

basic
education
in egypt

REPORT OF THE
JOINT EGYPTIAN-
AMERICAN TEAM

basic education in Egypt

Report of
The Joint Egyptian-American Survey Team

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Foreword

The Egyptian-American Survey Team acknowledges the numerous contributors to this study and extends its appreciation to all those persons who generously gave of their knowledge and time to better our understanding of the status of education in Egypt. Annex E presents further acknowledgement of the senior officials in education in Egypt, the Egyptian and the American members of the Joint Survey Team, as well as those members of USAID involved in the study.

In incorporating the ideas and views of so many Egyptians in this report, it needs to be pointed out that the goals and objectives of Egyptian education mandate some fundamental and major changes in the present educational system, which will have significant impact on the lives of the Egyptian people. For such change to be effective, the programs and courses of action discussed in this report must be accomplished within the framework of Egyptian values, beliefs, and capabilities. Only within such a framework can the new education system utilize the full resources of the Egyptian nation and society to provide the impetus for further human and economic development.

President Sadat, in his address to the new parliament and the nation, described the new progressive education system as one aiming at "a restructuring of the society in which all citizens will have an equitable share of rights and responsibilities."

The following "report," submitted to the Survey Team by a 12-year-old Egyptian boy, exemplifies this interest and larger contribution. It is included to demonstrate not only the concern that affects a broad spectrum of the Egyptian people about the current state of the educational system, but also to indicate that the problems in themselves are not difficult to identify. Amr is a particularly bright and articulate young man, fluent in English, and with experience in schools inside Egypt and abroad. The Educational Survey Team is grateful for his comments and pleased that we ourselves were able to come to many of the same conclusions.

"WAYS OF IMPROVING EGYPTIAN SCHOOLS

by Amr Fuad Hussein

1. Better and bigger school buildings
2. Increasing area of school grounds
3. More sports activities (more frequent and more variety)
- * 4. Making syllabuses more interesting for pupils of all ages by providing more equipment and more interesting subjects to make pupils learn quicker and understand easily
- * 5. Shorten syllabuses to avoid too much work and pressure on students and teachers
6. Qualified teachers for all subjects, especially for foreign languages
7. Introducing optional subjects (examples: home economics, cooking, sewing, industrial arts, etc.)

GOOD LUCK"

- * These were underlined as the most critical areas.

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Introduction

At the request of the Ministry of Education and the Egyptian Mission of the U.S. Agency for International Development (USAID), a joint Egyptian-American Team conducted a survey of Basic Education in Egypt.¹ This survey Team, which included 10 U.S. consultants working with both an officially-designated Team of Egyptian counterparts and numerous additional Egyptian Ministry officials and other educators from the Universities,² began work in early April 1979 and presented its Draft Report to the Minister of Education on July 4, 1979.

The Team began with a substantial amount of prepared material from the Ministry, much of which had been prepared specifically for the Survey Team. This material was supplemented by a series of field trips to visit schools and facilities in all parts of Egypt, including major urban centers such as Cairo and Alexandria and rural villages of Upper Egypt and the Nile Delta. On a continuing basis throughout the survey, the Team worked jointly in regular working meetings, in the field visits, in subgroups concerned with specific topics and problems, and in plenary sessions.

A preliminary draft report was prepared on May 30 and circulated for comment among the Egyptian counterpart Team and within the Ministry. This report was then reviewed in workshop meetings by the Joint Team, and in two formal plenary sessions (June 7 and 12) chaired by the Minister of Education and including key Undersecretaries, Deans of the Faculties of Education, and several eminent Egyptian educators. In these meetings, the preliminary draft was reviewed item by item both for factual accuracy and for interpretation and emphasis. The plenary sessions in particular were occasions for lively debate both of the preliminary draft and of the general goals, directions and strategies for Basic Education.

On the basis of these meetings and commentary on the preliminary draft, the report was completely reorganized and rewritten. Each of the Technical Reports was circulated for comment within the Ministry as it was completed and further revised on the basis of comments received. The final section to be written was the Summary of Findings, Constraints and Courses of Action.

¹ See Annex A for the Scope of the Work and Ministerial Decree No. 71 establishing the Egyptian Team.

² See Annex E for a list of participants.

This report, then, represents an attempt to survey the social, economic and educational context and the practical realities within which Egypt is intending to implement its Basic Education program, and to represent in a systematic way the views, priorities and remaining questions both of prominent Egyptian educators and of a number of U.S. analysts. The report attempts both to locate and define the major obstacles which hinder the accomplishment of the Basic Education objectives and to break down some of the larger problems into more manageable tasks and specific steps that need to be taken.

The report is the product of less than three months of survey work. In fact, considering that most of the report was reconceptualized and rewritten following the preliminary draft, it is prudent to consider it as a working paper rather than as the final or definitive statement on the subject.

If the report is to have value, it will be in the degree to which it helps to move debate and planning along in Egypt toward the variety of decisions, judgements, and initiatives, including assistance initiatives, that are required to design, build and nurture an educational system which responds to the changing Basic Education needs and aspirations of the Egyptian people.

The report begins with an overview of Basic Education. Section One presents the major findings and discusses some possible courses of action. Section Two includes the Technical Reports, which examine each area of study in some detail. Section Three is Annexes which include additional information, statistical tables, scope of the study, and a listing of the Team members and other contributors.

SECTION ONE:

Findings, Constraints, and Recommendations

OVERVIEW OF BASIC EDUCATION

The key features of Basic Education are:

- A unified and sequential program of studies grades one through eight or nine
- Integration of the theoretical into the practical
- Creation of a science curriculum geared to facilitate practice in agriculture, industry, and commerce
- A plan for the gradual acquisition of manual skills from simple to rather technological skills
- A system of open recruitment into the higher stages of education.

Children are expected to acquire:

- The knowledge, skills, and attitudes required of all citizens in order to exercise their full responsibilities
- Practical skills so that they can become productive members of society and participate in its development
- Positive attitudes toward work requiring technical, mechanical, industrial, and other manual skills
- Critical and creative thinking skills to enable them to be active participants in making decisions in their families and communities and to develop a positive self-concept.

The program is designed so that "Those who complete the Basic Education stage will be able either to confront life or to continue education at higher levels with the same efficiency."¹

¹Mansur Hussein, Youssef Khalil Youssef, with an introduction by Mustafa Kamal Helmi, Fundamental Education: Its Concepts, Principles, Applications, Kharab Bookstore, Cairo, March 1978.

The term "Basic Education" is used in Egypt somewhat interchangeably with the terms "fundamental" and "essential" education. These latter terms have been used for a variety of attempts over the last three decades to develop educational models that are more practical and applied than the formal academic schools.

Initially, programs such as the Manayel Village schools were developed as alternative educational services, primarily for adults and older adolescents who had not had an opportunity for regular formal schooling but who still needed help in acquiring the essential minimum of knowledge and skills relevant to their environment and responsibilities. Fundamental education then came to include alternative schools with a practical orientation such as the "combined units" schools enrolling primary school age children who had not been enrolled in the formal schools. This was eventually seen as a dual school system, not providing sufficient continuing opportunities for the children in the "combined units," and was abandoned in favor of a unified primary school system.

At the same time, a terminal 3-year "advanced primary" experiment was begun, providing a practical training for students completing primary. In 1956, when the educational ladder was stabilized at 6 years primary, 3 years preparatory, and 3 years secondary, the advanced primary schools became "preparatory practical" schools. At the same time, technical vocational education was divided into a 3-year preparatory stage (postprimary) and a 3-year secondary stage (post preparatory). Thus, in 1956, there existed three types of preparatory schools (general, practical, and technical). In 1963 these distinctions were abandoned, and a unified preparatory school was created combining the three functions (preparation for academic secondary, preparation for technical secondary, terminal preparation for work and "for life.")

These attempts at creating forms of first-stage schooling or "fundamental education" which are more practical and applied than the conventional primary and preparatory schools have thus been integrated into the standard 6-year primary and 3-year preparatory schools that exist today. Though integrated, or "unified," the experiments have not been completely abandoned. Elements of these alternative models continue to exist in the current system, and there is again interest in revising and reconceptualizing the first stages of the educational ladder to give more emphasis to practical skills and technical subjects, to make education relevant to diverse regional needs, and to reach a larger percentage of the school-age children in all parts of Egypt. The main difference between the current planning and the earlier efforts is that the focus is now on a systematic revision and reorientation of the entire system into a "Basic Education" system, rather than in adding special programs that tend to remain marginal to the main or "Basic" educational effort. Thus, the renewed interest in Basic Education should be understood as only the latest in a series of attempts to develop a system of first-stage education

that can be delivered to all, or almost all, young Egyptians and that serves both the function of preparing those students who will continue for additional education and training and the function of preparing those students who do not continue for roles as productive citizens and workers.

This report has adopted the term "Basic Education" in preference to other terms such as "fundamental" or "essential" education for two main reasons. First, the term is more generally understood internationally, having been defined by the UNESCO-UNICEF seminars on Basic Education in Nairobi in 1974 and generally adopted in international conferences since. Second, it is the term used in Egypt for a set of pilot programs (223 primary schools and 56 preparatory schools) and for an experimental 8-year program at Medinat Nasr. These pilot and experimental schools are at least partial models for what Egyptian educators are considering for nationwide adaptation and application.

The 8-year alternative program in Basic Education at Medinat Nasr School in Nasr City has been the subject of experimentation by the National Center for Educational Research since 1972. This program condenses the 6-year primary and the 3-year preparatory stages into one 8-year stage. Students study modern mathematics and begin studying the natural sciences with biology in grade five, physics in grade six, and chemistry in grade seven, with all continuing through grade eight. Polytechnics is taught from grade one through eight, starting with the teaching of simple skills in the lower grades (paper, leather, clay, and wood-work, plus school gardening) and concluding with metal work, and mechanical and electrical engineering in the upper grades.

Students are evaluated continuously during the school year with promotion to the next grade depending upon the composite of their performance in practical work and both oral and written tests. At the end of grade eight, a final examination is taken to qualify for the General Polytechnic Certificate, which equals the General Preparatory Certificate. A second school, modeled on the Medinat Nasr School, will begin in Assiut this year.

The Basic Education program is expected to prepare students to continue their schooling into either general secondary school (preparation for university) a teacher training institute, or one of the three branches of secondary technical education -- industrial, agricultural, or commercial. The problem of curriculum "fit" between the Basic Education program and these subsequent options for which it is preparatory will continue to need attention and experimentation by the National Center for Educational Research in concert with specialists from these various secondary school levels and specialists in the disciplines. Those not wishing or able to continue their education should be prepared to be good citizens, should have good general education, and be prepared to enter the job market with some saleable skills.

Clearly the Basic Education curriculum, its course offerings, content, teaching and learning methods, and strategies have to be substantially broader and more comprehensive than the traditional program that all too often emphasized theory, memorization, and passive deductive learning unrelated to the children's environment or to practical problem-solving. Preservice training will have to change to prepare the next generations of teachers, and teachers trained for and experienced in traditional methods will have to be offered in-service training opportunities.

Ways will have to be found to equip schools with shops and simple laboratories, or to find substitutes in the community, and to provide a wider array of learning materials (e.g., science kits) and other simple instructional aids than are now found in the primary and preparatory schools.

