schedule, deliverables, reporting requirements, and budget.

- Negotiate work orders, making any changes called for.

- MOE approves work orders and authorizes project management to proceed.

D. Selection of Experts

- From expert candidate pool--foreign, Egyptian, and MOE--select and nominate three candidates for each two positions, both Egyptian and foreign.

- Names submitted for approval.

- After approval, experts hired, schedules modified as necessary, all travel, and logistics plans arranged.

E. Pre-Visit Preparation

- Prepare general background and other briefing materials for foreign experts if necessary; counterpart experts or MOE staff prepare specific papers, reports, or data analyses.

- Collect information needed for experts to use.

- Brief foreign and other experts, provide necessary materials pertinent for work to be done.

F. Team(s) Work

- Send foreign experts to Egypt.

- Join foreign and Egyptian experts to form work teams in-country, redefine work as necessary.

- Prepare definitive work schedules, assignments, and begin work.

- Team completes in-country work and preliminary draft report, makes oral report to MOE and USAID before departure of foreign experts.

G. Technical Review I

- Preliminary report submitted to the Technical Secretariat.

- Technical Secretariat reviews, evaluates preliminary report and prepares a critique for foreign, Egyptian 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, either defers action, or recommends its acceptance or rejection, in whole or part, to the Executive Committee.

J. Executive Action

- Executive Committee meets and takes such action as it feels appropriate on the final report.

K. Implementation of Recommendations Within MOE

- Relevant Ministry officials take appropriate action leading to the "institutionalization" of the changes recommended in the report and approved by the Executive Committee.

ACTUAL WORK FLOW

In Figure C-2, we use the Work Flow Action Stages to provide a frame for a brief summary of the general flow of activities in the Technical Assistance Project from its inception to May 31, 1986--the end date of this study. The 1983/84 year is shown in the left hand column, 1984/85 in the middle, and 1985/86 in the right hand column. By reading down a column, the reader can trace the flow of work accomplishments by stage through that contract year. Reading across the columns from left to right enables one to compare activities by year within each action stage.

Figure C-2: Work Flow Status

In 1983/84	In 1984/85	In 1985/86
	A. Project Design	
• Original design of TA system completed in May 1983.	• Reformulation of design for remainder of project presented to Ministry in October, 1984 as W.O. 6; eventually rejected by MOE.	• No further general project design attempted but certain actions taken by Team Misr to strengthen administration of the project in Egypt and streamline its activities.
	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. • "Priorities" translated into work orders in May 1983. Authorized to proceed June 3, 1983.	• 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). • Final work orders completed in January '85.	• Informal needs assessment made through conversations, discussions with members of the Technical Secretariat, resulted in Work Orders 9 and 10. (Mention that work was needed in these two areas had also been made in the Final Report of Work Order 2, which also called for the activities in W.O. 6). • Work Orders 9 and 10 approved by the MOE on February 29, 1986. • Discussions of two possible new W.O.'s held but no final decisions made. One to follow up on W.O. 6. The other was to be a new area, possibly to establish a new unit on Tests and Measurement in the Ministry.
	C. Specification of Work	
• Completed in May 1983 for first five work orders. • Work Orders 2,3,4,5 approved and project management authorized to proceed June 2, 1983.	• Completed for work orders 6, 7, 8, in January 1985. • Work orders 6,7,8 approved and project management authorized to proceed in Feb. '85.	• Changes in scope of W.O. 6 negotiated with American experts to reduce amount of time of American experts and, in turn, the length of the workshop (from 3 weeks to 10 days). • Changes in work strategy for W.O. 8 to secure much higher level of participation by Egyptian experts and MOE officials negotiated.

Figure C-2: Work Flow Status
(Continued)

In 1983/84	In 1984/85	In 1985/86
	D. Selection of Experts	
• 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 fell behind schedule. • Foreign experts for Work Order 2 were hired and arrived in Egypt in December, a week to 10 days before Egyptian counterparts were hired.	• Foreign experts for Work Orders 6, 7, 8 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. • 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.	• Foreign and Egyptian experts approved for W.O. 7 by Executive Committee after a new slate of Egyptian experts selected. • Foreign and Egyptian experts for W.O. 6 approved Fall 1985 after renegotiation of scope of American experts' activities. • Foreign and Egyptian experts for W.O. 8 approved Fall 1985. • Foreign and Egyptian experts for W. O. 9, 10 selected by May 25, 1986 but Executive Committee had not yet approved them.
	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.	• Relatively little had been done by way of pre-visit preparation for the December visit of the W.O.s 6 and 8 American teams. Their December visit consisted, in the main, of acquiring preliminary data and getting acquainted with their Egyptian counterparts. • For W.O. 7, however, the Egyptian experts worked for 2 months ahead of the arrival of the American team to gather data and make a preliminary report for use by the Team when they arrived (Part of one new administrative streamlining by Team Misr officials). • No action had been taken before May 31, 1986 on pre-visit preparation for W.O.'s 9 and 10.

Figure C-2: Work Flow Status
(Continued)

F. Team(s) Begin Work

In 1983/84	In 1984/85	In 1985/86
• 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.	• W.O. 5--next phase--training of Egyptians to use system and system installation not begun before May 31, 1986, because entire year May 1985 taken up with problems encountered in AID on procurement of hardware. Contractor able to send out bid requests in late spring 1986.
• 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 Secretariat by May 31, 1985).	• W.O. 6 Team began 1st phase of work in December 1985, in Egypt for 5 weeks. (See Pre-visit preparation).
	• 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 sought on who would procure hardware, software; fast procurement action by AID urged yet again by Academy in 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."	• W.O. 6 Team conducted 10 day teacher training workshop--April 27/May 8, 1986.
	• No teams yet appointed for Work orders 6, 7, and 8, so no work begun aside from general planning on Academy's part.	• W.O. 8 Team began 1st phase of work in December 1985. (See Pre-visit Preparation).

321

Figure C-2: Work Flow Status
(Continued)

In 1983/84	In 1984/85	In 1985/86
	• No technical Review 1 done by Technical Secretariat for Work Order 4, "School Designs." (See F. above)	• March visit of W.O. 8 American experts cancelled because of scheduling difficulties, set for July. Egyptian experts completed their work and prepared extensive reports, all of which were being translated into English for submission to American experts, and so that both Egyptian and Americans reports could be consolidated in one overall report for review, discussion with policy planners, others in the MOE and G.O.E.'s Department of Organization (the Agency in the G.O.E. responsible for matters organizational in G.O.E. ministries). Phase 3 of the work order, to have American experts monitor and review changes as they are implemented, will not be possible during the current TA contract. • W.O.'s 9 and 10 work plan and schedule not decided on by end of May 1986--plans still being formulated.
	G. Technical Review 1	
• 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."	• No Technical Reviews required nor accomplished since no reports completed for submission during June 1, 1985/May 31, 1986. All reports interim or partial.
	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."	• No final reports-prepared-W.O.'s 5, 6, 7, 8 not completed by May 31, 1986. Work not begun on W.O.'s 9, 10.

Figure C-2: Work Flow Status (Continued)

In 1983/84	In 1984/85	In 1985/86
	I. Technical Review II	
• Completed for final report of Work Order 2, "Curriculum and Teacher-Education."	• Completed for Work Order 3, "Educational Economics."	• Technical Review II for final report of W.O. 4, "School Designs" not conducted. Final report review preempted because of long delay in process. Final report designs to Minister for review, then to Cabinet committee for review and discussion. Decision made to try out new designs.
	• Pending for final report of Work Order 4, "School Designs."	• No Technical Review II's conducted.
	J. Executive Action	
	• Completed for final report Work order 3, "Educational Economics" only.	
	K. Implementation	
• None	• None	• W. O. 4 is first W.O. to be implemented by M.O.E. After cabinet discussion, appropriate MOE officials met with Egyptian expert to ask that old plans in use for school buildings be "corrected" to remedy flaws and that working drawings be made of designs recommended in Final Report W.O. 4 so that new schools might be built using new designs. After long discussion, job of preparing working drawings, plans given to school engineering department in Kafr al Shaikh governorate educational offices. National Investment Bank to pay for work to get designs in shape so building contracts using new designs can be let for next phase of AID-funded school building programs.

WORK SCHEDULES: PLANNED VERSUS ACTUAL

The Work

As will be seen from Figure C-3, as of May 31, 1986 three of the nine service delivery work orders were complete--Nos. 2, 3, and 4. Of those, No. 2, which was a broad-scale status study of the Basic Education laws, previous research, existing practice in curriculum, and pre-service and inservice education, has served as a cafeteria of ideas for some of the succeeding work orders and as a background piece for succeeding work teams to study. Aside from the main areas to which it was directed, the final report also dealt extensively with model schools, critiqued textbooks, supervision, and spoke of the need for primary school libraries, among other things.

Work Order No. 2 was the only one completed during the first contract year. It had begun some four-and-one-half months later than had been planned because of the failure of the MOE to name Egyptian experts for any of the four service delivery work orders agreed to in May (Nos. 2, 3, 4, and 5) and formally approved in early June, concomitant with the start of the project. In fact, Work Order No. 2 began in December 1983 only because the Academy forced the MOE's hand by sending the two-member American team to Egypt to begin work.

This unaccountable delay on the Ministry's part, for reasons internal to the GOE, delayed the start of the other three work orders that were to be fully underway in 1983/84. Work Order 3 was eight-and-one-half months late in getting started; No. 4 was nine-and-one-half months late; and No. 5 began 11 months later than originally planned. These delays affected all further work, as well, because of three factors: the linear nature of the work, i.e., A has to be done before B, etc.; the need to work closely with Ministry officials in planning and scheduling work (which proved extremely difficult to do until after January of 1984 when whatever problem that had been interfering with MOE's decision making was apparently resolved); and because of the Academy's limited ability to provide project management in Egypt. The Academy had argued for a larger presence in Egypt which had been denied by AID/Cairo. That denial and its consequent lack of appropriate levels of management time and energy in Egypt plagued the project for the first two years severely.

Work Order No. 3, on the economics of Basic Education, included studies of the internal efficiency of the primary and preparatory schools (wastage due to dropouts, grade repetititon, etc.), budget allocations, and of the MOE's next five-year development plan. It also suggested ways in which some of the problems could be solved. Though very favorably received, the final report has been shelved for all intents and purposes.

Work Order No. 4, "School Designs for Basic Education," is the only work effort that had begun to be implemented by May 31, 1986. Upon receipt by the Technical Secretariat in October 1984, a decision had been made to defer action on the report until a more technically qualified review committee could be appointed and had made its recommendations to the Technical Secretariat. That did not occur until the MOE official responsible for the construction program heard of the existence of the new plans for school buildings from the evaluation team, who had recommended that the new plans at least be tried out rather than shelved as looked probable. He then preempted the remaining technical reviews by the Secretariat by securing a copy of the report from Team Misr and proceeding with a review, discussions with other high officials in the MOE, a presentation to the Minister, and eventually to a Cabinet Committee.

Approval was secured to proceed with building a few of the new designs and for revising the designs in current use to correct problems pointed out in the report. The preparation of working drawings was undertaken by engineers in the Kafr al Shaikh governorate education office and are being financed by the National Investment Bank.

Work Order No. 5, caught in the initial delay, starting almost a year later than planned, was scheduled to begin the full implementation, installation of hardware, and training of MOE staff to operate the computer-based planning system in July/August 1984. Phases I and II were completed by the AED team expeditiously. A successful presentation of the model design in a display with partial MOE data was made to the MOE/USAID/Cairo in mid-February of 1985 and work proceeded to complete the full system. Phases III and IV, to follow hard on Phase II, depended on the procurement and installation of the hardware. Unfortunately, things got worse rather than better with the timing of work. The procurement had become entangled early on in confusion and conflicting decisions about approvals and clearances on the part of both MOE and USAID/Cairo. There were changes of mind about who should be responsible for the procurement, delays in obtaining appropriate clearances, and other bureaucratic red tape in both institutions. As of April 15, 1986 bid requests were finally out--some 22 months after the initial request for approval had been submitted to AID/Cairo.

Foreign and Eygptian experts for Work Orders 6, 7, and 8 were nominated in early Spring 1985, following formal approval on February 19 (see pages C-8, -9) but by the end of that contract year, May 31, no work had begun because the Technical Secretariat rejected the entire slate of Egyptian candidates and requested new nominations be made.

Following the successful renomination and selection of a new group of Egyptian experts, work began on Orders 6 and 8 in December 1985 and on No. 7 in February 1986, 10 and 12 months after formal approval. The draft interim report for Work Order 6 was finished by late January 1986. The inservice workshop was conducted in late April and early May, so that by May 31, all but the final report had been completed.

The Work Order 8 team completed its first visit to Egypt by the end of December and scheduled a return for mid-March 1986. Between the end of the visit and early March their Egyptian colleagues worked hard at collecting the requisite data, analyzing them, and preparing tentative recommendations for consideration by the full team. Because of scheduling conflicts, the March visit by the American consultants was cancelled and eventually reset for September 1986. The Egyptian and American team members' reports were each translated into the other's language, proofed, corrected, and then synthesized. Both groups have the full report.

The Egyptian experts for Work Order No. 7 had worked for two months prior to the arrival of their American colleagues in mid-February 1986, to evaluate the schools for the blind, the deaf, the mentally retarded, and special classes for special education in regular schools, teacher training programs for the handicapped, curriculum--in short, a comprehensive assessment of the programs in their entirety. Planning for the two workshops, originally scheduled for mid-summer and then set for September, was also completed during the visit to Egypt by the American members of the team.

Figure C-3, provides a brief summary of these planned versus actual schedules.

FIGURE C-3:

Technical Assistance Project Work Schedule
Planned vs Actual (As of May 31, 1986)

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	Submitted Sep '85
#4: School Designs for Basic Education	early Aug '83	mid May '84	early Sep '83	Oct '84	early Oct '83	Submitted Summer' 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	

*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.

**N.A. = Not applicable.

FIGURE C-3:
(Continued)

Work Orders	Start Dates: Planned	Start Dates: Actual	First Draft Due Dates: Planned	First Draft Due Dates: Actual	Final Report Due Dates: Planned	Final Report Due Dates: Actual
Phase IV--Training	beginning Aug '84		early Dec '84	not begun by May 31, 86	N. A.	Activity not completed as of May 31, '86
Phase V--Followup and monitoring	beginning Jan '85		end of Jun '85		N. A.	Activity not completed as of May 31, '86
#6: Development of Basic Education Teachers Inservice Training--Programs and Techniques	Eff.Date: Feb 19, 1985	Held workshop TT -2 wks. Ended May 8, '86	Not known	Jan '86	May '86	Workshop completed but final report not completed by May 31, '86
#7: Handicapped in Basic Education	Eff.Date: Feb 19, 1985		Not known	Late Winter 85/86	May '86	Not completed as of May '86
#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	Interim report March '86		
Part 2: Policy Planning	Will begin 4 mos.after end of Part 1: Diagnosis		At end of period		Not completed by May 31 '86	Will begin in Sept

328

FIGURE C-3:
(Continued)

Work Orders	Start Dates Planned	Start Dates Actual	First Draft Due Dates Planned	First Draft Due Dates Actual	Final Report Due Dates Planned	Final Report Due Dates Actual
Part 3: Execution Monitoring	Will begin 4 mos. after reorganization efforts have been initiated		Probably will be dropped from this contract		May '86	Not completed as of May 31, '86
#9: Experimental Schools - schedule to be established	Eff.Date: Feb 24, 1986		Not established by May 31, '86		May 30, '87	
#10: Educational Supervision-schedule to be established	Eff.Date: Feb 24, 1986		Not established by May 31' 86		May 30, '87	

DISCUSSION

Management Issues and Their Resolution

In the Proposed Work Order No. 6, which eventually was rejected by the MOE, among other things the Academy had stated that

"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.

B. Because various key problems are interrelated, it is best to take a team approach, a system approach, rather than address each issue 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."[1]

Management Staff Time

Even though proposed Work Order No. 6 and its accompanying Memorandum of Understanding was rejected, as has been mentioned, two of the Minister's priorities became separate work orders--No. 6, on inservice teacher training and No. 8, a study of the organization and management of the Ministry's Basic Education effort.

The Academy's plan had also called for a full-time resident director who would work with teams of specialists to accomplish the work. They hoped thereby to correct the problem of the shortage of project management time that had impeded the smooth accomplishment of work in Egypt. The total management work effort in Egypt was requiring much more time and energy in planning and coordinating the work and making all the logistical arrangements than was possible for a quarter-time coordinator, helped by a part-time secretary, particularly when it became apparent they would have to act as translators as well.

By the summer and fall of 1985, the Academy had made some management and staffing changes. New assignments of responsibility were also made within the TA system itself and within its management which were consistent in spirit with the basic elements of the formerly rejected plan--see the three paragraphs quoted above from the work order.

Change in the Nature and Style of the Work

With the exception of Work Order No. 6, for which most of the activities had already been planned, each of the new work orders was to deal with "the development of policy alternatives" and each, this time including 6, were to make a "beginning" at "implementation of some policy alternatives." This is particularly apparent in the way work orders 7 and 8 have been carried out to date. Both present very comprehensive analyses of all or almost all the policy, procedural, and practice issues in their respective areas and make recommendations for alternatives to present practices.

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[1]See the Annex to this Appendix.

that the decision-making and working environment has the predictability and orderliness required to provide the participants with the social and psychological comfort they need to establish and maintain a quality operation.

The organization of the project as a "formal" but "temporary" system involving important officials from both the MOE and the Academy in the two formal deliberative bodies--the Technical Secretariat and the Executive Committee, and its "charter" which sets forth the general definitions of roles, authority relationships, and sets of rights and responsibilities, provided this necessary orderliness and predictability without over defining things.

In addition, because the Technical Secretariat also served as a buffer between the contractor and the Ministry itself and as a gatekeeper to the Ministry's authority structure through the chairman, who was the First Undersecretary, and through the Executive Committee, which he also chaired, the structure provided comfort of a different sort to the Ministry. It protected them, buffered them, against an onslaught of change. After all, those whose departments were most likely to be affected served on the Technical Secretariat and on the Executive Committee.

The loop in the flow of products through the technical reviews also added a measure of comfort and protection to the MOE. After Technical Review I of the preliminary report, the Secretariat could furnish such feedback as it liked to the experts who were preparing the final report. When they were finished the report came back to the Secretariat again, now in its final form for Technical Review II. Following that, unless they defer action (as in Work Order 4) the report now goes to the Executive Committee and back again, if necessary.

This provides yet another comfort level, for the Committee can shelve the product if it's thought to be inadequate, not usable, not implementable, or not implementable at this time (as happened with the results of Work Orders 2 and 3). It also can recommend the adoption and implementation of a product in whole or in part (which hasn't happened yet) or send it back to the Secretariat for additional work if it chooses. These loops provide the added safeguard option, if needed, of slowing things down, for they are formal and deliberative decisions that can serve to allow more time for thoughtful deliberation wherever it needs to be taken.

On the other hand, the system, as established, also has the advantage that if a product is right on target, meets an expressed or felt need, and has demonstrated real potential for solving the problem, some of the loops can be preempted and the product need not complete the loop it's in before the affected department begins making use of it (as has happened with the final products of Work Order 4 and will happen with Work Order 5).

These are important system properties for serving any client when the service is to extend over a fairly lengthy period of time and has the potential of affecting multiple segments of the client organization. They are even more important when the technical assistance provider is serving a naive organization--one that has never been involved in a technical assistance project before and many of whose members may either not believe or not want to believe they need the services.

This latter state of affairs--the newness of the notion of having technical assistance applied to the MOE's problem--may also account, at least in part, for why the "charter" stands silent on any procedures or decision processes for final implementation or "institutionalization" of recommended changes (no promises are made a priori). Decisions on what actions to take, what changes to make, if any, will come later after careful thought by the leadership. This, of course, provides an added assurance to the client organization's membership that their interests are being looked after and their affairs are not subject to the whims and fancy of "outsiders."

Hence it was also important for the Academy to conform to the MOE's expectations in the design and conduct of the first efforts--Work Orders 2, 3, and 4. They were in conformity as designed, for they were designed as "low client involvement" work efforts and as relatively straightforward technological consultations. They required little of one client organization during the rendering of the assistance other than the background information and the data needed in the work, hence the "low involvement" label.

Like most technical assistance work of this sort the work orders were based on the assumption that the client organization's problem stems from a knowledge deficit easily solved by applying the relevant knowledge--that the important problems stem from the lack of appropriate knowledge and its cognitive processing. Once these missing ingredients are supplied in the form of the application of new knowledge, the technical assistance work is finished. In this model of technical assistance, implementation issues never arise for the technical assistance system itself because implementation, if there is to be any, is solely the responsibility of the client.

Thus one can say these first three work efforts were:

- reactive rather than proactive (they accepted the problem with which they were presented and proceeded to solve it);

- designed to solve the problem itself--to provide direct aid, rather than to build capacity, rather than to teach the client how to solve it, or teach the client how to do so while solving it mutually;

- each effort was fixed, not flexible-i.e. solve the problem presented, not new ones (Work Order 2 veered from the straight and narrow here, for understandable reasons and got into trouble for it later);

- client-centered rather than technical assistance-system centered in their work focus, i.e. work on the client's problem, don't let the consultants worry about using this work effort as a means of strengthening or instituting a component of the technical assistance system--such as, using the work effort to build a needs asessment capacity into the system;

- limited rather than comprehensive in the scope of the work, i.e. stay within the bounds of the work effort and

337

seek to bound it even more (Work Order 2 veered from this course also. Much of the MOE's criticism sprang from this failure to limit the effort); and

content-oriented rather than process-oriented, i.e. the "what" of the problem, its solution, was the important element, not the "how" of solving it.

Work Order No. 5 is quite different in character from the three that preceeded it and from those to follow. In the first place, its genesis lay in the contractor's analysis of what the client "really needed, not what the client said he needed." So it arose from outside the client system. Secondly, it doesn't solve the clients ostensible problem but seeks instead to enable him to solve it. That is, it builds capacity rather than simply providing the direct problem solution.

Third, it is what one might call a "graded or gradual client involvement" effort. It concentrates attention at first on a limited key area of the client organization--the planning office and the data processing center, and a limited number of people, training four to six people in the planning department of the MOE and one or two in each of ten governorate education planning offices in how to use a computer in handling educational data. However, it's also limited at first in another way--it doesn't require that new or different data be collected or new or different data gathering methods be used, or that the data be used for different purposes. Inevitably these limits will cease to hold--more people will be trained, more offices will get involved, and new data gathered perhaps somewhat differently, massaged differently, may well be put to more sophisticated uses, hence the label a "graded client involvement" effort.

Fourth, it's a straight technology transfer work effort with all that is implied in transferring a technological systems application developed in a technologically-oriented society for use in a less-well-developed country from that country to another less-well-developed country with a different language, different culture, different value system, and perhaps a different epistimology --clearly what the mathematicians call a "non-trivial" task.

Fifth, because it is a "graded client involvement" effort, it requires that the technical assistance system be involved from the beginning with the social, political and psychological problems encountered in implementation, for example, the provision of a voice-activated system in Arabic and English to avoid the typing problem. Also, of course, computers must be in place and operating in ten governorate educational planning offices, inputting data for their own use, and transmitting them to the MOE's central offices for aggregation and use. There must also be a feedback loop to the governorate offices to complete the cycle and provide for troubleshooting, supervision, and to enhance use.

In short, problems of the system are in their actual operation, not in theory. Work Order No. 5 requires those trained to apply their new skills under supervision and monitoring in a complete system with all the involvement that implies so that formal adoption of the computer-based planning system and its eventual expansion to all the governorate educational planning offices can be based on knowledge of the promises and problems of the system in actual operation, not in theory.

Work orders 6 and 7, though less technological in nature and less complicated than No. 5, are both "graded client involvement" work efforts. Both are also capacity building, train people, are process oriented--involved more with training MOE staff in "how" to go about solving problems of inservice training of teachers and of providing appropriate counseling, placement and educational services for handicapped children, than with the content, the "what" of the training or of the services. Both start small but should grow once implemented, training a few people who will in turn be responsible for training many others, using models developed by the experts.

The two differ in the degree to which they are or may be involved in implementation. Work Order No. 6 has been completed. It involved no implementation itself. Though it proposes a general scheme through which the system could be expanded and "institutionalized," if that effort is to be done through a technical assistance effort, it will have to be a follow-on effort. Moreover, the MOE may well have to solve several organizational problems in the process of institutionalizing or implementing the recommendations of Work Order 6. The leadership of the six inservice training centers whose staff training skills Work Order 6 was designed to upgrade and for whom the modules were developed did not participate in the technical assistance activities--some four of the six had only one or two members of their staff in the workshop.

Most of the centers do a minimum amount of training (five or six sessions a year), have inadequate facilities (no residential facilities for trainees, for example), and very small permanent staff. They have to hire in local supervisors, teachers, or university faculty to provide training. They are under the authority of the central MOE, deriving their budget, their authority, their direction from Cairo, and currently they play a minor role numerically speaking in the inservice training picture in Egyptian education.

All but a painfully small amount of inservice teacher training is done by the governorates--part of the decentralization of education. Whether it is now more efficient to centralize the training, or centralize the training of governorate trainers and let them conduct the necessary large-scale inservice training, or more efficient to upgrade the governorate training offices themselves, remains yet to be analyzed, as does the important set of political questions that go with those decisions.

The interim reports from the Egyptian experts of Work Order No. 7, "Handicapped in Basic Education," contain extensive analyses of the entirety of the current system and recommend its realignment and reformation. It is consequently very comprehensive and sweeping in its scope.

Work Order No. 8 is also a process-oriented, high-involvement, potentially high-impact effort--again very different in scope and nature from the first three. It is potentially the most comprehensive of all the efforts for it is concerned with the reorganization of the entire Basic Education effort. The team of experts is "to propose structural . . . functional alternatives" from strengthening "goal setting, policy formation, resource use, decision making.