Egypt will have to replace much of its capital equipment in education in the near future. It must engage in a vigorous program to expand its primary school facilities: to meet increased population growth; to enroll a larger percentage of the age group; to retire unsafe dilapidated buildings and to eliminate triple and double shifts.

To do all of this will require both major new investment and a full mobilization of Egyptian educational resources at all levels. The improvement of managerial and planning capacities to utilize resources efficiently and to bring all elements of the existing education system to bear effectively on the development and operation of a Basic Education system will be critical to success.

Instead of being a burden, the emphasis on Basic Education presents Egypt with an exciting opportunity and a challenge to rethink its educational priorities. Moreover, it should be based on a vigorous nationwide program of scientific research and development in a relatively large network of pilot schools with differing elements to suit different local conditions. This evaluation, research, and development effort should help determine the cost effectiveness and the benefits of the various combinations in the models, eventually leading to a system that is both unified in its philosophy and objectives and diverse in its responses to specific needs. Given time, this provision of a more relevant, more equitable, and more scientifically based education should benefit Egypt and its citizens both socially and economically.

SOCIAL, ECONOMIC, AND EDUCATIONAL OBJECTIVES

The following objectives are discussed at two levels, the second derivative from the first. There are the social and economic goals of the society, which Basic Education is expected to address, and the educational objectives or guidelines by which the Basic Education program is expected to contribute to the social and economic goals. There follows a listing of the major strengths or positive aspects of the existing system and a companion listing of the major problems of the existing system.

The objectives are interdependent, of course, as are the major problems or constraints and the possible courses of action. The realization of one objective, therefore, may enhance or conflict with the realization of another. The courses of action sometimes can be ranked in order of priority, feasibility, appropriateness, and sequential order, but at all times they must be addressed together as parts of the solution (i.e., the removal of constraints) to reach the objectives.

Ultimately, no course of action by itself will finally resolve all the problems of a system. An initiative to remove any one constraint destabilizes other parts of the system and forces action on other constraints. Under these circumstances, the most prudent way to proceed is by developing a complex of initiatives that on balance provide the most positive results possible with the least adverse affects on other parts of the system.

The current initiative to develop and implement a Basic Education system for Egypt derives fundamentally from the national objectives of Egypt. These are expressed in Presidential statements and decrees, in national plans and policies, and in the broad social and political consensus of Egypt, expressed both formally and informally.

Based on discussions with a variety of officials, and drawing on official and semi-official planning documents, the Survey Team has concluded that the major social and economic objectives that Basic Education is expected to contribute to include:

- The development of a citizenry with the desired social values and behaviors, able to function as responsible adults in the Egypt of today and of the future
- The development of a society in which as many people as possible are literate and have developed the skills of numeracy

- The development of a labor force with appropriately skilled workers and technical manpower available in the numbers required for optimum productivity in agriculture, industry, and other sectors of the economy
- Full employment
- The equitable distribution of opportunities and services to a broad spectrum of the population.

While it is understood that Basic Education is only one of the factors contributing to the accomplishment of social and economic objectives, the assumption is that Basic Education is one of the major tools or processes by which the Egyptian society will guide, develop, and shape itself now and in the future.

As the team understands them, the following are a summary of some of the basic goals of the educational system designed to contribute to national, social, and economic objectives:

- The expansion of the number of children enrolled in schools by increasing the percentage of the age group entering, extending the compulsory period to grade eight or nine, reducing the dropout rate, and increasing female enrollment
- The development of an educational curriculum that is more relevant to regional needs
- The instruction of children in citizenship, health, hygiene, and appropriate social behavior
- The development of appropriate skills training and a shift in the schooling emphasis from academic to practical disciplines
- The coordination of primary and basic education with other educational opportunities (secondary and higher education, skills training by employers, adult and nonformal education).

FINDINGS OF THE JOINT SURVEY TEAM

The major strengths in the existing system, or positive aspects of the system, are predominantly those facts and structural elements upon which the educational planners of Egypt can build and implement the more responsive Basic Education program they have as a national goal.

The major problems of the existing system represent those facts and elements which act to constrain or prevent the system or some of its major elements from functioning as they should if the objectives are to be fully realized. In the following pages the objectives in the area of Basic Education have been listed, as well as related strengths and problems which act to constrain the achievement of these objectives. In addition a brief list of courses of action and relevant comments is presented for the Ministry's consideration. Reference is made to the pertinent Technical Report chapters where fuller discussions can be found.

This section concludes with a succinct list of the most critical areas of programmatic concern for consideration as major initiatives.

OBJECTIVES, MAJOR STRENGTHS, AND CONSTRAINTS OF THE EXISTING SYSTEM

National Social and Economic Goals

- Responsible citizens
- A literate and numerate society
- Skilled labor and technical manpower
- Full employment of Egypt's human and physical resources
- Equitable distribution of opportunities and services.

Basic Education Objectives

- Expanded enrollment
- Education content relevant to regional needs
- Instruction for social needs (citizenship, health/hygiene, sound behavior, religious values)
- Emphasis on skill formation and practical training
- Coordination with other education opportunities (secondary and higher education, skills training by employers, adult and nonformal education).

Major Strengths/Positive Aspects of Existing System

- Strong MOE mandate to provide basic education to as many children as possible
- General MOE consensus on the need for change and on the major areas in which change is required (e.g., exams, curriculum, buildings, teacher training)
- 68 percent of 6-12, and 78 percent of 6-year-olds are enrolled

- Rising percentage of female enrollments over time, decreasing urban/rural disparities
- Growing social consensus on need to make education more practical
- Growing emphasis on technical secondary options
- Substantial budget commitment to education
- Administrative/supervisory systems in place at all levels
- Several strong national and regional universities, with faculties of education and some research capacity
- Growing research and development capacity including NCER and specialized centers such as SEC, Ain Shams University
- Teacher training (quantitative) capacity adequate for most current needs
- Production and distribution capacities exist for large quantities of printed materials
- Several ongoing experiments (e.g., Medinet Nasr 7-year schools, comprehensive community model, one-room schools, modern vs. traditional math, science testing kits (practical application)).

Major Problems of Existing System

- Disparities in access to educational institutions
- Inadequate physical capacity (quality and quantity)
- Inadequacy of teacher training and problems with supply, especially in practical fields
- Instructional materials and equipment shortages
- Academic bias in system
- Existing manpower plan does not provide sufficient detail for projecting education and training needs and priorities
- Multiple agencies and ministries involved in skills training

- Weaknesses in data and data-handling capacities
- Decisionmaking authority overly concentrated at national level; need for greater participation at the governorate and district levels
- Finance and financial management
- Insufficient research and experimentation with instructional materials.

ANALYSIS AND EVALUATION OF OPTIONS

In this part of this report, each of the above constraints and problem areas is described and potential courses of action to address these areas are suggested. In addition, comments and strategies for program options are also discussed.

DISPARITIES IN ACCESS TO EDUCATIONAL INSTITUTIONS

If the quantitative goals of Basic Education are to be achieved, ways must be found to enroll the more than 3 million students in Egypt who find their access to educational institutions restricted for one reason or another. Some never take advantage of educational opportunities; others go to school for a short time only and then drop out. Some of the major variables that appear to affect enrollment are class, region, urban-rural, and sex differences. These are coupled with traditional perceptions of who should be educated, conflicting demands on children's time, an exam system that may either frighten children away or weed out the disadvantaged child, inadequate capacity to absorb students, the absence of facilities within a reasonable distance, and the poor socio-economic environments from which many children come.

Potential courses of Action

To improve access and increase enrollment:

- Increase physical capacity in all areas
- Experiment with alternative school models (buildings, scheduling, staffing, enrollment pattern) appropriate for thinly populated areas and responsive to the times (hours, days, seasons) when the child is most available to attend
- Consider special funding (i.e., accept higher unit costs) for relatively disadvantaged or thinly populated areas
- Train teachers from local areas proportional to enrollment targets
- Expand student boarding facilities, provide housing for teachers, provide student transportation where required for rural and thinly populated areas
- Reinforce compulsory education rules with enrollment campaigns using all available media to reach parents
- Continue emphasis on increasing female enrollment
- Involve parents more directly in educational process
- Reduce costs to parents by providing uniforms (or abolishing the requirement), subsidizing school supplies and lunch programs

- Make school more attractive, both physically and through extra-curricular activities; make school fun!
- Demonstrate to parents that skills being learned in school are in addition to what the child will learn out of school and will lead to increased productivity and income
- Provide vocational and personal counseling to help children (and parents) adjust to the school environment and assess realistically the value of further schooling
- Make promotion less dependent on the second and fourth year examinations
- Provide opportunities for re-entry to skills training or formal education for adolescents and adults who dropped out or who never went to school.

Comments and Strategy

- See Technical Reports Education in the Egyptian Context, Student Access, and Supplementary School Services
- The identification of problem areas and communities where enrollments as ratio of total age groups or ratio of boys to girls are low may be accomplished through reaggregation (cross-sectional analysis) of data that already exists.
- School siting problems for primary schools are somewhat easier to solve than for preparatory (due to higher percentage of age group enrolled). The access problem will decrease for preparatory schools as more are built in the villages to handle increased enrollment.
- Attention to the concerns and learning needs of parents may be a prerequisite for influencing parental attitudes toward schooling for their children.
- In some cases, particularly in very poor families, effective acquisition of skills in school may increase the economic value to the child's time and provide a disincentive to further education.
- One-shift schools tend to have lower dropout rates than two- or three-shift schools.

INADEQUATE PHYSICAL CAPACITY (QUALITY AND QUANTITY)

For understandable reasons, Egypt has not had an aggressive school building program since the early 1960's. Educators have coped by converting other buildings to school use, by enlarging class size, and by using double and even triple shifts, and, apparently, by less than vigorous enforcement of the compulsory school attendance laws. These desperation measures have had their unfortunate consequences. One of ten primary schools in use is unfit for use and another three need repairs; 68 percent of the preparatory schools are unfit; another 28 percent need repairs. Only 42 percent of the primary schools have electricity, and 25 percent are on double shift. Cramped space and badly designed furniture contribute to student health problems; 88 percent have acoustics worse than the lowest permissible by U.S. standards. A single design standard for all of Egypt ignores variations in climate, topography, location or other environmental features, and use of local low-cost building materials. Population increases, dropout prevention programs, increased enrollment programs, etc., will exacerbate the problem of space needs. A move to Basic Education will also present new building expansion and quality-related problems with its requirements for shop training, agricultural skills development, and a change from a relatively passive theoretical and rote memorization instructional program to one requiring active participation from an inductive, analytical, and practical problem-solving learning style with its attendant equipment, supplies, materials, and specialized space and land needs.

Potential Courses of Action

- Establish in each governorate a building and Basic Education plans committee to derive facilities and equipment specifications from national models, local needs and desires, subject to national school building and equipment standards and codes.
- Establish a National Council on School Buildings and Equipment with responsibility for setting national school building and equipment codes and regulations, coordinate building and equipment research base for national plans, codes, regulations, guidelines and procedures, with authority to inspect buildings during construction and regularly afterwards for quality control and compliance with codes and regulations.
- The current MCE network of Basic Education schools should be expanded to include all governorates and to test cost-effectiveness of a wide array of differing models under a variety of circumstances as

part of the national plan, e.g., ranging from existing inadequate but safe buildings plus the use of local shops, farms other community resources and a minimum of equipment, to new buildings and equipment specially designed for Basic Education.