. ." etc. through to suggesting "staffing and orientation training programs (for the) new organizational systems," and "to monitor (the) execution" of the changes, another non-trivial set of tasks.

Orders 5, 6, 7, and 8 differ from numbers 2, 3, 4 in that they,

- are designed both to build capacity and to provide direct aid--suggest solutions to the system such that not only will the target systems operate more efficiently and effectively but also that the client organization's problem-solving capacity is increased by the technical assistance processes in which its members have been engaged;

- are more flexible than fixed, i.e. as new areas of need, new problems, are encountered during the technical assistance process, subject them to analysis also;

- are more comprehensive in scope (both as to the breadth of problems they embrace and the depth of penetration in the organization their solutions may reach. No. 8, for example, ranges from the organization for Basic Education in the central Ministry in Cairo to suggestions for new role definitions and job responsibilities for primary school headmasters); and they

- are more process than content-oriented in character.

The products created by those trained in Work Order's 6 and 7 and their very creation are likely to generate a certain momentum, some interest, and potentially an ecouraging dynamic change in their own subsystems--inservice training and education of the handicapped--if the organizational dilemmas they present can be solved.

Work Order No. 8, on the other hand, since it involves the totality of primary and preparatory education, will have to be deliberated on by internal committees of the MOE. Partial implementation on a piecemeal basis over a much longer period of time may well result from these deliberations.

The organizational inertia and resistance to change in any one element of a large-scale system is difficult to overcome. When it involves as many elements as reorganization of the total Basic Education effort in all the offices which are involved in Cairo, every governorate, every teacher training institute, faculty of education, and primary and preparatory school in Egypt, the tasks look daunting indeed. Of course, no such sweeping change is likely overnight nor even desirable but what is both likely and desirable is a roadmap for change, a set of priorities, and a timetable.

<u>Impact</u>

Three major hypotheses guided the technical assistance study:

- 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; and

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

Because of the unfortunate delays by the MOE in appointing and approving experts in the summer and fall of 1983 and in the spring of 1985, and because of the long delay in both the MOE and AID/Cairo securing the necessary clearances and approvals for the purchase of the hardware for Work Order No. 5, the substantive technical assistance work was completed on only four of the nine work efforts by the original end date of the technical assistance contract, May 31, 1986. As a result, the contract has been extended for another year to complete the other five work efforts.

Three of them, Work Orders 5, 7, and 8 are in a "high involvement" phase. Number 5 is to begin training in the summer of 1986, approximately one month after the installation of the computers and their software. Following training, the computer-based planning system is to operate in ten governorates and the central Ministry data processing and planning departments. With luck it will be in place to operate using the November 1986 school census data.

Work Order No. 7 is to conduct its training in September 1986. Two workshops are scheduled--one for teachers and one for the psychologists who work with the handicapped. Following that, the work effort draws to a close with the completion of the final report unless the proposal is approved to extend the effort and include training and study of key programs in the U.S.

Work Order No. 8 enters a high involvement phase, as well. Following review and consolidation of the report and its recommendations by the team of experts, meetings will be held with MOE officials for their review and discussion of the report's recommendations. Committees of appropriate MOE officials will then be formed to review, discuss, and elaborate plans for implementing such changes as are finally agreed upon by the MOE leadership.

Work Orders No. 9 and 10--on experimental schools and on educational supervision--will start new and presumably will also involve high-level members of the MOE. In short, the year from June 1, 1986 to May 31, 1987 promises to be an extremely busy one for the Technical Assistance System and the Ministry.

In Table C-2, we have summarized what we see as the actual and potential impact of all Work Orders but Work Order 10, on educational supervision, which

376

Table C-2:

Impacts, Actual and Potential, of Technical Assistance Efforts on Changes in Rationale, Objectives, and Procedures for the Organization and Support of Basic Education Through Curriculum Development, Teacher Training, Educational Planning, and Cost Analysis*

	Curriculum Development		Teacher Training		Educational Planning		Cost Analysis	
Noticeable Changes in	Completed Work Orders	Work Orders Underway	Completed Work Orders	Work Orders Underway	Completed Work Orders	Work Orders Underway	Completed Work Orders	Work Orders Underway
Rationale	No. 2 - no noticeable effect	No. 7 - potential effect for the handicapped No. 9 - should have but unknown now	No. 2 - no noticeable effect No. 6 - potential for effect high on inservice only	None	No. 3 - No noticeable effect though potential high No. 4 - noticeable effect	No. 5 - not applicable No. 8 - potential very high but unknown in specific	No. 3 - No noticeable effect	No. 5 - not applicable
Objectives	No. 2 - no noticeable effect	No. 7 - potential effect for the handicapped No. 9 - should have but unknown now	No. 2 - no noticeable effect No. 6 - potential for effect medium on inservice only	None	No. 3 - No noticeable effect - potential mixed depending on how/if educational planning gets redefined No. 4 - noticeable effect	No. 5 - not applicable No. 8 - potential very high	No. 3 - No noticeable effect but potential high	No. 5 - potential mixed-depends on follow-on T/A
Procedures	No. 2 - no noticeable effect	No. 7 - potential effect for the handicapped No. 9 - should have but unknown now	No. 2 - no noticeable effect No. 6 - potential for effect mixed-will require organizational decisions and changes in MOE, on inservice only	None	No. 3 - No effect not applicable No. 4 - noticeable effect	No. 5 - potential very high No. 8 - not applicable	No. 3 - No noticeable effect but potential very high-depends on follow-on T/A	No. 5 - potential very high-requires follow-on T/A

*Work Orders:

No. 2, "Assessing the State of the Art of Basic Education."
No. 3, "Educational Economics of Basic Education."
No. 4, "School Designs for Basic Education."
No. 5, "A Computer-Based Planning Model for Basic Education."
No. 6, "Development of Basic Education Teachers Inservice Training-Programs and Techniques."
No. 7, "Handicapped in Basic Education."
No. 8, "Organization and Management."
No. 9, "Experimental Schools."
No. 10, "Educational Supervision."

seems to fall outside our categories of curriculum development, teacher training (conceivably it may have some effect here on inservice teacher training), educational planning, and cost analysis. There is a clear and present need to improve the practice of educational supervision. However, it's difficult to speculate on what potential impact the work will have until more is known about its substance.

No similar table has been made for the second major hypothesis--"that the 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." All the work efforts except No. 2 have the potential to accomplish these effects but only if and when they are complete and if and when their recommendations have been implemented--"institutionalized" in whole or in part.

The third hypothesis--that the technical assistance may have a noticeable effect in primary or preparatory schools, is untestable at this time. No effect can be expected in the schools, quite obviously, until the work is completed and has been implemented by the Ministry.

Three important areas of concern to the MOE remain unaddressed by any substantive work effort beyond the general, descriptive, and analytical treatment they received in Work Order No. 2. They are curriculum development, pre-service teacher training, and administrator training for Basic Education. However, the MOE is now in the process of gradually introducing a revised curriculum for Basic Education over the next three years. Inservice teacher training for the new curricula is being performed by supervisors. Neither the curriculum itself nor the inservice training will have benefited from technical assistance to any observable degree.

None of the very real problems turned up by the formative evaluation each year were converted into technical assistance work efforts, even when their solution would have maximized AID/Cairo's contributions through the commodities program and their continued existence was clearly eroding the value of that contribution. For that reason we recommend strongly that AID/Cairo be more actively involved in selecting the technical assistance work efforts in the future.

In fact, we go further and suggest that the technical assistance contractor also be responsible for helping the MOE to establish and supervise a working formative evaluation unit attached to the technical assistance effort itself. They should evaluate the effectiveness of each component of AID's contribution to the Basic Education Program, including the technical assistance component itself, should be responsible for identifying and suggesting remedies for problems that arise, and for conducting additional assessment of needs--all of which should become candidates for new technical assistance work.

While it is tempting to leave it to the MOE to identify the areas for technical assistance, AID/Cairo has a vested interest in seeing that certain problem areas are included. The design of AID's contributions to the Basic

Education Program is such that realization of the value of contributions in one area are closely linked to adequate performances in the others. For example, the commodities program will have wasted money if teachers of the subjects that presumably benefit from the program don't receive adequate training in the use, storage, maintenance, and repair of the equipment purchased and furnished them. When evidence is presented to indicate they lack training, or that the training that exists is not adequate in kind or character, that no equipment maintenance nor repair system exists, that the equipment is being maldistributed and hence not being well utilized--in short, when these problems are identified and persist because there are no MOE programs to handle them or those that exist are inadequate, they should become candidates for technical assistance work.

Finally, we recommend that during this last year of the technical assistance contract some decisions be worked out between the MOE and AID/Cairo on the following:

- which work efforts should be implemented through follow-on technical assistance work;
- which can and will be implemented by the MOE without additional support;
- which work efforts require additional technical assistance to reach a stage in which they can be implementable;
- which should be abandoned;
- what new candidate areas exist; and
- a design for the general authority, the decision making structure, and formal progress reviews and formative evaluation should be included in the next technical assistance project, and which should also include provisions for greater USAID/Cairo involvement.

ANNEX C-I: WORK ORDERS

340

Draft
5/12/83

BASIC EDUCATIONAL TECHNICAL SERVICES PROJECT

A. Introduction:

The purpose of this project is to assist the Ministry of Education (MOE) in persuing [sic] its efforts in the area of Basic Education.

To this end, and in accordance with the agreement signed by the MOE and the Academy for Educational Development (Academy), the latter proposes the following organization and functional structure to implement the agreement (Figure 1). This should help implementing the agreement throughout all planning activities and will monitor the execution of its different stages.

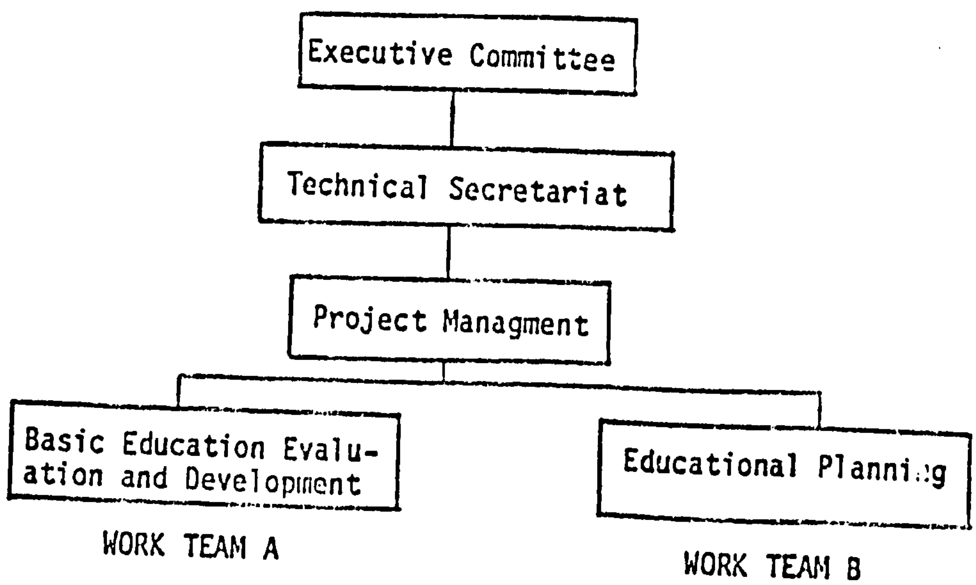

Fig. 1 - Organizational Structure of Project

B. <u>The Executive Committee:</u>

1. The Executive Committee will be appointed by the First Undersecretary of State for Education who will serve as the chairman and will include:

   1/1. First Undersecretary of State for Educational services.

   1/2. Undersecretary for Basic Education.

   1/3. Dean, Collage of Education - Ain Shams University.

   1/4. 3 Experts in Basic Education appointed by the Chairman.

   1/5. The Executive Vice President of the Academy.

   1/6. The Director of Middle East Programs at the Academy.

   1/7. The Associate Director of Middle East Programs Project Coordinator.

   1/8. Team Misr Vice President for Educational and Social Development.

   1/9. Assistance Coordinator of the Project.

2. The Executive Committe will meet twice a year upon the written invitation of the Chairman sent two weeks in advance to the members. The committee

342

nowever can meet at any other time upon the request of two-thirds of its members. The majority of the members constitute a quorum provided that at least one of those present represents the Academy.

3. A majority vote of those present is needed for decisions. In case of a tie the Chairman's vote decides.
   The Executive Committe [sic] members will receive an honararia for participating in the committee meetings.

4. The Executive Committe [sic] will have the prime responsibility for:

   4/1. Setting policies, monitoring and evaluating project execution.

   4/2. Reviewing and approving work plans presented by the Academy.

   4/3. Reviewing and approving key personnel - American Consultants and Egyptian Educators - and issuing work orders.

   4/4. Establishing schedules for Consultant visitations nad [sic] completion of tasks.

   4/5. Acting as an overview authority in reviewing deliverables produced by the consultants.