- Test local willingness to participate in Basic Education school facilities and equipment program by using a matching formula on a sliding scale adjusted for ability to pay with governorates and local levels.
- Prior to any large-scale building program, architects and engineers working with the National Council should experiment with the use of various local low-cost materials and construction methods, use of local talent, and the use of industrial-school students in school building.
- Set up a building maintenance and minor repairs training program for appropriate governorate and local school staff (electricity, carpentry, painting, masonry, plumbing, grounds, and equipment maintenance and repairs) and hold local principals accountable for the condition of his/her building and for a modest budget for maintenance and repair.
- Encourage manufacture of local furniture through technical schools but redesign so furniture is suitable for flexible uses; encourage local manufacture of simple, safe equipment for Basic Education that technical schools can not produce (e.g., overhead projectors, slides viewing light boxes, balance beams, etc.).
- Establish a facilities and equipment program (with local matching requirement) to replace unsafe buildings first, then to expand to eliminate third shifts, to accommodate increased population growth, then to reduce second shifts as rapidly as costs will allow; all new or expanded buildings should be designed for Basic Education.

Comments and Strategy

- See Technical Report on Buildings and Equipment.
- This presupposes some national models are available for governorate use and that regional university and teacher institute staff, administrators, experts in building, finance, equipment, and construction will help to ensure public discussion and develop strong local support for Basic Education through local field tests

of a modest array of different models.

- Research and the model Basic Education plans and general field test guidelines and procedures (research design and procedures) will have been established by the National Center for Educational Research as part of a national practical research plan for testing the widest array of Basic Education models under a variety of circumstances in a variety of settings, with different populations. The building codes and regulations research that is needed should also be managed by the NCER.
- The matching formula presumes an equity concern and the use of an equalization principle, adjusting national support to local ability to pay.
- Experimentation with local construction materials and methods would help in setting up standards, codes and regulations which may vary to some degree, depending upon materials and design specifications.
- A program to involve students and parents in the maintenance and minor repairs program should also be established. Presently, students often help during summers to make minor repairs and to paint, as do parents. There are numerous examples of this; see the Integrated Care Project in West Cairo, for instance, as one good example.
- Efforts to replace unsafe buildings and reduce third and then second shifts should depend on results from the field trials of the Basic Education models and the building materials and construction methods experiments.

INADEQUACIES OF TEACHER TRAINING AND PROBLEMS WITH SUPPLY, ESPECIALLY IN PRACTICAL FIELDS

Teacher supply for an expanded enrollment of about 90 percent of the 6-12 age group in 1990 will require an increase in primary teacher training capacity of approximately 30 percent, about 3,000 new students annually over present plans, by mid-decade. This is the equivalent in capacity of 12-15 teacher training institutes of the current size. Priority should be given to practical teachers in the fields of home economics, agriculture, prevocational industrial skills, and to Arabic and foreign language teachers. Priority should go to those governorates -- e.g., Sinai, Cairo, Alexandria -- that do not have teacher training capacities proportional to their projected enrollment in 1990.

Potential Courses of Action

- Build new TTI's, including some that specialize in preparing laboratory/workshop instructors, prevocational and practical skills teachers.
- Expand TTI enrollment in the fourth and fifth years for transfer students from secondary technical, as well as general secondary.
- Increased use of "unqualified" university and 5-year secondary technical graduates, combined with a strengthened and expanded program of in-service training involving TTI's and the faculties of education.
- Increased use of "para-professional" community resource people for practical training aspects, e.g., experienced craftsmen, master farmers, technicians, commercial workers.
- At the preparatory level, the need is mainly for increased capacity in the faculties of education to provide educational preparation for BA/BS teachers, particularly for Arabic, foreign languages, vocational skills including home economics, agriculture, and prevocational industrial and commercial skills.

Comments and Strategy

- See Technical Report on Teacher Training and Supply.
- Reform of teacher training must be coordinated with basic education curriculum changes, and should begin in advance of full implementation of the changes.
- The number of additional teachers required is dependent on the rate of increase in enrollment, the dropout rate, the average class size, and the patterns of double and triple shifts. Plans affecting these factors must be clarified before firm plans for expanded teacher training capacity can be made.
- Effective use of available teachers is dependent on adequate physical facilities and the availability of basic instructional materials. These factors should be addressed as a first priority.
- Expansion of TTI capacity will require increased numbers of teacher trainers. This is a role for the faculties of education.
- The most effective short-term response to qualitative problems is a strengthened in-service training program.
- Continued attention must be paid to teacher motivation, particularly salary levels and opportunities for professional advancement, promotions; and further training.

INSTRUCTIONAL MATERIALS AND EQUIPMENT SHORTAGES

One of the major qualitative constraints on the Basic Education system is the general lack of instructional materials appropriate to the new curriculum. This lack reduces teacher effectiveness and restricts pedagogic alternatives to didactic presentation of standard curricula, relying mainly upon textual material. Except for printed textbooks, there is very little supplementary material of any kind available in the primary and preparatory school classrooms, nor is there development, production and distribution capacity for such materials.

Potential Courses of Action

Printed materials, particularly textbooks:

- Improve technical capacity of printing (particularly for photographic and color reproduction), binding and packaging of materials prior to distribution.
- Improve materials storage capacity at central MCE and at governorate and district levels.
- Establish some production capacity at several regional centers (e.g., Cairo, Tanta, Assuit, Ismailia, Alexandria) for specialized materials appropriate to regional needs.
- Lengthen lead time for materials preparation and revision cycle to at least two years, to provide for more thorough design and illustration, prototyping and experimentation, revisions, and editing.

Classroom equipment and workshop tools:

- Most basic equipment -- science kits, measuring and counting instruments, science or technology models, glassware, furniture, blackboards, workshop hand tools -- can be produced in Egypt.
- Set up one or more small industries to produce local instructional materials and equipment.
- Revise purchasing procedures to favor locally produced tools and basic equipment.

- Utilize technical secondary schools as production units as part of "continuous capital" effort.
- Encourage greater use of teacher- and class-produced materials.

Audio-visual materials:

- Improve technical capacity and production/distribution capacity at government level.
- Combine this with strengthened reproduction and distribution capacity at AVDG at Manshiet el Bakri.
- Link all A-V materials development to in-service training activities, possibly by combining the two departments.
- Emphasize low-cost, "small" media: charts, slides and film strips, audio tapes, models and materials that can be retained and used in the schools on a permanent or consumable basis, rather than depending upon a redistribution system.

Comments and Strategy

- See Technical Reports on Textbooks and Materials, Buildings and Equipment, Teacher Training and Supply.
- Coordinate materials development and supply with curriculum development.
- Materials should be developed in response to assessed instructional needs. A thorough needs assessment, on the basis of the new curriculum, should be made before any increase in production capacity is initiated.
- Introduce all new materials through in-service or preservice teacher training.
- Involve teachers as much as possible in the design and development of materials. Consider incentives to reward teacher innovations.
- Ensure that facilities provide appropriate physical space to use and store materials.
- The share of operating expenses in the total MCE budget should be increased.

- Any instructional hardware should be standardized to the extent necessary to enable orderly purchase and to enable maintenance to be provided efficiently.

- Simplifying distribution systems for materials of all kinds is part of the solution to the administrative burden at the governorate and district levels.

ACADEMIC BIAS IN THE EDUCATIONAL SYSTEM

Perhaps the most central problem of the Egyptian educational system that Basic Education intends to address is the bias toward theoretical and academic, as opposed to practical and applied learning. This is a pervasive problem that needs to be systematically attacked in all its aspects. One of its most negative results is to distort the selection of students in higher levels in favor of those with socially advantaged backgrounds. The bias toward academic learning is partly lodged in traditional attitudes toward scholarship, modified by economic realities of several decades ago when civil servants and certain kinds of professionals were in short supply. The guaranteed job for the university graduate and the ranking of disciplines by secondary school leaving exam scores draw children through the educational system in the academic stream if they are capable, and toward the high status professions whether or not they are interested. The students presumed to be less capable are shunted off into the lower status positions of teaching, agriculture, industry, and commerce. As long as the guaranteed job is secure and as long as engineers and doctors are considered the role models of success, there are limits on what can be done to change this situation fundamentally. With general consensus and a carefully thought-out program, however, the MCE is in a position to assume the leadership in adjusting the educational system to the new economic realities.

Potential Courses of Action

- Integrate practical and theoretical learning in curriculum content where it is feasible, e.g., mathematics, science, and social studies.
- Affirm new role models in illustrative and text materials and draw on community members who can demonstrate the usefulness of a variety of occupations.
- Initiate exam reform with continuous assessment that is based on both kinds of skills, academic and practical; reduce the emphasis on written examinations and increase emphasis on classroom participation and other kinds of skills assessments.
- Encourage pride in hand work through arts and crafts programs.

- Conduct media campaigns that broaden and dignify a variety of non-academic careers and vocations to sensitize teachers and parents as well as students.
- Combine practical and theoretical training for teachers.

Comments and Strategy

- Establishing special "practical" courses only reemphasizes the separation between practical and theoretical learning.

EXISTING MANPOWER PLAN DOES NOT PROVIDE SUFFICIENT DETAIL FOR PROJECTING
EDUCATION AND TRAINING NEEDS AND PRIORITIES

One of the main objectives of Basic Education is to prepare school leavers for further training and for employment, wherever possible in their own governorate. The Basic Education strategy must be able to assume clear and realistic guidance from the "demand" side before it can optimally adjust the supply of education and training. Though the MOE is rapidly expanding its technical training system, the expansion is not based on a detailed manpower plan.

Potential Courses of Action

- A manpower assessment and plan is currently in progress with disaggregation by governorate, sector, and level. On the basis of this assessment, projections of required secondary/technical training capacity should be revised by sector, by skill category, and by governorate.
- On the basis of the revised projections, revisions should be made in the prevocational emphasis of preparatory schools and in the distribution of preparatory school leavers to secondary/technical training options.
- Research is required to assess more precisely the requirements and preferences of employers in terms of specific skills, skill levels, and work attitudes expected for entry-level employment.
- Research is required to assess more precisely career aspirations and expectations of students at various levels, by region, socio-economic background, and over time.
- An information system is required to inform preparatory students of probable employment opportunities five to ten years in advance. These opportunities should be reflected in new curricula and materials, especially in social studies and in the sciences.
- Consideration should be given to providing students their choice of technical/secondary options whenever possible, and making these a more preferred option by opening more possibilities for selection into degree programs.

Comments and Strategy

- See Technical Report on Secondary, Technical, and Higher Education.
- Macro-level manpower planning is the responsibility of the Ministry of Manpower and of the National Council on Manpower.
- The MOE should be able, through the National Center for Educational Research, to undertake the complementary micro studies of employer and student preferences required for detailed education planning and curriculum restructuring.