4/6. Deligating [sic] authority to the Technical Secretariat to handle some of the Executive Committees responsibilities in order to expedite execution.

C. <u>The Technical Secretariat:</u>

1. The Technical Secretariat will be the liason between the Executive Committee and the Project Management. The Secretariat will include:

   1/1. The first Undersecretary of State for Education as Chairman.

   1/2. The Basic Education Advisor (MOE).

   1/3. The Director of Elementary Education.

   1/4. The Director of Preparatory Education.

   1/5. 3 experts in Basic Education, members of the Executive Committee.

   1/6. The project coordinator.

   1/7. The project assistant coordinator.

2. The Technical Secretariat will meet bi-monthly. The chairman can call for extra meetings whenever required. Half the members constitute a quorom

provided that an Academy representative is present. The Chairman can invite external technical specialists whenever required. Honoraria will be paid for attending the meetings.

3. The prime responsibility of the Technical Secretariat includes:

   3/1. Conducting studies and executing tasks requested by the Executive Committee.

   3/2. Reviewing all plans and work orders prepared by the Academy prior to their presentation to the Executive Committee.

   3/3. Reviewing nominations of consultants presented by the Academy prior to their presentation to the Executive Committee.

   3/4. Monitoring the progress of work teams ensuring the timely execution of deliverables.

   3/5. Reviewing the deliverables to ensure that they meet the specifications of the work orders.

   3/6. Preparing reports about studies presented by work teams to the Executive Committee.

   3/7. Undertaking any responsibility delegated [sic] by the Executive Committee.

D. Project Management

The project will be run by the project coordinator appointed by the Academy, and his assistant coordinator according to the responsibilities and authorities deligated [sic] to them by the contract signed between MOE and the Academy.

E. Working Teams

Working teams will executive the tasks required by the work orders that specify deliverables and schedules.

F. Project Implementation Process

The flow cycle of the project activities will be as follows, (figure 2):

1/1. The Technical Secretariat will be convened to study plans presented by the Academy.

1/2. The Executive committee will be convined [sic] to study the plans.

1/3. The Technical Secretariat presents their recommendations about the plans and work orders to the Executive Committee, who will issue the work orders after approving them.

1/4. Project management initiates execution of work orders.

1/5,6. Work teams are formed to do the studies and present alternatives for MOE's choise [sic] before carrying on training and workshops under the supervision of Project Management.

1/7,8. Project management presents findings and alternatives to the technical secretariat for review prior to the submission of deliverables to the executive committee for approval and dissemination.

Project Implementation Process

Figure 2 - Showing the flow cycle of project activities

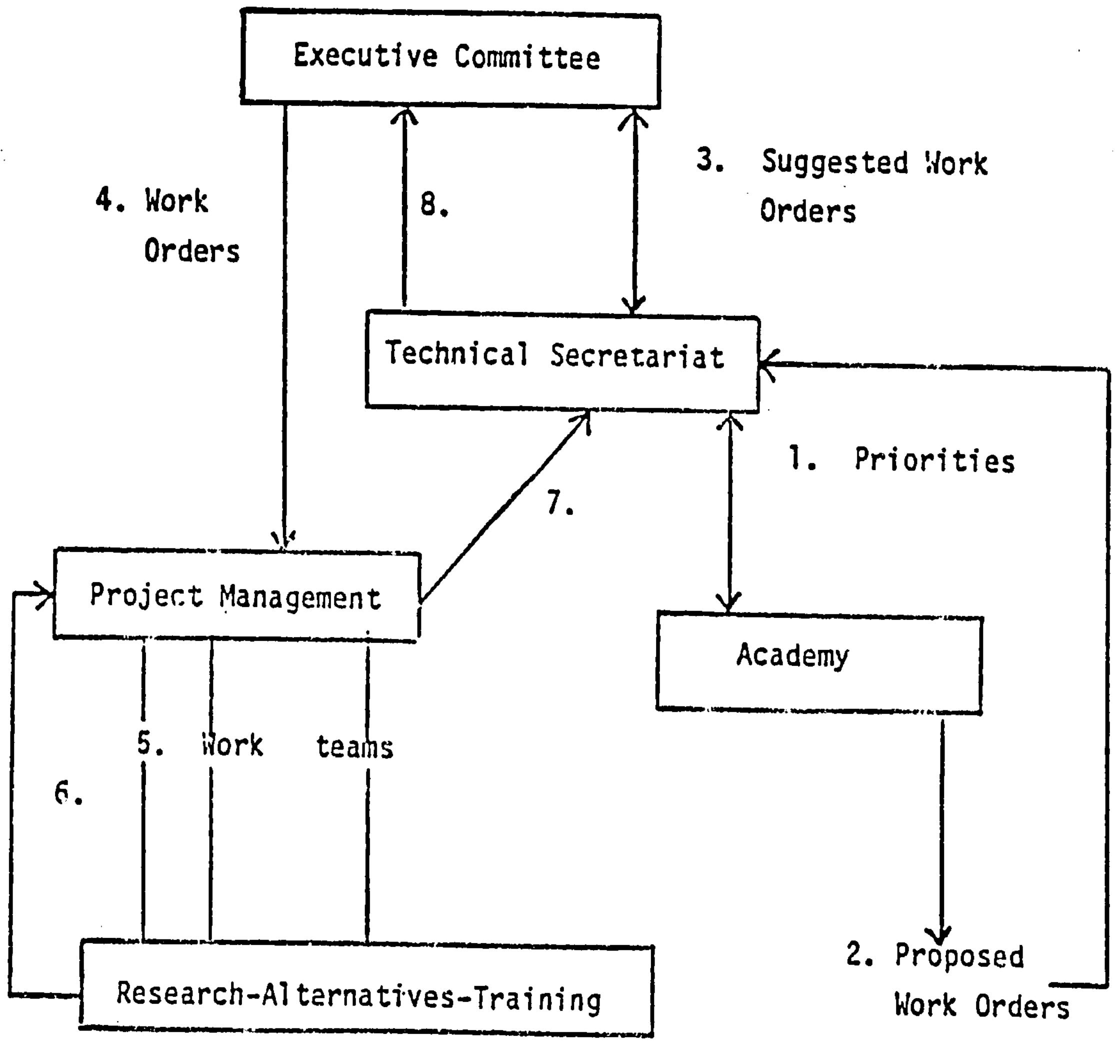

Figure 2.

3/6

2/6/1983

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 2
Assessing the State-of-the-Art
of Basic Education

A. OBJECTIVE:

To assess the state-of-the-art of the Basic Education and develop a model for delivery systems.

B. DESCRIPTION OF SERVICES:

The Contractor shall appoint a committee of 3 consultants and 3 Egyptian experts who will estasblish philosophical bases and legal requirements for Basic Education by:

1. Reviewing and examining all relevant studies, reports, experiments, policies, and laws related to Basic Education in Egypt.

2. Assessing the curriculum for Basic Education in the light of 1 above.

3. Suggesting alternative models for curriculum and delivery systems.

4. Establishing criteria for selecting, preparing, and training Basic Education teachers and school administrators.

Draft reports will be submitted before departure of consultants. Final reports will be submitted one month later.

C. ESTIMATED LEVEL OF EFFORT:

PROFESSIONAL LEVEL		TOTAL PERSON DAYS
2	Curriculum Design and Development Consultants	58
1	Teacher Training Consultant	29
2	Curriculum Design Development Specialists	40
1	Teacher Training Specialist	20

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 reports, alternatives and prototype of models should be delivered one month after the commencement of the working team.

E. BUDGET:

The Budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of the State for Education and Chairman of the Executive Committee.

2/6/1983

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 3
Educational Economics
of Basic Education

A. OBJECTIVE:

To study and assess the economics of Basic Education in Egypt and to suggest various alternatives to reduce per student cost and to raise the effectiveness of Basic Education by studying the flow and dropout ratios, class size, and school shifts.

B. DESCRIPTION OF SERVICES:

The Contractor shall appoint three experts and five researchers in the areas of economics of education and basic education who will:

1. Study the flow of students and the numbers of age groups in the various levels of Basic Education and suggest approaches to reduce dropout and repetition, study class sizes and school shifts.

2. Prepare projections for the coming development plan using a variety of planning assumptions.

3. Study the budget of MOE in terms of its effects on Basic Education tying numbers of teachers, students, administrators, equipment and supportive staff into an integrated system. Alternatives will be developed on cost-effective techniques to maximize use of funds.

Draft reports will be submitted and discussed with MOE officials prior to the departure of consultants. Final reports will be submitted one month later.

C. ESTIMATED LEVEL OF EFFORT:

PROFESSIONAL LEVEL		TOTAL PERSON DAYS
2	Educational Economists	63
1	Basic Education Consultant	25
5	Researchers	50

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.

35

The Consultants will be in country within five months. The reports, alternatives, and preliminary alternatives should be delivered one month after the commencement of the working team.

E. BUDGET:

The Budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of the State for Education and Chairman of the Executive Committee.

Individual cost items may be adjusted by a factor not exceeding 15 percent without the prior written permission of the First Undersecretary of the 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 the State for Education.

2/6/1983

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 4
Basic Education School
Design

A. OBJECTIVE:

To study the Basic Education School Design, and to suggest models using alternative materials and construction techniques to fit the environment and the philosophy of the Basic Education in Egypt.

B. DESCRIPTION OF SERVICES:

The Contractor shall appoint two school design architects and one draftsman and four experts in Basic Education who will:

1. Survey a sample of current Basic Education school buildings in relation to meeting the needs of Basic Education curricula and activities and suggest alternatives.
2. Survey local raw materials that can be used in the construction of new schools to reduce costs and be more adaptive to the environment.
3. Design alternate models for a nine-grade Basic Education school. (Urban/Rural).
4. Present criteria for selecting materials, sites, and requirements for different models for Basic Education schools.

Draft reports will be submitted and discussed with officials before departure of consultants. Final reports will be submitted one month later.

C. ESTIMATED LEVEL OF EFFORT:

PROFESSIONAL LEVEL		TOTAL PERSON DAYS
1	School Design Architect (Foreign)	44
1	School Design Architect (National)	35
1	Draftsman (National)	10
4	Experts in Basic Education	12

353

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 reports, alternatives and prototype of models should be delivered one month after the commencement of the working team.

E. BUDGET:

The Budget delineated below shall not be exceeded without the prior approval of the First Undersecretary of the State for Education and Chairman of the Executive Committee.

Individual cost items may be adjusted by a factor not exceeding 15 percent without the prior written permission of the First Undersecretary of the 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 the State for Education.

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 compatible microcomputers for Arabic and/or English presentation and preliminary testing with actual data from governorate districts.
(Installing Hardware).

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.

355

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

356

D. PERIOD OF PERFORMANCE AND EFFECTIVE DATE:

This work order shall become effective upon the appr val 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.

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.

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 inservice 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.

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 inservice programs.

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 assistant (approximately 120 P/M) will be assigned to the panel to gather data and conduct initial data manipulation.

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 rewriting 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 needed changes and improvements.

2. Assess present inservice training program, 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.

B. DESCRIPTION OF SERVICES:

The contractor shall appoint a team of national and foreign consultants and research assistants to do the following:

1. Study present organizational structure of inservice training in the Ministry of Education and make recommendations for needed changes and improvements.

2. Assess existing Basic Education inservice training programs and techniques and suggest possible areas for improvement within the Basic Education philosophy and objectives.

3. Identify needed additional inservice training modules for Basic Education teachers in Egypt.

4. Prepare guidelines for inservice training modules for Basic Education teachers in Egypt.

5. Develop and try out 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 schedules and procedures within the timeframe 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.

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 system 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

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.

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 Specialist (national)	90
Education Specialist (national)	90
Research Assistants Specialists (national)	150

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 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.

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 9
Experimental Schools

A. OBJECTIVES:

The Ministry of Education has set a plan for establishing Experimental Schools in some selected governorates which coincides with the recommendations of work order (2) of this project. The major aim of this work order is to assist the Ministry in achieving the objectives set for the Experimental Schools.

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. Evaluate previous experiences, efforts and research in Egypt regarding the Experimental Schools.

2. Develop operational objectives to be achieved by these schools.

3. Suggest, in cooperation with concerned personnel and committees within the Ministry of Education, purposes, ways and means of activities to be conducted within the experimental schools in the following domains:

   - Types of research (experimental, action, descriptive and other research) needed for curriculum and instruction development
   - School Management
   - Educational supervision
   - Student evaluation
   - Connecting schooling with the socioeconomic needs of communities in which the schools are located
   - Staff development (teachers, administrators, supporting personnel)
   - Relationships of the Experimental Schools with: (a) Ministry of Education, (b) Colleges of Education to which each school is to be subordinated, (c) Educational authority of the governorate

370

- Disseminating the Experimental Schools' outputs to other schools within the same governorate

- Effective ways and means through which other schools can adopt innovations made in the Experimental Schools and were proven to be valid and reliable

- Discovery of both gifted and talented (with special abilities) students together with suggested programs for their development

- Suggestions regarding financial resources needed to support activities and additional educational services to be performed within the Experimental Schools

C. / ESTMATED LEVEL OF EFFORT:

Professional level	Number of Days	
	Foreign	Local
Specialist(s) in curriculum and Instructional Development	35	60
Specialist(s) in Educational Supervision		35
Specialist(s) in School Management	20	30
Specialist(s) in Educational Research and Development		90
Assistant Researcher		200
Total Level of Effort	55	415

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 shall be appointed at least one month before the arrival of the foreign consultants. The work of the consultants will be coordinated according to a mutually agreed upon schedule and procedures within the timeframe of the project.

EGYPT BASIC EDUCATION PROJECT
CONTRACT NO. EGY-263-0139 E-1
STATEMENT OF WORK

WORK ORDER NO. 10
Educational Supervision

A. OBJECTIVES:

The purpose of this work order is to assess the current procedures and practices in school supervision in line of the philosophy set for Basic Education, and to prepare new modules for school supervision capable of upgrading current practices.

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. Analyze and evaluate the existing supervision procedures and practices.
2. Conduct field visits to observe supervision in action.
3. Suggest an improved system for Educational Supervision.
4. Develop an inservice training module for supervisors that meets the Basic Education philosophy.
5. Conduct a three-week workshop for 30 supervisors to field-test the training module.

C. ESTMATED LEVEL OF EFFORT:

Professional level	Number of Days	
	Foreign	Local
Educational Supervision Specialist(s)	60	100
Educational Administration Specialist(s)	30	75
Assistants		100
Total Level of Effort	90	275

372

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 shall be appointed at least one month before the arrival of the foreign consultants. The work of the consultants will be coordinated according to a mutually agreed upon schedule and procedures within the timeframe of the project.

APPENDIX D: SIMPLE INDICATORS WHICH MAY BE USED TO PREDICT AND ASSESS THE IMPACT OF NEW SCHOOL CONSTRUCTION

In earlier pages we have shown the extent to which certain major variables generally affect educational participation. Here we look for indicators in easily accessible records that will help policy makers assess project-expected impacts in future interventions.

Useful Indicators

Experience in the intensive community study has shown that certain educational indicators fairly reliably measure positive, negative, and potentially ominous trends related to or affecting the educational participation of children.

For example, if educational opportunities are available and a generally supportive socio-cultural climate exists, one expects to find in a region's schools:

- annual increases in the absolute numbers of children enrolling in grade one, and persisting to higher grades;
- all children between the ages of six and eight accepted in grade one, and increasing numbers of eligible-age populations enrolled in primary and preparatory levels;
- around 90 percent or more of the eligible-age boys enrolling in grades one to six; and
- annually increasing ratios of girls to total enrollment in grades one through six until approximately 50 percent of total enrollments are girls.

Omincus signs indicating the presence of possible constraints on educational participation are:

- an unexplained drop in the absolute number of grade one enrollments;
- an unexplained drop in the ratios of girls to total enrollments; and
- changes in the admission age for grade one to more than six or to eliminating an age cohort.

All these figures are easily available in school records except the ratio of eligible-age boys of a population who are enrolled in grades one through six.[1] From the intensive sample, however, we can assume that in all but very disadvantaged communities, high levels of around 90 percent or more of

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[1]At the local level it is difficult to obtain exact census figures and in any case because of irregularly shaped attendance areas difficult to ascertain the exact population of eligible-age children.

eligible-age boys enroll. In urban village communities the levels of boys' enrollments now reach what for all practical purposes may be called universal levels and in rural village communities they reach only slightly lower levels. One may assume, therefore, that the major group of presently unenrolled children are girls and that the extent to which they are still unenrolled in a community will be reflected in the ratio of their enrollments to total enrollments. In other words, when universal levels of enrollment are achieved for boys and girls, each sex will comprise approximately 50 percent of total enrollments. With most boys now enrolling in grade one, the extent to which the remaining girls stay out of the system is reflected in their ratios of total enrollments. We may therefore use these ratios as a measure not only of new school impact but as a barometer of how well a school system is doing in achieving universal levels of educational participation.

Table D-1 illustrates with data from the community sample how girls' ratios of total enrollments can be used as a proxy for the proportion of the eligible-age population enrolled. The table is based on the assumption that the sample is representative of families having children in the six- to twelve-year-old group, that boys and girls each comprise about 50 percent of the population, and that close to 100 percent of the boys are enrolled. A certain amount of variation is expected because in fact these assumptions are not completely true. The table shows that it is possible to double the girls' ratio of total enrollment to find out approximately the ratio of girls in a population who are enrolled. In 80 percent of the sites the projected ratio was within 5 percent of being an accurate reflection of the actual sample ratio. When all the sites were combined even greater accuracy was obtained and the measure was only off by 1 percent.

When available educational statistics are used to determine the level of girls' educational participation it is important to note several characteristics of these data that may affect variability in the results.

- Enrollment figures at the governorate and educational district level are, for practical purposes, closed units in which variation within one part of the school system is absorbed by another part of the system. In general, enrollments at this level increase consistently and regularly each year in accordance with the pace of changing perceptions coupled with population increase.

- City school system enrollments, by contrast, fluctuate from year-to-year, increasing and decreasing according to the availability of school spaces in neighboring rural areas. They are not a bounded unit, but rather attract rural students, mostly males, when facilities are not available close to home and release these students when new local schools become more easily accessible (often causing a surge in female rates of enrollment in the urban schools they have vacated).

376

Table D-1:

Females' Ratio of Total Enrollment as a Measure of Population Ratio Enrolled

Site	Total 6-12 year olds in sample: M No.	Total 6-12 year olds in sample: F No.	6-12 year olds currently enrolled in sample: M No. (%)	6-12 year olds currently enrolled in sample: F No. (%)	Enrollment in local primary school: Total No.	Enrollment in local primary school: F No. (%)	Ratio of Females' Enrollment: Projected from Sample %	Ratio of Females' Enrollment: Actual in School %
Roda	37	37	33 (89)	31 (84)	166	68 (41)	(42)	(41)
Manshiya	32	52	27 (84)	16 (31)	226	62 (27)	(16)	(27)
Manshat al Awkaf	41	50	40 (98)	35 (70)	387	135 (35)	(35)	(35)
Kafr Nakla	31	31	29 (94)	24 (77)	360	150 (42)	(39)	(42)
al Ghanayim	34	30	33 (97)	25 (83)	1242	462 (37)	(42)	(37)
Bani Rafa	25	55	20 (80)	29 (53)	1738	413 (24)	(27)	(24)
Nag Harif	45	29	43 (96)	15 (52)	130	43 (33)	(26)	(33)
Nag Dahi	29	27	28 (97)	24 (89)	239	96 (40)	(45)	(40)
Nag Khutaba	37	35	36 (97)	22 (63)	203	72 (35)	(32)	(35)
Qurna	34	43	34(1.00)	31 (72)	284	95 (33)	(36)	(33)
Total	345	389	323 (94)	252 (65)	4975	1596 (32)	(33)	(32)

377

- Enrollments in small village schools fluctuate considerably from year-to-year showing the effects of population changes, crowding, new schools and education policies. Analyses of these variations help in identifying problems in access and other school-sending behavior.

<u>Using the Indicators to Assess the Level of New School Impact</u>

For newly constructed primary schools, girls' ratios of total enrollment provide a useful standard against which to measure the success of new school construction. The following figures give examples of how the intensive sites can be assessed by using this measure. (See Figures D-1 through D-12.)

For urban and rural site examples:

- Girls' ratio of enrollment has been graphed over a seven-year duration to show the trends in two types of regional schools: an "ideal" (optimum for the area) city system and a "comparison" (with conditions similar to the new school) system.

- New school rates of girls' enrollments are then shown since opening.

For each of these types of schools, ratios of girls' enrollments are shown for grades one and six and for the total primary group. The implications of these measures are as follows:

- <u>Grade one enrollments</u> evidence the most direct impact of new school construction, the consequences on other local systems, and the general standard of the city system that in most cases reported here is little affected by the new school opening.

- <u>Grade six enrollments</u> show how recently and how rapidly changes in enrollment and persistence trends have occurred and they show the extent to which children from new school communities have participated in education programs at levels normal to the area before the new schools opened.[1]

- <u>Total primary enrollments</u> show the more gradual overall trends in the three school systems, with less variability from the vagaries of local, grade-specific, or time-bounded events.

Before new school construction a planner can look at the trends in local city and comparison systems and evaluate the comparative need for education in the area.

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[1]Grade six enrollments also include repeaters. The assumption here is that factors affecting grade six size will remain fairly constant over this short interval.

The rapidity with which girls' ratios of enrollment are increasing shows the level of readiness of the community to allow girls to participate in educational programs and the extent to which they are able to satisfy their needs with presently available resources. Where girls' ratios of enrollments have remained fairly stable, one must look further to constraints of distance, social norms, or crowding that may be alleviated by building local schools. The new school community differs from the comparison community normally because it lacks easily available facilities, so one would expect it to start with lower levels of participation until it rapidly catches up with the comparison system.

Assessing Impact in Rural and Urban Environments

Tables D-1 and D-2 summarize and Figures D-1 through D-12 depict graphically the impact effects of new school construction in rural and urban villages. These two environments, we hypothesized, provided negative and positive inducements to educational participation. Below we present the kinds of analyses that can be generated from measures of this type and combine them with observations from our field studies.

Rural Communities

In the rural sites, two new schools, Manshiya and Nag Khutaba, already surpass in girls' ratios of total enrollment comparison schools that are long established. (See Figures D-3 and D-6 or Table D-1.) If our assumptions are correct that this measure gives a rough estimate of the extent to which educational facilities draw the available pool of children into the system, then these two schools have made a good impact on grade one level enrollments. However, grade six ratios show that both new school communities already have had higher enrollments than the comparison communities, reflecting something in the environments that had already placed high value in education before the advent of the new schools. (See Figures D-2 and D-5.)

Both these new school communities had built make-shift schools on the initiative of parents whereas the other two new school communities had relied on distant facilities--Nag al Tarif at the primary level and Roda at the preparatory level. The evidence from these communities suggests that a readiness to utilize new facilities rapidly in rural sites would be indicated where parents have shown local initiative to provide interim facilities such as a "one-room" school.

Two other rural sites, Nag Harif and Roda, appear to be utilizing their new facilities less fully than nearby comparison schools. (See Table D-1.) In both it is possible that special factors in their environments have contributed to the low ratios of girls' enrollments. In most of the satellite villages of the Nag Harif site, before the advent of the new school, distance to and crowding in the nearest school system of Nida town coupled with a largely agrarian occupational structure in Nag Harif itself has conspired to decrease the attractiveness of educational opportunities. It is hard to know whether present low enrollments of eligible-age children can be attributed to continued community resistance to new opportunities which until now have not seemed a compelling priority. An attempt to divert children from the crowded schools of Nida in order to fill the new school has not been successful. The household survey has shown that the settlements of Nag Harif have sufficient children in the appropriate age range to more than fill the school once parents decide to do so.