MULTIPLE AGENCIES AND MINISTRIES INVOLVED IN SKILLS TRAINING

The involvement of many industries and ministries in providing skills training is an encouraging development, enabling rapid growth and diversity of training options. However, there is a growing problem of coordination and of uneven quality of training. Part of the MOE's response to Basic Education needs should be the assurance that such training is coordinated with needs and with the educational options, and that it is supported with qualitative inputs as needed.

Potential Courses of Action

- Strengthen the interministerial coordinating mechanisms to minimize redundancy and overlooked needs.
- Strengthen MOE role in training technical teachers and instructors, and providing materials for technical instruction to all skills training.
- Concentrate MOE technical training on those skills common to several industries or sectors, e.g., commercial skills, and on those sectors, e.g., agriculture, services, small businesses, for which individual employers are unlikely or unable to initiate large-scale training.
- Coordinate prevocational training (science, math, practical skills) curriculum plans at the preparatory level with curriculum plans for subsequent skills training programs, whether MOE administered or not.
- Strengthen MOE adult education programs for literacy, numeracy, health, etc., by linking them to employer training programs.

Comments and Strategy

- See Technical report on Secondary, Technical, and Higher Education.
- There is a need for strong incentives, perhaps a legal mechanism, to obtain cooperation from major employers with training facilities, apprenticeship employment, and contributions to financial costs of training.

- Several aspects of the "associate" degree 2-year technical colleges in the U.S. seem applicable in Egypt, particularly their close linkages to employing industries through "cooperative education" and their highly applied "engineering technology" programs.
- One of the most needed short-term initiatives is for a complete inventorying of available training programs.

WEAKNESSES IN DATA AND DATA HANDLING CAPACITIES

The educational data flow can best be described as a "one-way street," as data gathered mostly feed and satisfy the reporting requirements of the ministries. There is little if any feedback to the local system, i.e., to teachers, parents, and local administrators. Few data are analyzed in any depth; few are comparative. They are difficult to retrieve and consequently are seldom used for evaluation and change in the system. The present data base is adequate for performing most simple counting and recording functions. However, in its current form, the data and the handling and storing capabilities do not yield the type of information needed for various management functions for monitoring the effectiveness of alternative programs.

Potential Courses of Action

- Standardize the educational terminology and definitions used in collecting data.
- Establish a "cost per graduate" indicator as an index for measuring performance and efficiency.
- Develop a student record and student-cohort tracer system to improve data on dropout and wastage patterns.
- Train personnel in charge of financial affairs in the central MCE and at the governorate level in data management and analysis skills used in performance budgeting, planning, monitoring, and evaluation.
- Strengthen statistical units of MCE and NCER.
- Use this strengthened central statistical capacity to strengthen the statistical capacity of governorates and districts by training local administrators in data collection, processing and interpretation, through in-service training.

Comments and Strategy.

- See Technical Reports on Ministry of Education, Examinations, Buildings and Equipment, Teacher Training and Supply, Educational Finance and Budget Analysis.
- The utility of improved data and data-handling capacities can only be as good as the questions being asked of it. One of the first steps in developing data capabilities is, therefore, the clarification of the management, financial, and qualitative questions and factors which the MOE wishes to monitor and assess.

DECISIONMAKING AUTHORITY OVERLY CONCENTRATED AT THE NATIONAL LEVEL:
NEED FOR GREATER PARTICIPATION AT GOVERNORATE AND DISTRICT LEVELS

One of the primary goals of Basic Education is to develop educational approaches that are more relevant to the needs of students and to regional needs. Highly centralizing decisionmaking power at the national level facilitates the ease of making basic reforms, but also acts as a constraint on the participation of regional localities in decisionmaking that affects them. What is critical is the balance between centralized and regional autonomy.

Potential Courses of Action

- Encourage the community school model to respond to local community needs.
- For any aspect in which experimentation is desired, ensure that experimentation is undertaken in as many governorates as possible, with as much local adaptation as possible.
- Develop and support planning councils at the governorate level and involve them fully in implementing and evaluating experiments in alternative building design, in new curricula and materials, and in improved use of community resources.
- To the extent possible, given national budgetary priorities and the need for accountability, give governorates discretion in allocating finance in the capital budget (particularly for buildings) and in the operating budget.
- Exercise MCE influence on the local education systems less through budgetary control and more through the setting of standards and guidelines, and through the provision of central services such as textbooks and materials, specialized teacher training and allocation of secondary and higher education places.
- Strengthen central MCE capacities to provide technical support to governorates and districts in all functions, but particularly for data gathering and analysis, research, experimentation and evaluation, using both the MCE Directorates, NCFR, and university faculties.

- Strengthen materials production, storage, and distribution capabilities of the governorates.
- Develop local taxing authority or provide other incentives (e.g., matching funds) to encourage local contribution to education costs.
- Strengthen the parent-teacher organizations and involve them more directly in local planning.

Comments and Strategy

- See Technical Reports on Ministry of Education, Educational Finance and Budget Analysis, Social Analysis, Buildings and Equipment.
- Centralized control allows a core set of nationally standardized instruction and skills to be developed economically and quickly according to national objectives and values, but often at a cost in terms of quality, fit, and teaching strategy appropriate to different regions. In Egypt, the attempt at developing a standardized curriculum has aimed at producing a nationwide system of comparative quality, but what results is that students from remoter areas are evaluated at the same level and by the same criteria as more advantaged urban students. The school system thus provided becomes an urban model, promulgated by urban planners, for urban occupations, and attracting the best students away from their regional areas of origin. Materials tend not to be regionally relevant; social services are concentrated in larger urban centers; there is little local feedback on the content of instructional material; local research capacity to evaluate the local relevance of curricula is poorly developed and it is difficult to test alternative models. Local initiative and responsibility are discouraged, as is the kind of competitiveness between regions that might serve to improve the school system.
- The Basic Education program is the beginning of an attempt to deal with some of these problems. Now, on the governorate level, teachers are selected and hired locally; there is a limited curriculum authority being delegated to local areas to develop suitable social studies programs, and examinations at the primary level are now developed in the local area. One of the strengths of the central MOE in implementing the national Basic Education program is its ability to set national priorities and give leadership on such social objectives as the equitable distribution of opportunities to all children.

FINANCE AND FINANCIAL MANAGEMENT

The budget and accounting system has been designed primarily to satisfy the needs for accountability and administrative control of funds. Thus, the current budget structure does not provide the type of financial information that is important for purposes of decisionmaking, educational policy determination, and financial management.

Potential Courses of Action

- Prepare alternative projections of available resources in order to test the feasibility of educational plans in the event of changing GNP growth rates.
- Change the current budget structure in order to provide financial data for purposes of decisionmaking and policy determination.
- Reduce the multiplicity of accounts and funds, thus reducing the incidence of double counting of receipts and outlays.
- Develop a national school finance plan, based on an equalization formula, incorporating program weights and compensating for regional cost differentials.
- The proposed national school finance plan should include provisions for local taxes and/or contributions by major corporations and employing agencies to be used to finance local educational programs.
- Measure and analyze costs and benefits of selected educational programs within the framework of annual cost-benefit analyses.
- Conduct a production function analysis for the purpose of showing how educational outcome may change as the mix of labor and capital varies in the system.
- Develop a performance budgeting system that can be used to measure effectiveness and efficiency of ongoing programs.
- Develop a management information system (MIS) that would facilitate the monitoring processes with regard to budget implementation, and test the efficiency of the proposed school finance program.

- Establish building design standards; use cost determinants coupled with local cost indices; predetermine expenditure limits for urban and rural schools.

Comments and Strategy

- See Technical reports on Educational Finance and Budget Analysis, Buildings and Equipment, Teacher Training and Supply.
- A better data base would permit reviewing and analyzing teacher salaries in relation to economic indicators, such as the Consumer Price Index.
- A major obstacle to introducing elements of performance budgeting in order to broaden the range of budgetary functions is the fact that educational planning and educational financing are responsibilities of separate ministries.
- The network of budgetary regulations causes bureaucratic red tape and hinders, rather than encourages, decentralization of decisionmaking at local levels.
- See Technical Report on Education Finance, re: description of the three basic components recommended for inclusion in the Performance Budgeting System, i.e., 1) structural; 2) analytical; 3) evaluative.

INSUFFICIENT RESEARCH AND EXPERIMENTATION WITH INSTRUCTIONAL ALTERNATIVES

Neither the children whose future will be shaped by the change to Basic Education nor Egypt itself can afford any expensive false starts. Research and development efforts may not by themselves be able to prevent all mistakes, but through careful, thoughtful, and well-designed developmental research programs, many of the potential errors can be identified prior to large-scale adoption, thereby minimizing personal risk for the children and their parents, and minimizing the economic and psychological risks to which one is liable with false or halting starts. The current strengths of the National Center for Education Research, its administration, its commitment, and the existing university specialized educational research centers should be joined in a developing network of the regional universities, the teacher-training institutes, and the governorate level and local school district level organizations. Thus their latent talent could be developed in a nationally conceived, designed, and managed practical research effort on Basic Education which would also develop and strengthen regional research and development capacity.

Potential Courses of Action

- Continue experimentation with the Medinet Nasr Basic Education model, with all its component elements, an 8-year Basic Education model, in comparison with other 9-year models and their components.
- Break out subelements or components of the 8-year Medinet Nasr and other, 9-year, models and test them individually, adapting to local circumstances and lower-cost options, e.g., feasibility of using village shops and nearby farms as substitutes for building shops and acquiring land and, if feasible, what are the advantages and disadvantages and the costs and benefits.
- Encourage the development, field tests, and revision (with formative and summative evaluation) of the component curriculum emphases in Basic Education, e.g., problem-solving materials, kits, games, syllabi, texts, units in science and mathematics, inductive reasoning and problem-solving skills of use in "real" situations.
- Design and conduct a program of teacher effectiveness studies in order to reorient both pre- and in-service teacher education for primary and preparatory teachers in Basic Education.

- Begin a nation-wide developmental research program in conjunction with curriculum reform experimentation to develop a totally new student/school and school/system assessment and measurement system, stressing proficiency measures, normative-referenced placement instruments, diagnostic instruments, and a more comprehensive system of student performance recordkeeping for promotion and placement in which test scores are but one element; tie these into a performance budgeting system and management information system.
- Develop at local and governorate levels a set of procedures for deriving Basic Education school building or expansion and equipment plans and specifications from local analysis of need, with local citizen and professional participation, the whole subject to a set of national standards and codes for safety, health, etc.
- Build on the existing in-place research and development system structure through locating and training talent in regional universities, teacher training institutes, etc., joining existing elements into a network and developing a national plan for its operation and expansion.
- Develop and administer a modest national small-grants program in practical educational research, to encourage participation by university scholars and researchers from the social and behavioral sciences.
- Consider establishing additional specialized centers to complement the existing sciences/math and English language centers, starting with social studies, and annexing them to the National Center for Educational Research.
- Design, develop, and promote utilization of low-cost educational equipment and teaching/learning materials, through encouraging a system of local manufacture, production, and distribution, particularly of textbooks and instructional equipment.

Comments and Strategy

- See Technical Reports Ministry of Education, Textbooks and Materials, Examinations, and Buildings and Equipment.
- Expanding the current network of experimental schools to include a substantial number in each governorate is important; of equal or perhaps more importance is to experiment with a variety of models

and sub-elements in different regions so that diversity of experimentation is encouraged along with economy of effort.