FIG. D-1: THE CONTEXT OF IMPACT
RURAL VILLAGE
MANSHIYA
GIRLS RATIO OF GRADE 1

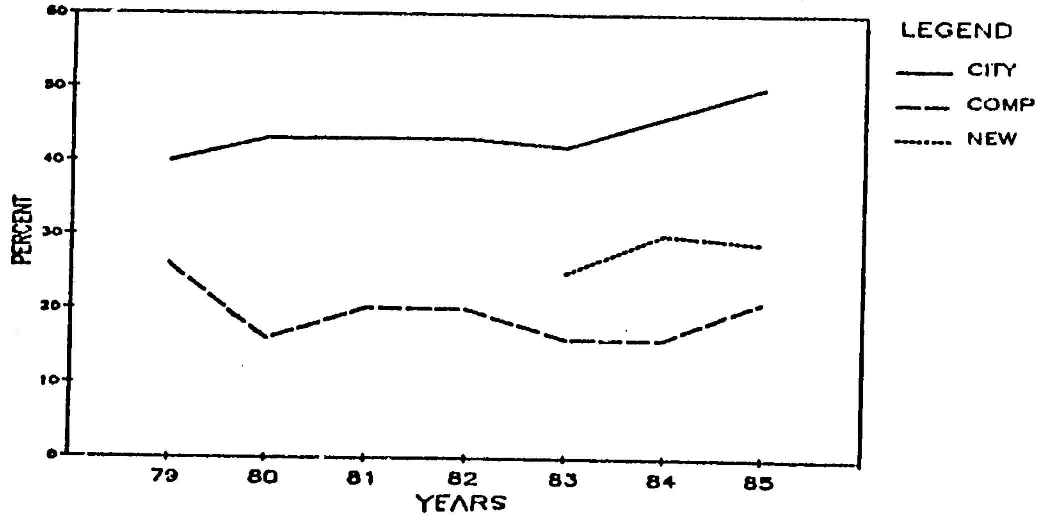


FIG. D-2: THE CONTEXT OF IMPACT
RURAL VILLAGE
MANSHIYA
GIRLS RATIO OF GRADE 6

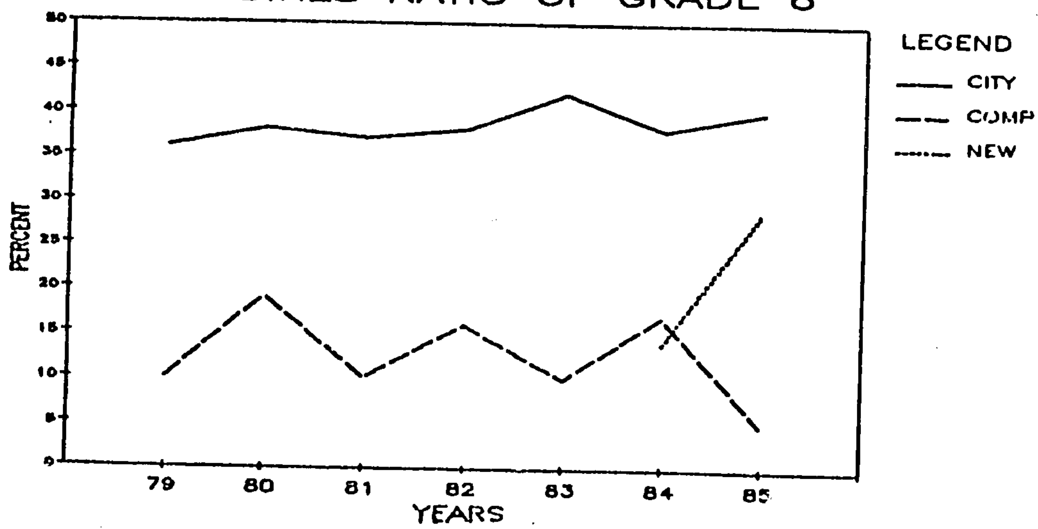


FIG. D-3: THE CONTEXT OF IMPACT
RURAL VILLAGE
MANSHIYA
GIRLS RATIO OF TOTAL

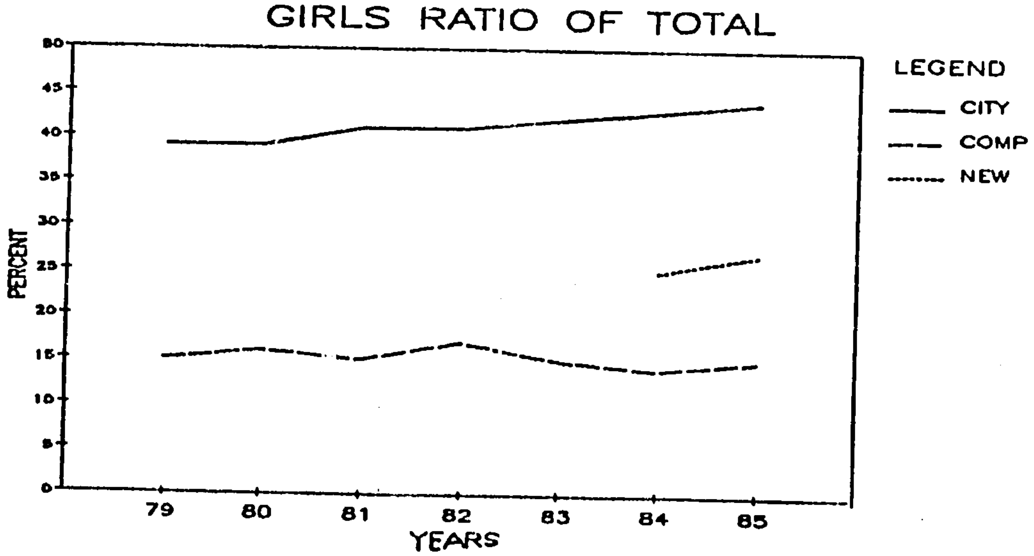


FIG. D—4: THE CONTEXT OF IMPACT
RURAL VILLAGE
KHUTABA
GIRLS RATIO OF GRADE 1

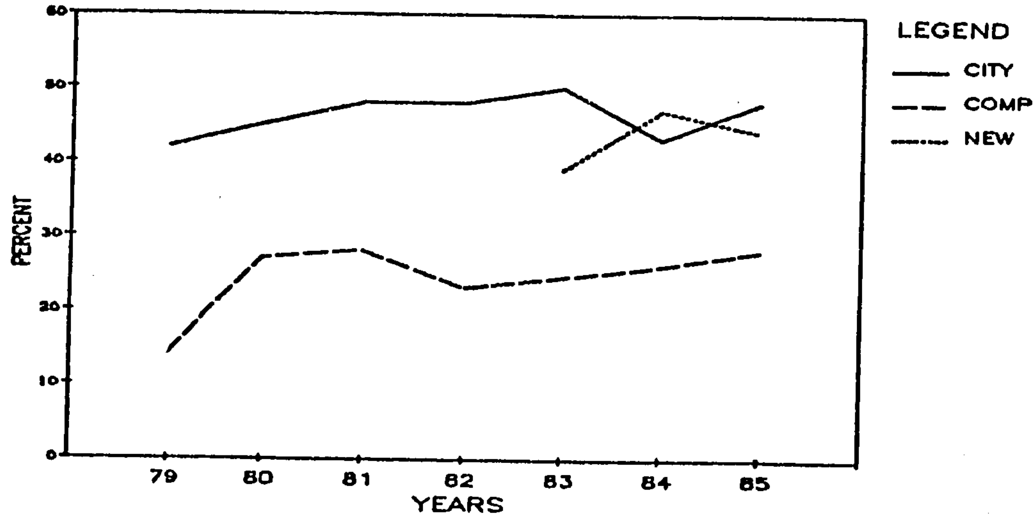


FIG. D—5: THE CONTEXT OF IMPACT
RURAL VILLAGE
KHUTABA
GIRLS RATIO OF GRADE 6

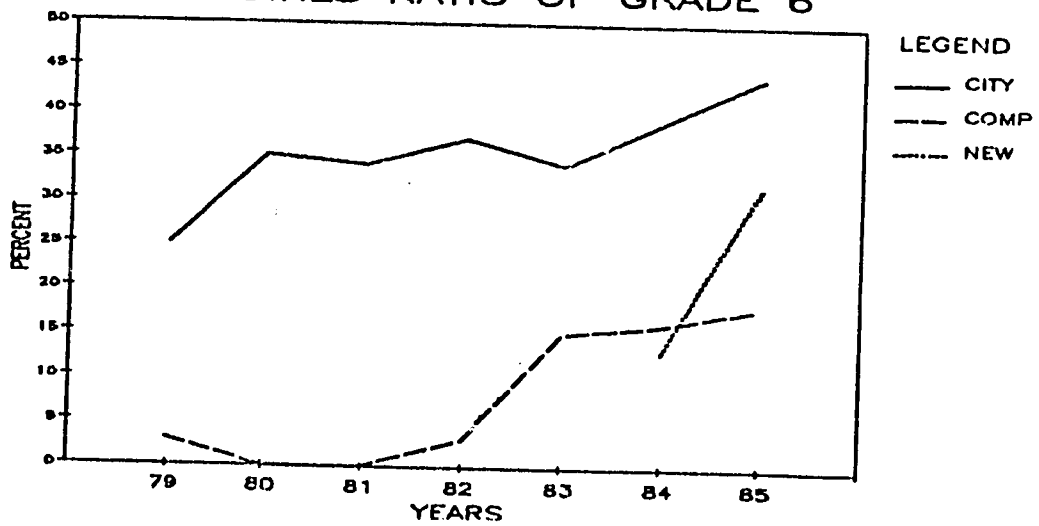


FIG. D—6: THE CONTEXT OF IMPACT
RURAL VILLAGE
KHUTABA
GIRLS RATIO OF TOTAL

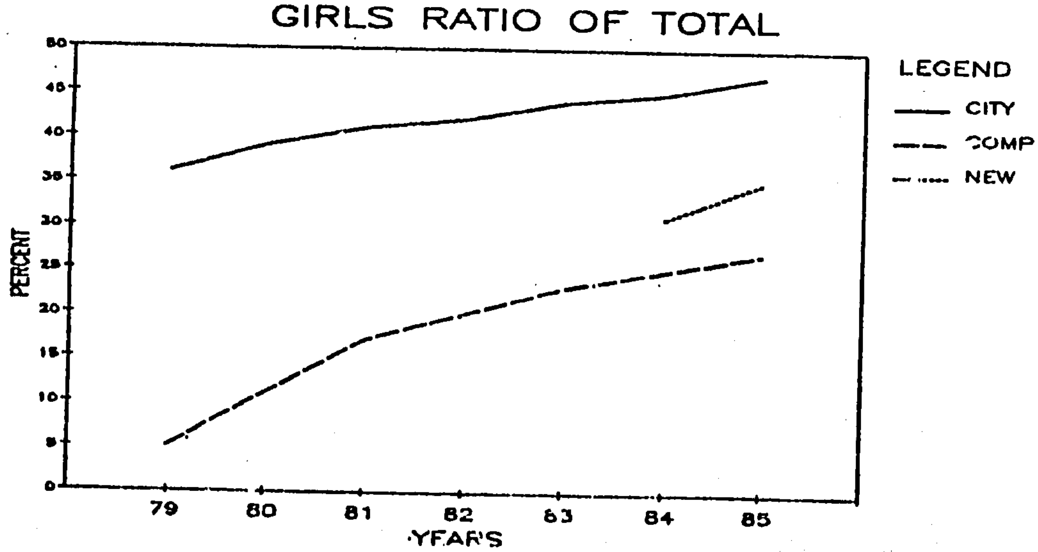


Table D-2:
Girls' Ratio of Total Enrollment (1985/86): Rural Sites

Governorate + Site	Grade	Governorate Total	Ed. District Total	Prov. Capital	Comparison School	New School
Bahira (Manshiya)		Bahira	Hosh Isa District	Hosh Isa City	Abqain	New School
	1	.43	.38	.50	.21	.29
	6	.36	.29	.40	.05	.29
	7	.37	.30	.28	--	--
	9	.34	.28	.26	--	--
Kafr al Shaikh (Roda)		Kafr al Shaikh	Mutubis District	Mutubis City	Abu Draz	Roda
	1	.46	.42	.47	--	--
	6	.42	.38	.49	--	--
	7	.41	.36	.48	.35	.21
	9	.36	.34	.42	.35	.23
Sohag (Nag Harif)		Sohag	Akhmim District	Akhmim City	Nida Total	Nag Harif
	1	.39	n/a	.44	.47	.08
	6	.31	n/a	.39	.39	.11
	7	.29	n/a	.37	.32	-
	9	.25	n/a	.38	.28	-
Qena (Nag Khutaba)		Qena	Naqada District	Naqada City	Hagar Danfiq	Nag Khutaba
	1	.41	.44	.48	.28	.44
	6	.35	.40	.44	.18	.32
	7	.33	.33	.40	--	--
	9	.29	.24	.39	--	--

Roda's preparatory school is also not commanding the levels of seventh grade girls' enrollments that are found in nearby Abu Draz. The primary reasons are probably first, the dispersed nature of Roda's attendance area (which affects the attendance of girls more than boys) compared to densely packed Abu Daraz; second, the strong competition of the al Azhar system that until now has attracted children into its religious track partly because modern primary schools in the area are so crowded; and third, the present availability of modern preparatory-level opportunities which encourages the backlog of boys to catch up more quickly than girls. One would expect communities where opportunities have been unavailable and where enrollments have thus been constrained until now, to take some time in adjusting to new opportunities. Community norms tend to support the realities of existing opportunities and when the latter change, norms usually take somewhat longer to adjust. These two rural communities illustrate in case form the kinds of factors that delay full utilization of new facilities in these kinds of sites.

Urban Communities

Two of the urban village sites (see Table D-2 and Figure D-10), Kafr Nakla and Nag Dahi, have surpassed their comparison schools in ratio of girls' enrollment in first grade, even though in both cases the comparison schools are located in large towns where girls' participation would be expected to be at an optimum level for the area. Because of their proximity to these towns, the new school communities had already assimilated a readiness for education and girls were only constrained from participating by the approximately two-kilometer distance to the old schools. When new schools were established in their own communities girls' ratios of enrollment were able to catch up to urban levels very rapidly.

The other two urban villages (see Table D-2 and Figures D-7, D-8 and D-9), Manshat al Awkaf and Nag al Tarif, possess virtually the same characteristics noted above except that their ratios of girls' involvement are lower than the comparison schools, even though these comparison schools like the new schools are located in small settlements only a short distance away from urban areas. The salient feature of both these new schools is the condition of extreme overcrowding that characterizes them. Manshat al Awkaf last year had a 51 percent girls' ratio of enrollment in grade one probably reflecting a "catch-up" phenomenon for the girls. This year when, for reasons of limited space, the administration took the drastic step of not admitting any but six-year olds (eliminating legally eligible seven-year olds), the girls' ratio of enrollment in grade one decreased to 35 percent, lower than the ratio in most other grades. With such a drastic reduction in girls' ratio of enrollment, it seems likely that some sort of discrimination was practiced against the girls in Manshat al Awkaf.

In Nag al Tarif the same conditions of extreme overcrowding exist. If one assumes 50 students as classroom capacity, one finds in classrooms of grades three and four, where less than 50 students are enrolled, that girls' ratios are over 40 percent of total enrollments. In both grade one and two classrooms where there are more than 50 students enrolled, girls' ratios of total enrollment are reduced to 29 percent. Again it seems quite probable that systematic discrimination against girls is being carried out because of limited room in this school.

FIG. D-7: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF GRADE 1

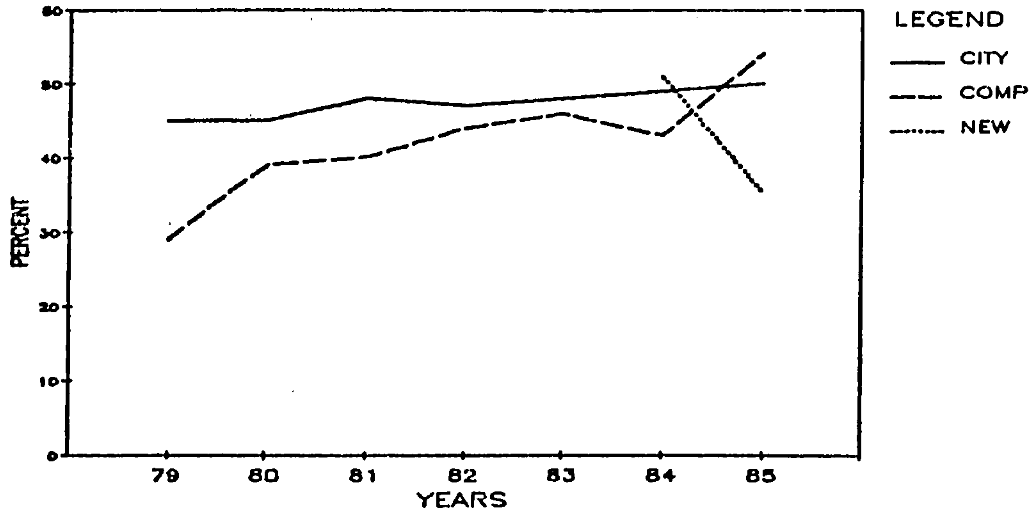


FIG. D-8: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF GRADE 6

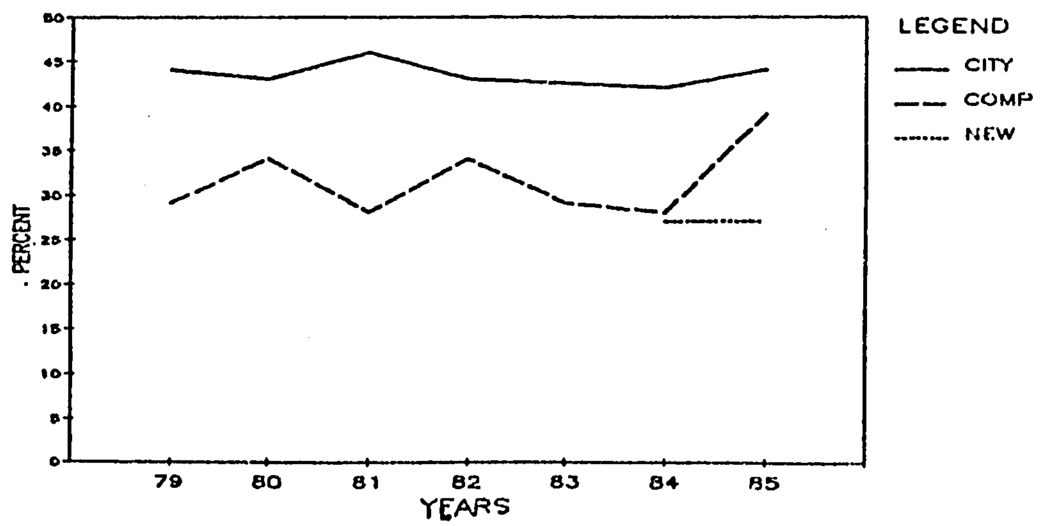


FIG. D-9: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF TOTAL

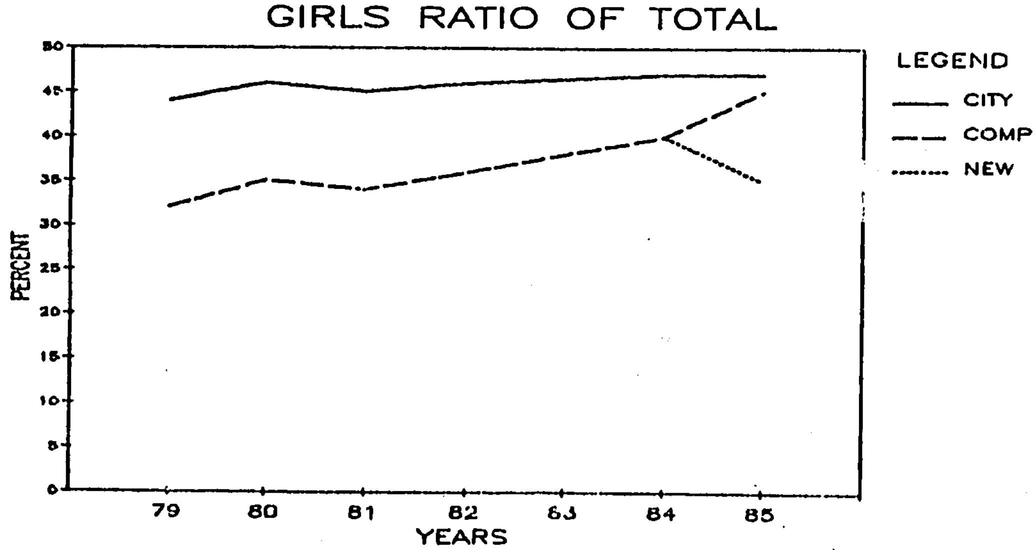


FIG. D-10: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF GRADE 1

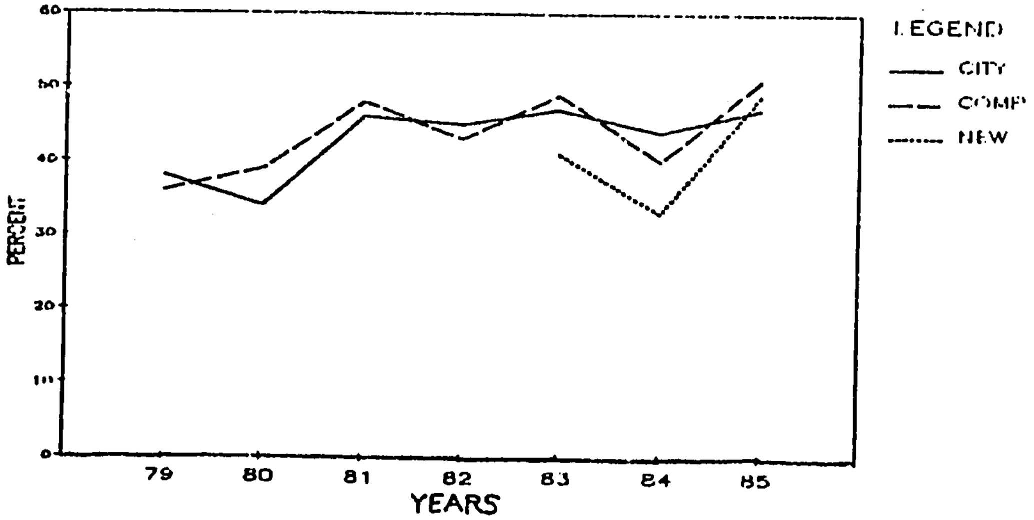


FIG. D-11: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF GRADE 6

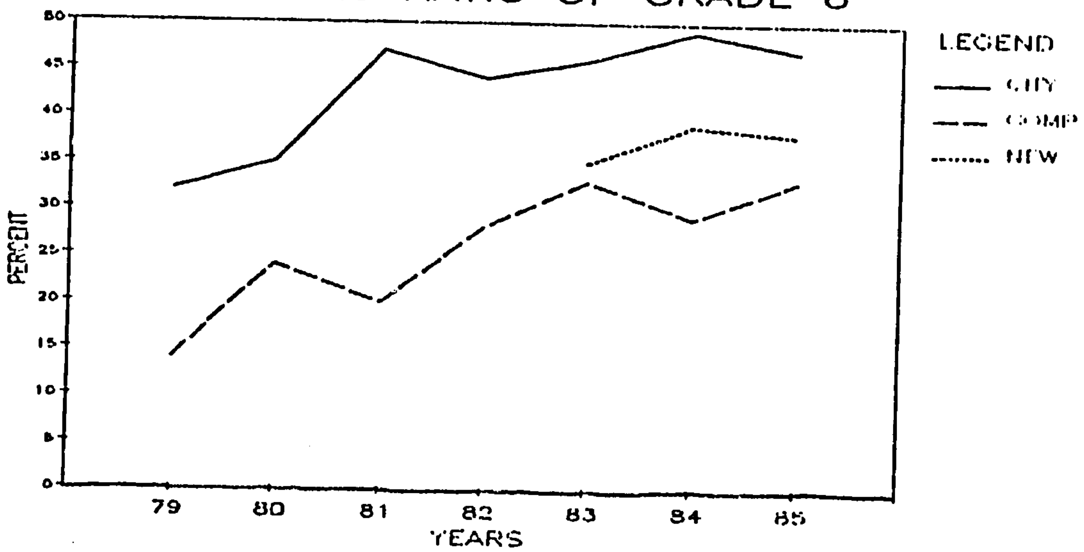
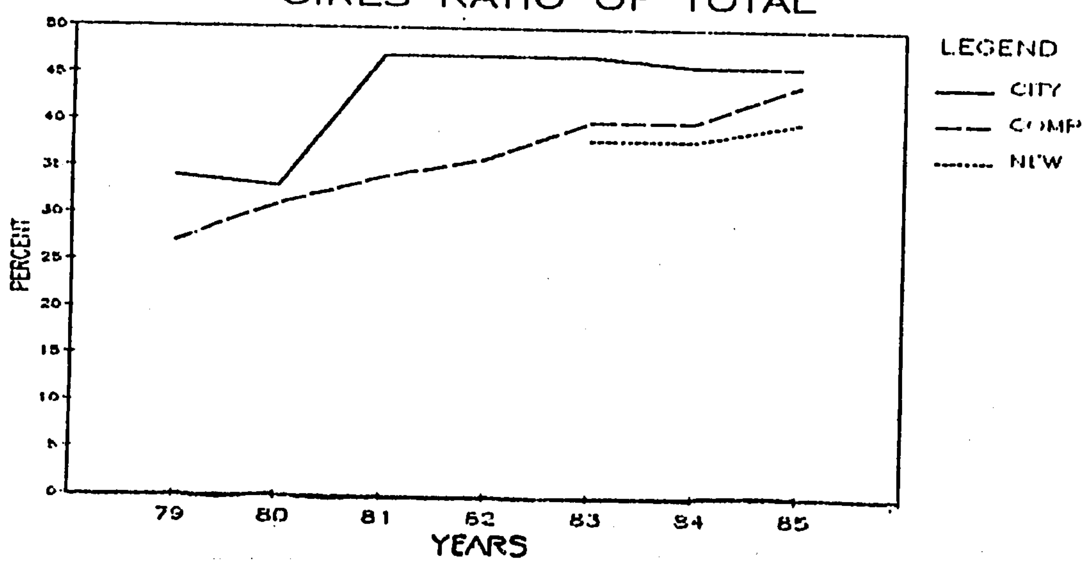