- The current practice in the MOE of printing and distributing newly developed texts without any field trials should be abandoned, as should its companion practice of having them written in such a short time period that the in-school trials which should be the basis of development and revision, are prevented.
- The regional university faculties of education members and some of the teacher training institute faculty members should be trained to design and conduct these studies, with as much help as is feasible from cognitive and behavioral psychologists and others in the social and behavioral sciences.
- From its beginning, the nationwide developmental research program must involve a highly prestigious group of citizens, professional educators, psychometricians, prominent thinkers, and administrators, for it will result in a radical shift from a "set" in which examination practices are now nationally traumatic because of their importance, to a "set" in which examination scores are but one element in promotion and placement decisions.
- Local needs analysis procedure is of importance to the decentralization effort and to the development of national dialogue, from the village level up, on the vital issues of Basic Education which should result in a growing national consensus on the worthwhileness of the changes.
- The development of a national plan and a substantial budget increase for education and development directed at Basic Education is implied. The current NCEP budget is clearly inadequate to the job, though its expenditures are but some unknown fraction of the total educational research and curriculum development expenditure in Egypt.
- For these research and experimentation activities to function suitably, an objective system for soliciting proposals and judging their worth will have to be developed and rigorously administered.
- The temptation to use highly sophisticated equipment, learning aids, instructional packages, etc., should be sternly resisted. Much, if not most, of the Basic Education materials (except for library and textbooks) can and probably ought themselves to be "basic," i.e., simple, usable, easily manufactured, repaired, and maintained, and of affordable cost.

PROGRAM AREAS FOR POSSIBLE EXTERNAL ASSISTANCE

It is the assumption of the Survey Team that all initiatives in support of Basic Education are ultimately, and properly, the responsibility of the MOE. However, it is also understood and assumed that external assistance will be sought to assist some of these initiatives. While the Survey Team is not in a position to speak officially for either the MOE or for USAID and other possible sources of assistance, it is of the opinion that external assistance would be helpful in areas such as those listed below. These suggestions are not a complete listing of possible areas, nor is it possible at this point to make suggestions in sufficient detail for implementation. It is assumed that for each of these areas, further detailed analysis and planning will be required.

Possible program areas utilizing external resources and expertise include:

- Pilot school building design and construction for Basic Education schools, with as much attention to local design criteria, local participation, and use of local materials as possible.
- The development of a number of prototype pilot Basic Education instructional models -- one or more for each governorate -- with particular attention to teacher utilization and effectiveness.
- The strengthening of national educational research and curriculum development capacities through development of R&D capacities at several key centers, including centers serving the governorates.
- The strengthening of instructional materials development, production and distribution capacities.
- Financial management, planning, and budgeting.
- The development of a new educational assessment/measurement system and the development and testing of procedures and instruments.

SECTION TWO:
Technical Reports

Education in the Egyptian Context

Education in the Egyptian Context

TRADITIONS OF SCHOLARSHIP

Egypt has a tradition of scholarship that stretches back thousands of years to the beginning of the historical period. It is apparent from archeological records that successive generations passed along a well-developed body of theoretical and technological knowledge that, though changing in its details, continued undiminished in sophistication through Byzantine, Roman, and Coptic times, into the present Islamic period.

Of the historic schools of learning, the present educational system in Egypt is most directly affected by Islamic philosophy which until only a few short decades ago, was the prevalent scholarly form of learning extant in the society. Islamic scholarship combined a broad concept of the meaning of knowledge with a restricted set of specific areas a scholar needed to know. A partial idea of the horizons that open up to the scholar through his acquisition of learning is found in the meanings of the Arabic words related to scholarship. They are not readily translated into English without a series of equivalents to show the various shades of meaning. There is, first, 'ilm, which includes the meanings in English of knowledge, learning, lore, cognizance, acquaintance, information, and perception. In the plural, 'ulm, it means science. An 'alim (plural, 'ulama) is a scientist or scholar, including also the concept of religious scholar in the traditional sense. Adab, the term used for the branch of the secondary school or university, is translated as the literary or humanities section, and also includes the meanings of culture, refinement, good breeding, good manners, social graces, decorum, and decency. Interestingly, the literary section was always considered the most proper section for young women to attend, partly because of the supposed social graces they were thought to acquire there. Thaqafa, usually translated as culture, includes the meanings of refinement or education, and in the plural form, civilization. Thus, concepts of scholarship and education carry with them the notion of refinement and civilized behavior on the one hand and knowledge and science on the other.

The Islamic scholar acquired his state of knowledge by following fairly specific requirements. He memorized the irrefutable source of knowledge, the Koran, studied the Arabic language of that Holy Book, and listened to other scholars discourse on the interpretation of its passages. Facility in the Arabic language is considered an inseparable part of the Islamic religion, since the purest form of classical Arabic is found in the Koran. As a result, classical Arabic has attached to it a special value that is not found in other languages, even languages that retain older forms in the written language. At an early age, the Islamic scholar began his learning process in neighborhood

schools, kuttab, which were devoted exclusively to this traditional learning. Afterwards, if he had successfully memorized the Koran, and the sayings of the Prophet Muhammad, and did well in Arabic and Arab history, there were often opportunities for him to proceed to higher levels of learning, eventually leading to Al-Azhar University in Cairo.

Such learning brought with it higher social status. Especially in rural areas, it was a luxury to be released from arduous farm labor in order to pursue a traditional religious academic career and become one of the 'ulama or shuyukh (sheikhs). Prolonged academic careers leading to this exalted status were, however, not considered relevant to the needs of many groups in the society, such as farmers, women, and laborers. People generally valued the acquisition of enough of this type of learning to give them at least the rudiments of an understanding of the Koran and the Islamic religion, but most did not have the time to go more deeply into it. Still today, in rural areas, people have a high regard for the study of religion and Arabic that is reflected first in the fact that rural children may achieve higher scores in Arabic than urban children,¹ and second in the fact that the Islamic University, Al-Azhar, has the highest percentage (45 percent) of students with fathers from peasant as opposed to other occupational backgrounds.²

The first challenge to the system of religious education in Egypt came over a century ago. It was Muhammad Ali, in fact, who in his efforts to consolidate an independent power base, originated the idea of a new kind of training school to develop the technological and administrative skills to run his industries and his war machine. Rather than amalgamate the two kinds of learning, theoretical and practical, however, Muhammad Ali seems to have set the course for future divergence of these streams by creating a totally new form of education that emphasized what he felt were the kinds of practical skills missing from the primarily religious-oriented institutions of learning. The graduates emerging from these training schools were quickly monopolized by the State, and their labor was stigmatized by being tied to wage remuneration.³

Under British domination, official policy continued to be one of regarding education as a training ground for administrators and technicians. Any kind of universal or higher education was regarded as potentially creating a threat

¹"The Problem of Dropouts," a study prepared by the National Council on Education for Technical Training, reported that in comparisons of school children from rural and urban areas of Kafr El Sheikh and Sohag Governorates, the rural children surpassed urban children in math and Arabic.

²Ayoubi, N., 1975. "Bureaucratic Evolution and Political Development: Egypt 1952-1970." Unpublished PhD dissertation, p. 370.

³Ibid., p. 107

to British rule. during this period, the connection between education and obtaining a post in the government bureaucracy became firmly fused in people's minds, even though the government policy of providing a guaranteed job for university graduates was not established until later, in the Nasser period.

After the 1952 Revolution, and in response to popular pressure, the government initiated the concept of universal education in an effort to open up opportunities for a broader spectrum of the populace. The schools of this period combined the traditional emphasis on religious and Arabic instruction with instruction in the "modern" scientific subjects thought to be a prerequisite for any industrializing country. This combination fit in nicely with the already implicit meaning of "science" in the Arabic word for scholarship, ilm. But ultimately, it was universal educational opportunities and the prospect of a guaranteed job at the end of the modern academic route which provided the competing source of educational instruction that caused the withering of the older kuttab system in much of Egypt. Many vestiges of that system were carried over however into the "modern" system: reliance on memorization, a high value placed on the printed word, unquestioned authority of a master, and dependence on a single textbook source for a class subject. The emphasis on religion and Arabic in schools has preempted the position of the kuttab in teaching these subjects and reflects the Islamic belief that religion and education cannot be divorced, just as, ideally in Islamic philosophy, the religious and the secular spheres cannot be entirely separated. Though elements of Western educational systems have been borrowed by the Egyptian system, concepts of Islamic scholarship have helped the system maintain its own originality and symbolize its individual nature. As one scholar noted: The goal of an Islamic education is to improve both the material skills and the spiritual development of the individual in an integrated way; "Technological progress is good as part of progress, but not as an end in itself."⁵

Some people, however, object that in the educational system which dominates today in Egypt, learning has lost its original goal, which was to provide a better understanding of Islam. Children in villages still often give as a reason they want to be literate, that they want to understand Islam better. There is interest nowadays among some of the population in reviving centers of Islamic learning, using the mosque as a place where children in urban and rural areas can come after school to improve their knowledge of the Koran and Arabic and be tutored in modern courses that they are having difficulty with in school.

⁴ Ibid., p. 115.

⁵ Ahmed Ezzat Kareem, "Modern Egyptian Culture," in Yusef Salah el Din Kotb, Ed., Education and Modernization in Egypt, p. 55, 1974.

GEOGRAPHY AND EDUCATION

A theme that runs through the discussions of educational structure and administration relates to the question of how to make the availability of educational opportunities more equitable throughout Egypt. This problem on the one hand is concerned with differences in peoples' needs over large geographic areas and on the other, with the kind of administrative system that dispenses educational services. At the present time a centralized system of administration is in effect but there is discussion of how, in certain areas of responsibility, greater regional autonomy might be used to more fully achieve the goals of equity and relevance.

The historical development of centralization in Egypt has been explained in different ways by various scholars. Wittfogel's hydraulic theory emphasized the complicated Nile irrigation system as the main cause, while other theorists proposed ecological, cultural, or religious reasons as the basis for the rise of complex, highly structured, centralized political bureaucracies. Most of these theorists highlighted the particular environmental variables that create the unique conditions found in Egypt: the single water source, the limited stretch of cultivatable lands on either side of the Nile, a population strung out over hundreds of miles, features of a basically peasant economy that go back many centuries, and a position at the intersection of worldwide trade routes. These conditions set limits on, as well as provided opportunities for, the kinds of political control that are possible in Egypt.

Scholars writing more recently on centralization⁶ are demanding a reappraisal of some of the older theories, feeling that these were reductionist and did not fully encompass the complexity of the factors involved. The new approach appears to be a better explanation of reality, helping to explain more adequately the disparities that appear in certain areas of Egypt. According to this view, a deeply seated (as opposed to a superficial) centralization of bureaucratic administration was a relatively recent phenomenon brought about as a method of keeping control over geographically large areas. Day-to-day administration had always been handled locally through the informal channels of family and village organization, until recently when some of these functions were taken over by the central government.

According to the new theory, water was an important element in political organization, but rather than acting as a catalyst for the creation of large central administration, it encouraged regional (or subnational) forms of organization. Most of Egypt's history has been that of adjusting to a variable

⁶See K. Butzer, Early Hydraulic Civilization in Egypt. University of Chicago Press, 1976.

water supply and attempting to broaden and intensify the area of land under cultivation to increase productivity. ("Food security" is President Sadat's number one priority even today.) Water was reasonably abundant, so it was not in itself the basis of competition on a large scale. In the narrow cultivated plains found primarily in Upper Egypt, where water is drawn directly from the river, water distribution is manageable without complex systems of organization. Settlement occurred first in these areas and in other areas directly alongside the banks of the Nile as far north as Cairo. Areas of broad floodplains, like those formed in the Delta north of Cairo, required technological advances and organized work forces of a much more complex level of organization than the simple river front forms of farming in order to make the vast areas of farm land set back from the river marginally productive. But once the technology, administrative capacity, and labor were available during the Greek period, population centers shifted to the Delta from the narrow ribbon of fertile land that constituted the Nile Valley.⁷ Until modern times, the most active political centers are still found in these Delta areas, along with populations who, relative to other parts of Egypt, are more literate and progressive in their thinking.

According to this theory, water did not provide the means of controlling the whole country or even of whole regions. Instead, it provided the impetus for local cooperation in basin irrigation and the formation of relatively independent villages and small regional centers. This situation was reinforced during the Ottoman period (1517-1848) when the government made an attempt at large-scale centralization. The Ottomans ruled by means of the millet system, a system of small independent communities. The rulers were not interested in becoming deeply involved in administrative details, so those local actions that were necessary were carried out through local administrators. As a result the millet system encouraged the creation of identifiably separate social units, organized internally, and did not attempt to restructure local institutions in any serious way.

On top of this indigenous system, however, the government established a vertical chain of command that led eventually to the capital in Cairo. This provided the vehicle by which the bankrupt Ismail Pasha could later extract more taxes and labor from his constituencies. But even the greater involvement of the following, British-dominated government in local rural politics was not effective in breaking down what were local systems of cooperation and dispute settlement.

Today in Egypt, the presence of the central government is more strongly felt in rural areas as a result of the modernizing process. Citizens have come to expect the central government to provide a number of services:

⁷Butzer, Ibid.

education, health services, agricultural credit and cooperatives; social insurance and social welfare. Complex bureaucratic systems have developed to administer these services, and outsiders are frequently appointed to oversee them. Yet the administrative areas they cover do not always encompass all the functions provided earlier by the sheikhs and the leading families of the village. Most villages still have respected leaders who fulfill the functions not performed by the government, and in many rural areas, appointed officials have realized that they work more effectively through what remains of the informal village systems of administration.

Where does education fit into this transitional rural situation? Now, the cream of the rural community, the sons and daughters of prominent families, are attracted to distant cities to pursue the occupations that their academic careers have prepared them for. The effendi who is cajoled into taking up an official position in the rural community normally does so only reluctantly, wishing he were in a large urban center instead. His contempt for village life and the example he sets as a salaried nonmanual worker creates a model for village children to emulate if they choose to escape the hardships of agricultural labor. The main channel of escape is through a prolonged academic career (or, at a lower status level, by conscription into the army). Eventually, academic training leads to a university in the city and eventually to migration there, where the work opportunities are greatest for an educated person. MOE officials estimated that in 1979, 50 percent of the highly educated university degree holders in the country live in Cairo. And in 1969 it was estimated that Cairo had about one-half of the university graduates working in government and public sector employment, serving only 14.3 percent of the total population.⁸ What is perhaps more significant in terms of rural communities is the cultural impoverishment of the village that occurs when the "cream" of the community's young people hold urban values and pleasures in higher regard than village values, and migrate as soon as possible to the cities. With the focus of attention drawn to city life, village systems of organization begin to break down. On the one hand, government bureaucracy extending into the village offers alternative and competing channels for solving local problems; on the other hand, few individuals in the younger generation are left who command sufficient respect or have the experience in local politics required to fill leadership positions.

Education has been instrumental in hastening some of these changes, and in turn it has been more readily accepted because of them. It is generally recognized that providing extensive educational opportunities for rural communities has helped to create displacements in the current agricultural labor force. Agricultural wages have increased dramatically in most areas of Egypt. Rural mechanization as a result has become more economical, and in

⁸ N. Ayoubi, op. cit., p. 118.

many cases, more urgent. As the momentum increases, it is inevitable that ever larger numbers of rural people will need to train themselves for work outside of the agricultural sector. And those not preparing themselves now may in a few short years find that their ability to respond to new alternatives is severely limited. This means that educational planners must pay special attention to first synchronizing the labor force demands with training opportunities, and second, ensuring that the educational process is relevant to regional needs and does not simply force the displacement of individuals to new environments.

SOCIO-ECONOMIC GROUPS

The fact that Egypt has a peasant economy also shapes the values and perceptions of individuals in Egyptian society. A person who is tied to the land does not flee his place of residence as easily or as quickly as, for example, a nomad does when the environment changes. He learns to accommodate to his environment and to the adversities that seem to him to have no rational means of prevention or elimination. He values religion highly as a means of reassurance and security. Because he lives on the margin, he depends on the support of his group and learns to withhold satisfaction of his own needs where his personal support for the group is required. He values more highly the skills of interpersonal relations in order to develop a secure niche in society than he does the impersonal skills of, for example, efficient "management," which in a crisis may not be so easily called upon for aid.

Contrary to common belief, the situation is not measurably different for the average Egyptian urban dweller. He has lived with a straitened economy through years of colonial domination and a series of debilitating Middle East wars. He has, in fact, little more margin of economic security than the rural inhabitant, and perhaps even less, since he is fully dependent upon a monetized economy. Like his rural cousin, he seeks the channel that provides security in the foreseeable future, rather than the course that is uncertain or one that may have much longer term possibilities.

In the first half of this century, frequent exchanges of individuals between villages and cities, either temporarily or more or less permanently, have broken down some of the differences between these two groups of people in Egypt. Urban values continually are being reinforced with village influence, especially in the popular, lower-income quarters of metropolitan areas such as Cairo, and conversely the urbanized children of village dwellers bring back a somewhat different perspective on life when they return to the countryside for visits.

With the simple basin irrigation and subsistence economy that has characterized much of Egyptian history, there was relatively little division of labor, and class distinctions remained minimal. In fact, there was no private land ownership in Egypt until late in the reign of Muhammed Ali (1805-1848), when he began to disperse what had been until then state lands, to some of his loyal supporters. By the 1880's, most landowners had acquired full possession of the lands they cultivated, and a new land-owning class was established. The introduction in the 19th century of perennial irrigation, which allowed the production of cash crops, accelerated the process of social differentiation. By encouraging cash crops, and providing overseas markets for their sale, colonial ruling groups stimulated the process even further until there emerged a clear social stratification. At the top of the pyramid were foreign elites, then below them the native elites, then bureaucrats, craftsmen, laborers, and finally, peasant workers. As mentioned above, the government used education during this period to develop a civil service obedient to an elite class, but education was not intended to be a universal benefit nor to develop an aware population.

Efforts after the 1952 Revolution to open up education to a wider spectrum of the Egyptian population met with success in some ways. Certainly there is no question that many more children were able to benefit from a primary level education and that these children came from a broader spectrum of rural and urban, lower, middle, and upper class families. In this respect, education was no longer confined to those who could afford private schools or those who wished to follow a religious education only.

But there is still the question of who could afford, and was interested in, continuing through an entire academic career up to university level. Aziza Hussein, speaking about women's education, points out that before the Revolution it was only the liberal segments of the middle class and the upwardly mobile individual in society who pursued a university degree (presumably to obtain the civil service positions that university training prepared them for). Elite occupations did not require extended periods of education. After the Revolution, upper class girls, for whom secondary school certificates had been sufficient in the past, enrolled in higher educational institutions as security in case they were not able to find rich husbands in the new economic environment.⁹

What Hussein was pointing out was not that high educational levels were attained by all classes of the society. Rather, she was commenting on what was an increasingly noticeable phenomenon, the fact that some classes that had been educated before were simply filling more of the spaces in educational

⁹A Hussein, "The Role of Women in Social Reform in Egypt," Middle East Journal 7:4, 1953.

institutions as a result of instability in the economy after the Revolution and even the upper classes were beginning to feel the necessity of academic training. People could no longer count on their class position to gain them an income; they needed academic credentials. A study published in 1968¹⁰ indicates the extent to which university education continued to be the province of the privileged classes. In the study, 475 students at Cairo University were asked to identify their father's occupation, and the vast majority reported that their fathers were from the ranks of the middle and upper classes: professionals, 33.2 percent; minor civil servants, clerks or sheikhs, 23 percent; landlords, in private enterprise, or rentiers, 29.3 percent. Only a few came from worker (5.6 percent) and peasant (5.8 percent) families.

A number of factors prevented the children from working class or peasant family backgrounds from receiving more than elementary levels of education. Parents found it expensive to send children to free schools. It required special dress, school supplies, tutorial fees, sacrificing the child's labor potential and a number of other costs that are perceived as significant only by people with very limited incomes. In lower-income environments, it was not always clear how the benefits of a bureaucrat's salary at the end of the schooling would compensate for the sacrifices made. Families that could manage to send children to school in the early years found it increasingly difficult as the child's income potential increased, especially when, as often happened because of the poor environment at home, the child did not do well in school.

Such combinations of factors made it almost a foregone conclusion that the children of educated and elite families would keep their monopoly on long-term educational opportunities. Education levels in turn set both maximum and minimum levels of social-economic status and opportunity. An illiterate person, for example, cannot expect to be promoted beyond the eighth grade in the government's personnel scale, and those with secondary degrees stop at the fourth or third levels, while only those with university or higher qualifications go beyond to positions in the administrative elite. When looking at the structures that create such inequalities of opportunity one may ask, as Ayoubi does, why "public employment (should) be more carefully secured for university graduates than for lumpen proletariat and under-employed peasantry?"¹² A full academic training assures at least middle class status in Egyptian society and guarantees a secure job in an economy that is still struggling to recover from its recent difficult circumstances.

¹⁰ Shaf'haq, Mahmud Abd al Raziq, 1968. "Role of the University in Training the Egyptian Elite," in the National Review of Social Sciences 2, 3, pp. 251-261, 429-455 (Arabic), quoted in N. Ayoubi, op. cit., p. 370.

¹¹ N. Ayoubi, op. cit., p. 336.

¹² Ibid., p. 361.

The fact that school is free and open to all does not, unfortunately, lead to universal long-term education of the masses. That goal may require addressing the factors in society itself which prevent certain groups from taking advantage of the opportunities available.

EDUCATION AND FAMILY

The final social unit in Egyptian society that requires some comment is the family. It is undoubtedly the most significant and most basic of Egyptian social groups. In terms of education, what happens in the family has a determining effect on whether a child goes to school, how well he or she does in school, and how long he or she remains in the system.