FIG. D-12: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF TOTAL



386

FIG. D-7: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF GRADE 1

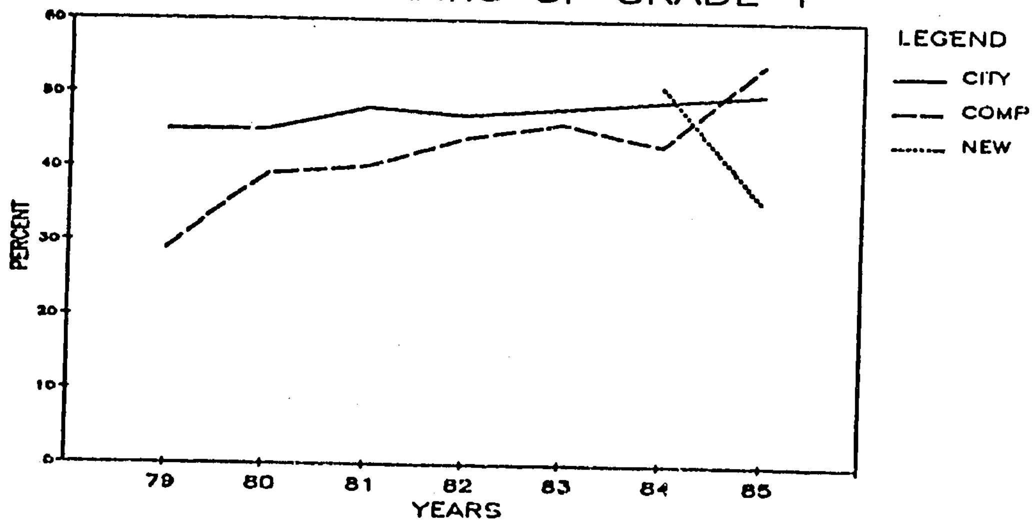


FIG. D-8: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF GRADE 6

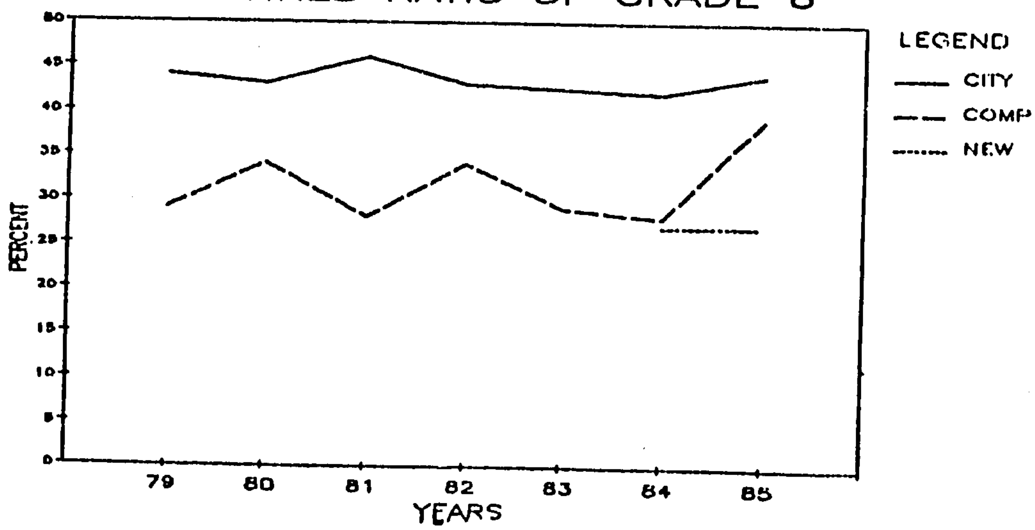


FIG. D-9: THE CONTEXT OF IMPACT
URBAN VILLAGE
MANSHAT AL AWKAF
GIRLS RATIO OF TOTAL

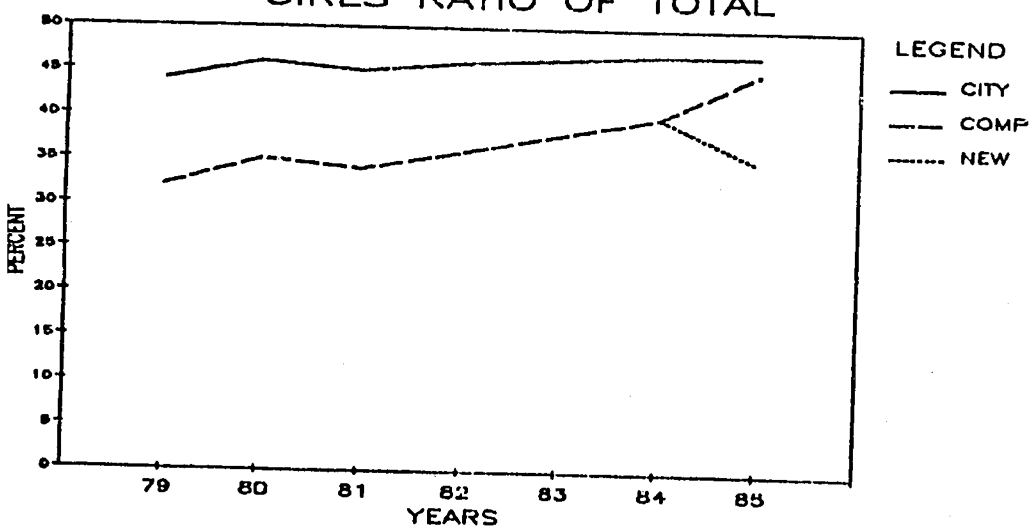


FIG. D-10: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF GRADE 1

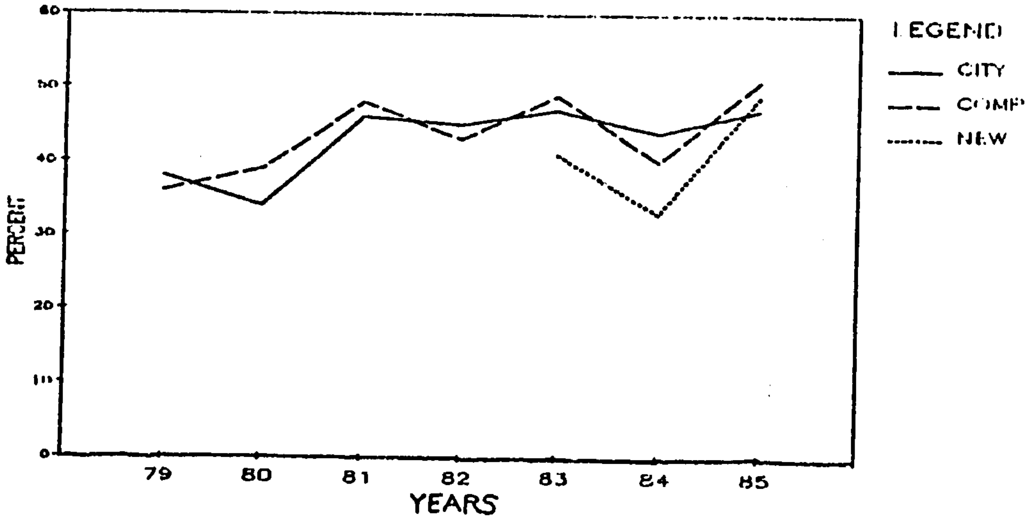


FIG. D-11: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF GRADE 6

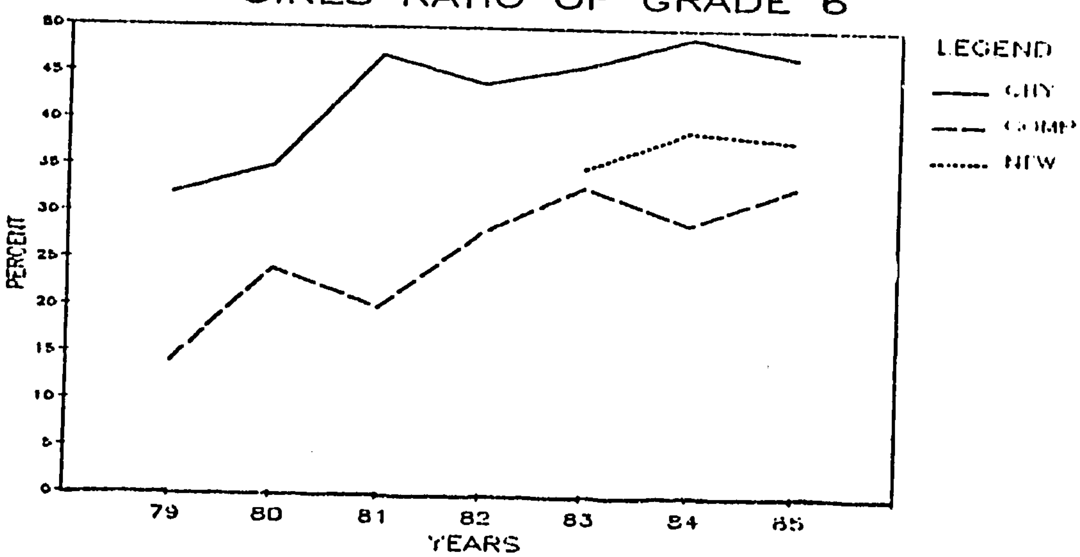
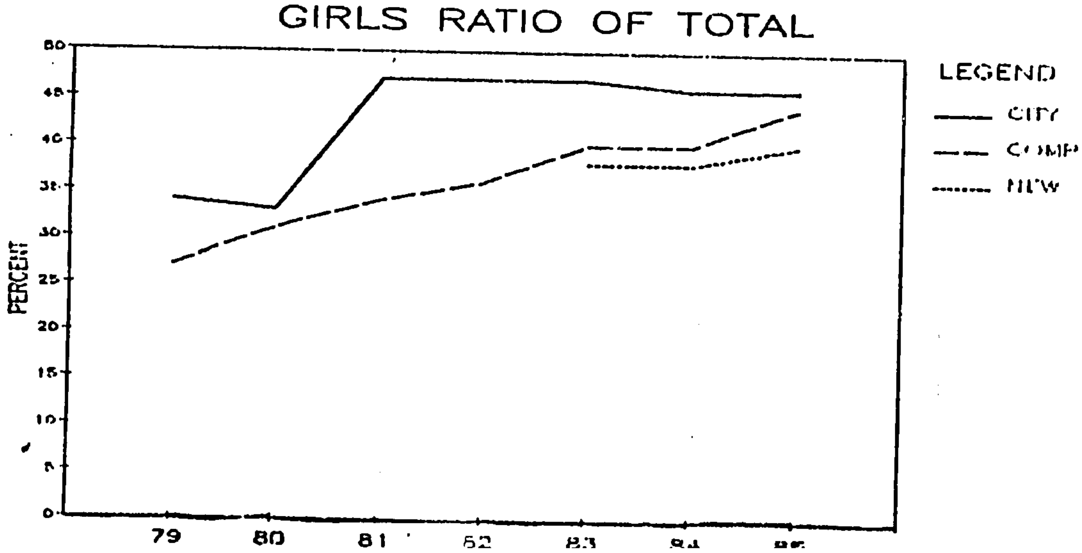


FIG. D-12: THE CONTEXT OF IMPACT
URBAN VILLAGE
NAG DAHI
GIRLS RATIO OF TOTAL



Urban Communities

Table D-3:
Girls' Ratio of Total Enrollment (1985/86): Urban Sites

Governorate + Site	Grade	Governorate Total	Ed. District Total	Prov. Capital	Comp. School	New School
		Bahira Gov.	Mahmudiya District	Mahmudiya City	Banat al Atf	Kafr Nakla
Bahira (Kafr Nakla)	1	.43	.44	.46	.46	.48
	6	.36	.37	.43	.42	.31
	7	.37	.37	.42	--	.31
	9	.34	.37	.41	--	--
		Bahira Gov.	Kafr al Duwar District	Kafr al Duwar City	Abdu Nassar	Manshat al Awkaf
Bahira (Manshat al Awkaf)	1	.43	.42	.50	.45	.35
	6	.36	.34	.44	.43	.27
	7	.37	.36	.41	--	--
	9	.34	.34	.42	--	--
		Qena Gov.	Nag Hamadi District	Nag Hamadi City	2 Sharkia ba Goura Schools	Nag Dahi
Qena (Nag Dahi)	1	.41	.42	.47	.45	.49
	6	.35	.35	.47	.32	.38
	7	.33	.35	.50	.26	--
	9	.29	.28	.42	.22	--
		Qena Gov.	Luxor District	Luxor City	Qena	Nag al-Tarif
Qena (Nag al Tarif)	1	.41	.44	n/a	.35	.29
	6	.35	.39	n/a	.38	--
	7	.33	.38	n/a	--	--
	9	.29	.36	n/a	--	--

In Nag al Tarif an alternative exists for girls and boys barred from entering the modern system. Before the opening of the new school, the al Azhar religious system was the main choice of parents not wanting their children to travel the long distances to government schools. When the new school opened, however, parents rushed to enroll children.

In 1983/84 182 children entered grade one in the two existing modern primary schools of the area; in 1984/85 183 children entered grade one but in 1985/86 when the new school opened the number increased in the area to 289 with no reduction in the numbers already attending the older schools. The additional students almost all come from those who would have been expected to attend the al Azhar system. Only one year after the new school opening, modern schools in the area are filled to capacity.

In fact, the two grade one classes of the new school prove a lump in the system that will take five more years to digest, preventing the addition of grade six or the admission of two grade one classrooms next year. Evidence from these four sites indicates that new schools built in urban village communities where educational opportunities have previously been distant will be utilized fully from their opening and if they are not, one must look further for possible constraints on enrollment.

The characteristics previously noted (see Research Methodology) that are found in urban village sites under normal circumstances, encourage the educational participation of children. Circumstantial evidence from these sites suggests that crowding lowers girls' ratios of total enrollments significantly at the point of grade one admission and may even occur shortly after the opening of new schools in areas where demand is great.

The impact of new school construction on the educational participation of children in village communities can be determined after the fact and even predicted in a gross way with presently available school enrollment figures. Both operations would be made considerably easier and more accurate were local census data readily available. Even with these data, however, the true magnitude of impact can only be measured within the context in which it occurs. Only there is it possible to assess the extent to which providing more school classrooms achieves the potential open to it in that particular time or place, and the degree to which other specified factors set limits on the ability of certain children to fully utilize those facilities.