The nuclear family in Egyptian society considers itself a unit that has responsibilities for all its members. The responsibilities include economic help, services, and emotional support. They also include maintaining family honor and public reputation. This is true whether in an urban, rural, poor, or rich family. The differences between families lie mainly in how these responsibilities are carried out. Family members discharge their obligations to each other by all contributing their efforts to the common good, and benefiting in many ways from the association. Where some member of the group has found success, his achievement reflects on the rest, and in some cases the family may make sacrifices in order to allow one of its members special opportunities not available to the rest. For example, it is not uncommon in villages or low-income parts of cities for a family to support one or more children who show academic promise, by agreeing that other family members will sacrifice to make that possible. One child may be brought up to farm the land while others are encouraged to get the kind of training that allows them to work in urban areas. This kind of mixed economy has the benefit of spreading the risk and maximizing the benefits that a family experiences. A grown child who has achieved steady employment often will feel an obligation to help other younger siblings obtain the same kinds of opportunities, and even help pay their cost of living in the meantime.

The family, therefore, may by its sacrifices as a group make possible the prolonged education of some of its members, while if resources were spread equally, it would prevent any but minimal levels of attainment. The fact that all family members feel the reflected success of exceptional individuals helps to ease what might otherwise be felt as a form of injustice.

In some cases, the child may benefit positively from the support of his family when going to school, while in others the effect may be the opposite. His obligations to family come first so that if the needs of the family dictate that he leave school to earn money, to do farm work, to help in the house, he

must do so. On a less drastic level, students (usually lower-income) complain of how little parents understand their needs as students, of how they have no quiet place to work, or how they are called on constantly to run errands or do chores such as bringing refreshments to their parents' guests. A middle-class child may have the opposite problem with parents hovering continuously, "helping" him to study, or finishing off practical homework projects quickly so that the child can get on with the "important" subjects that will guarantee success in the leaving exams.¹³ Middle-class parents are especially concerned about the school work their children are doing. They recognize that middle class status is only sustained through success in the educational system.

Another factor in the Egyptian family that affects which children go to school and what subjects they take relates to the fairly rigid role segregation between men and women. Tradition and certain civil and religious laws all combine to define a man's role as one of economic supporter and a woman's role as one concerned with household and child care responsibilities. Civil law recognizes the basic equality of male and female in politics (voting and the right to hold office) and in employment (opportunities and wages). But the personal status code of shari'a Islamic law recognizes basic differences in male and female responsibilities, and few in society would deny these differences exist in people's perceptions and practices. The implications of this point of view, if carried to the extreme, are that the sexes have separate kinds of needs, must be treated in different ways, must have different responsibilities, and require different kinds of training. For the most part, schooling has perhaps been a moderating influence on this extreme perspective. The school system generally encourages girls to go to school and requires them to take most of the same courses as boys. When girls voluntarily stay home in greater numbers than boys or drop out earlier, it is parents rather than educators who are usually responsible.

The parts of the civil law that address the question of the need for equal employment opportunities and wages for women have implications for the educational system that have perhaps not been fully recognized by educators. The law was established in order to draw women into the productive machinery of the Egyptian economy for the purpose not only of increasing productive capacity but also of creating greater economic security for the family. It is a difficult law to enforce. Female agricultural laborers are often, in practice, paid half the wages of men for the same work, and factories consistently define some jobs as male jobs and others as female jobs. The

¹³ Egyptians often comment that the country stands still during the period when students prepare for major exams. Parents may take leave from their work to help the child study; fathers may put off business trips. Even the numbers of patients admitted to hospitals are reduced considerably as people put off treatment that is not urgent for a more convenient time.

traditional bias against permitting women to take jobs that require regular contact with men has long affected the kinds of salaried and wage labor possible for women.¹⁴ But to the good, seclusionary practices may also have encouraged young women to go further in their studies than they otherwise might in order to achieve the socially acceptable professional positions that are most coveted for women.

Although, as mentioned, the educational system has often tended to have a more progressive approach than many parents on these issues, still educators have not taken as strong a stand as they might. In particular, the differentiation between certain courses for boys (industrial arts) and others for girls (home economics), the separation of the sexes after primary school, and the designation of certain technical and vocational institutions as single-sex schools all are examples of ways that the school system is reinforcing behavior that is contradictory to the spirit of the equal employment laws now on the books. Such laws imply the right to equal opportunities in training and to not being denied a job because it is a sex-designated job.

There are other practical implications of sex differentiation in education. Girls generally need to know how to change fuses or make plumbing repairs perhaps even more than boys if they choose to remain at home as housewives. If they go out to work, it is even more crucial that their husbands have some basic knowledge of home economics to give them a hand in household management. Keeping boys and girls separate in their school years creates an unnatural barrier between the sexes that makes it difficult to interact in the work place in a natural way. Perhaps the most serious case is when a girl of moderate academic ability is denied the opportunity for suitable vocational training just because she is female. If she has potential, the training may make a difference later in her family's economic security.

Encouraging trends are being seen in various areas of Egypt that give evidence that the MOE recognizes many of these problems. Schools above the primary level are rapidly becoming co-educational, vocational schools are being opened on an equal basis for boys and girls,¹⁵ and some schools are offering an integrated course in home economics and industrial arts for both boys and girls. An explicit policy statement concerning these issues might

¹⁴Nadya Youssef has written extensively on this problem, pointing out that Egyptian women make up a much smaller percentage of the nonagricultural working force than in other countries of comparable development level. Bias against contact with men has served to keep them out of the services industries and disproportionately represented in teaching positions where, until recently, sex-segregated working conditions have been common.

¹⁵The rapidity with which girls take advantage of these opportunities indicates the readiness of many families to break new ground.

be helpful at this time to further encourage changes in the remoter areas of Egypt.

How does this affect the family? Or, conversely, how does what is happening in the family affect these processes? First, many families now are finding it difficult to live on the income of a single wage earner. The middle-class and educated classes in general have largely accepted the fact that women will work if they can, and in fact the marriageability of a young middle-class girl is enhanced if she has a marketable skill. The advantage to the family of women working is that not only is there a second income but children may also be relieved of income earning responsibility so they can continue longer in pursuing their education. Educated women may make better mothers because they are aware of modern hygienic and health practices, and have more understanding of the educational needs of their children. If they work outside the home, they also tend to have fewer children.

Some researchers suggest that women's wages are more frequently used in ways that development planners feel enhance the quality of life for families: for medical services, educational opportunities, better food, and better housing. Increases in a man's wages, especially among lower income groups, are just as likely to be spent on luxuries such as cigarettes or at the coffee house.

Within the family itself, changes are bound to occur as a result of more extensive educational and work opportunities for women. And many of these changes may be perceived as threatening to both men and women alike. The traditional position of the male in the household with authoritarian rights over his wife and children, control over decisionmaking powers, and as final arbiter of family concerns, is bound to be modified as women gain more influence in the support functions of the family. Women should gain a greater sense of economic security, which in turn may relieve them somewhat from the constant insecurity many feel as a result of easy divorce laws. And men should be relieved of shouldering the full responsibility for family financial support now, at a time when that responsibility is becoming more and more difficult to sustain by one family member alone. One sees public pressure building all over Egypt "to get children educated." Parents who did not send their children to school a few years ago now want to send them if only to nonformal schools. The educational system bears the responsibility for providing the appropriate opportunities, where needed, for encouraging reluctant children who will otherwise be left behind in the rapidly changing economic situation, and in seeing that the directions taken by the education system will provide equitable preparation for the children's adult years.

Student Access to the Educational System

Student Access to the Educational System

EDUCATIONAL LEVELS

Table 1, The Educational Ladder, indicates the pattern of student flow from one level or stage of education to the next. The first level is a preprimary stage for children who have not reached the age of 6. Kindergartens are not part of the compulsory public school system, however, though the government has established a few of these schools. For the most part, kindergartens are private, located in better neighborhoods and charge fees. For this reason, only a very small number of students attend preprimary schools. For example, during 1978-79 there were only 59,050 in preprimary schools out of a total of 6,876,702 students in all stages of education except colleges and universities.

Children between the ages of 6 and 12 are expected to attend primary schools. Theoretically, their attendance is compulsory, but in fact the rules are not enforced. Children in the primary schools advance more or less automatically through the grades except at the end of second, fourth, and sixth grade, when examinations are required. For second and fourth grades, the examinations are prepared in the home district (the zone) and are locally administered. The sixth grade examinations are developed in each governorate under procedural instructions from the Ministry of Education. Success in them assures the child entrance into the next stage of education, i.e., the preparatory school. Children who fail portions of the examination (usually administered in May) are given the opportunity to retake them in August. Should a child fail more than a specified number of subjects, they may repeat the year. Under no circumstances, however, may children be kept in the primary school after they have passed the age of 14. In such cases, children simply drop out of school or enroll in a private school.

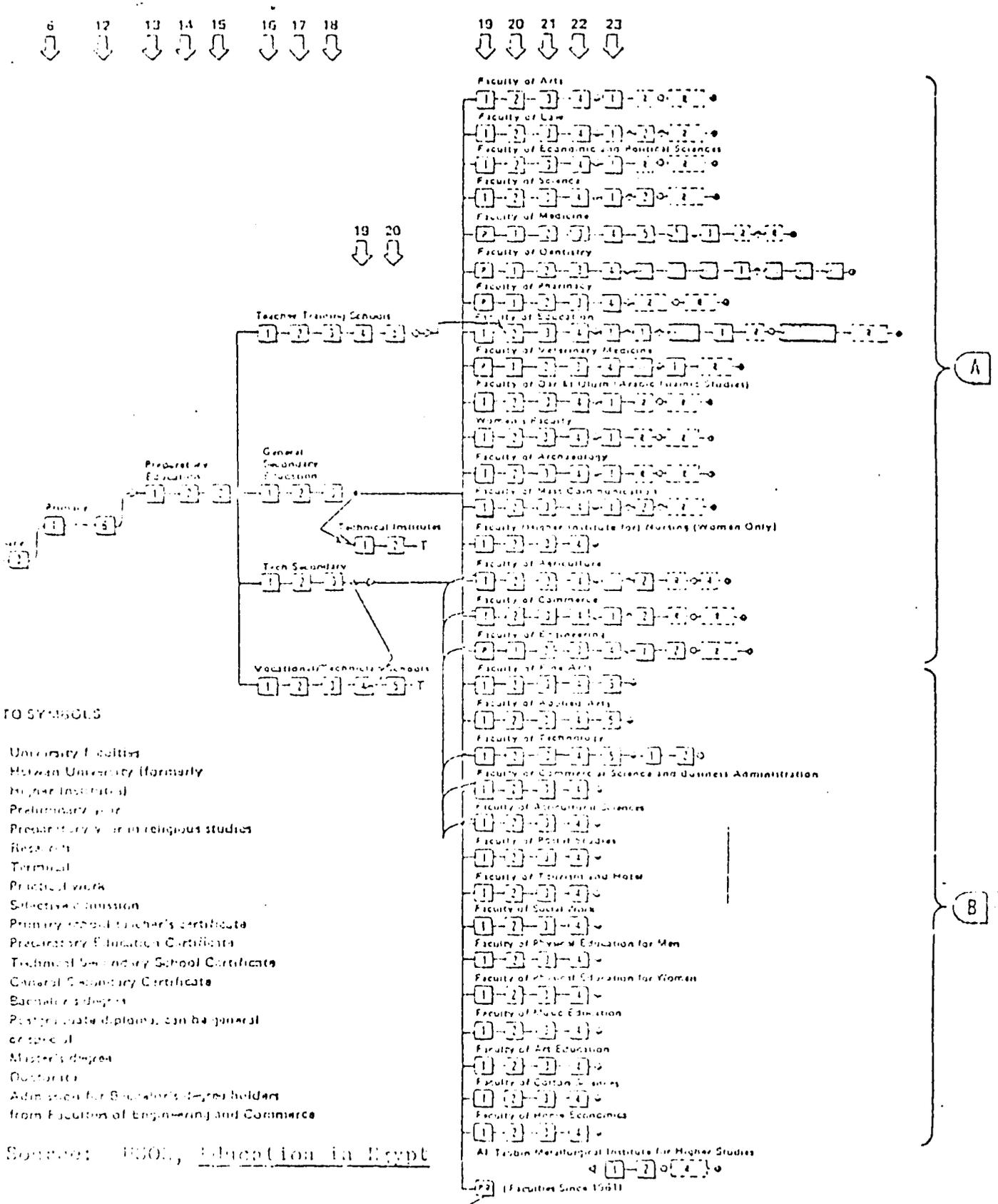
Tables 2 and 3 indicate the number of students enrolled in schools at different stages of education. During 1978-79 there were a total of 4,287,124 students enrolled at the primary stage. These students constituted 68.2 percent of the relevant age group (6-12-year-olds), the total of which was 6,286,000 children.¹

¹It is not clear whether or not the number given includes repeaters. The team was unable to obtain any information on repeaters. If this figure is not adjusted accordingly, then the percentage of students in the relevant age group would be smaller, and it would be extremely difficult to make any kinds of realistic projections.

TABLE 1

EDUCATION LADDER

ARAB REPUBLIC OF EGYPT



Source: UNESCO, Education in Egypt

At Aghar University (All Faculties)

TABLE 2

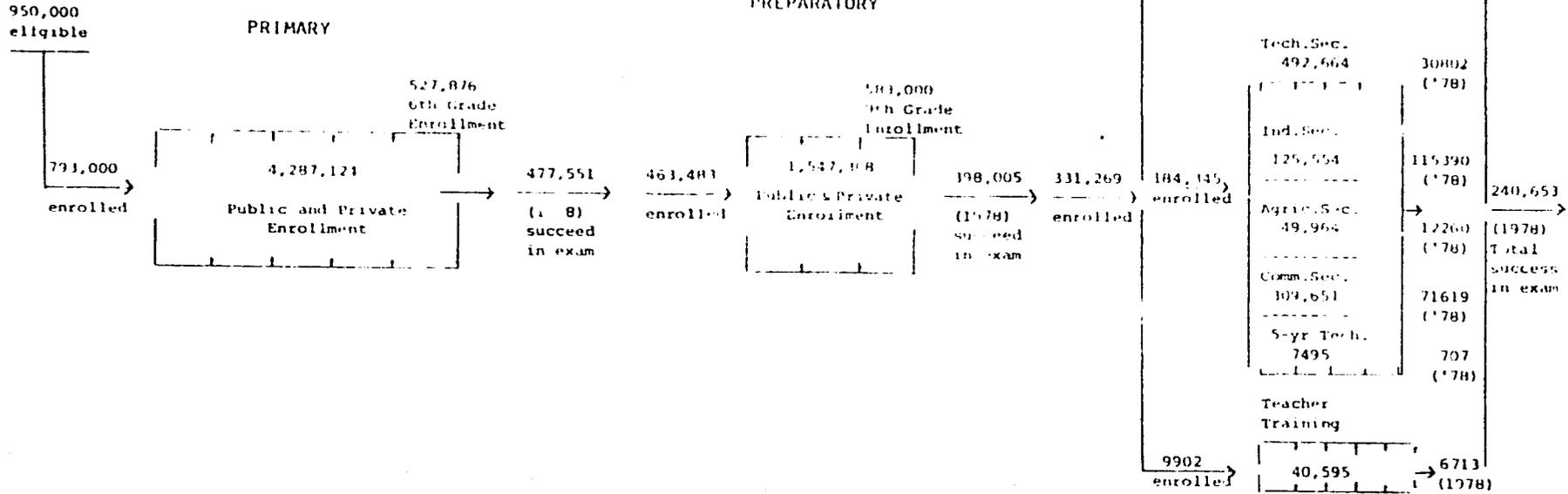
R E P O R T
The Total Number of Schools, Classrooms, New and Registered
Students in the Different Educational Stages for the
School Year 1978/1979

Education Stages	No. of Educational Units		Total No. of Classrooms	S T U D E N T S					
	School	Divisions		New			Registered		
				M.	F.	Total	M.	F.	Total
Kindergartens	35	319	1102	16321	16671	32992	20512	20532	41044
Primary	19172	69	102193	511561	129841	641402	247643	179002	1077435
with Fees	132	171	715	2731	1085	3816	1117	683	1800
Total	16604	447	107437	491571	129926	645572	248760	180085	1077134
Prep.	1732	141	11205	21191	11706	32897	11711	5010	16721
with Fees	246	86	712	2535	1034	3569	4140	1722	5872
Total	2022	1307	19657	24859	12740	40386	15851	6732	22593
General Secondary	369	115	8942	9117	11256	20373	21712	12112	33885
with Fees	137	155	2119	1472	2146	3618	3819	4033	7652
Total	497	250	10861	9621	13402	24001	25531	16145	41537
Industrial Secondary	122	6	3747	4085	5241	9326	11189	11661	22850
Agricultural Secondary	55	1	1491	1614	2179	3793	4525	4069	8594
Secondary Commercial	106	55	6139	11602	11954	23556	21227	115529	137086
with Fees	25	216	1674	2129	1195	3324	1524	8772	10296
Total	220	281	8213	13731	13149	26880	22751	124301	147382
Technical	-	-	11	123	102	225	231	226	457
with Fees	1	-	6	103	-	103	101	-	204
Total	4	-	17	126	102	228	232	226	461
with Fees	1	-	6	103	-	103	101	-	204
Total	12	-	23	129	102	231	233	226	465
Total	409	288	14471	114454	13691	128145	107930	102734	210664
Teachers' Ratio	69	10	1209	4056	661	9002	21117	10278	40595
Total Secondary Classrooms	975	540	26556	205518	123741	329259	214107	162347	376454
with Fees	51	18	271	556	363	919	401	2131	6226
Total	1026	558	26827	206074	124104	330458	214508	164478	382680
with Fees	2	3	12	24	37	61	27	27	54
Total	1204	574	26839	206147	124141	330519	214535	164505	382734
with Fees	257	293	1791	5350	1406	1925	1001	1161	2222
General Total	11700	2687	175775	975707	645559	1621265	4217574	2659128	6876702

SOURCE: Translated from MOE materials.

TABLE 3

STATUS OF THE DIFFERENT EDUCATION STAGES & TYPES
SCHOLASTIC YEAR 1978/79



SECONDARY & EQUIVALENTS

976,334
TOTAL ENROLLMENT

Succeed
in exams

During 1978-79, however, there were 793,072, or 83.4 percent² of the relevant age group (6-year-olds) enrolled in the first grade of the primary school. If the trend toward increased enrollment continues and if students are retained in school for the entire 6-year period, it is possible that the enrollment targets of 5,029,000, or 81 percent of the relevant age group, may be attained by 1980-81.

Of the 477,551 students who finally completed the primary school, 463,483 or 98 percent entered preparatory school. The total number enrolled in the 3-year preparatory schools was 1,547,303, constituting 59.8 percent of the 2,585,000 children in the relevant age group (12-15).

Though impressive progress has been made in the last two decades to provide educational opportunities for all children, it is clear from the data presented in this section that a good portion of the relevant age groups 6-12 and 12-15 years of age are not in school. Approximately 32 percent and 42 percent of children of primary and preparatory age, respectively, are not in school. This makes for a total out-of-school population of children and youth of about 3 million. This is a significant number out of a total population of approximately 40 million. Before turning to an examination of who is enrolled or not enrolled, we need to ask what kinds of training the various educational stages provide children who do not complete the entire ladder. In other words, what are children prepared to do at various stages?

SCHOOLING: PREPARATION FOR WHAT?

Basic literacy allows a child to function more efficiently in society. It is estimated that to acquire functional literacy requires a period of not less than 4 years of schooling. Below that level the student may not be much better off than if he/she did not attend school at all. A group of children in a country school responded as follows when asked how literacy benefits them:

- "1. It 'lights up our minds' to read. We know about our country and its problems. We can read how to be healthy, clean, and how to do things correctly.
2. When we go to visit in the town, we can read the street signs so that we don't get lost.

²Other sources report that this number should be 78 percent, since the higher figure was calculated off a smaller population base than has now been found to exist.

3. We can read the newspapers to ourselves or to others in the family.
4. It gives us a higher status in the village.
5. We can read the Koran and know more about our religion.
6. We can write letters to the government when we need to, for a request or to complain when we see something wrong."

When asked if basic literacy helped them to find work or earn money, they all said emphatically "No;" that for the kinds of work available (mostly field or manual labor) literacy was not a necessity.³ Moreover, the time spent in school interfered with time spent earning money.

Completion of elementary and preparatory school programs as they now exist does not basically change this situation. Children expand their knowledge and improve the skills they have already learned in the early years of primary school. The major qualitative leap first comes with the acquisition of basic literacy and numeracy. The second qualitative step comes with the completion of secondary school (general, technical, or vocational), when income-generating capability is added to the advantages of functional literacy. General secondary degrees can usually be parlayed into white-collar, nonmanual labor: clerical work in stores, low-level desk jobs, and other kinds of work where proficiency in reading and writing is required. However, unlike the case for university graduates, the general secondary graduate is on his own to find employment. He has neither the security of a guaranteed job, nor the benefits of a minimum wage ceiling. Secondary school graduates are not competitive with university graduates in their ability to obtain the better jobs that both these groups find attractive. What the secondary school diploma does, however, is begin to define the lower limits of the middle class, and provide an improvement in social status for the individual from a lower socio-economic level.

By contrast, technical and vocational schools are designed to provide marketable skills for their graduates, and as a result, work opportunities may be more secure, though with less social prestige, than for general secondary graduates.

University graduates have the most secure future with a guaranteed job, assurance of white-collar work, social benefits, and not less than middle-class status. Graduates value this security, sometimes turning down better paid positions in private business in order to be assured the benefits of a government job.

³Factory work often requires a test of functional literacy. In such cases, elementary literacy does open employment possibilities.

PARENTAL EXPECTATIONS OF SCHOOLING

Even though the school administrators and parents speak frequently of education as teaching children hygiene, health, social values and discipline, expanding the mind and encouraging good citizenship, the fact remains that parents think primarily of education in terms of children becoming prepared for their life's work. The parents' perception of what that life work will be affects whether children will be sent to school at all, how far they will go in the system, and which channel of the system children will hope to follow.

Parental aspirations are naturally high for their children, especially in the early stages of education before the child's capabilities have been tested. Groups of elementary school parents in various parts of Egypt reported most frequently that they wanted their children to become doctors and engineers, both high status careers requiring high scholarship attainment. Sometimes, regional differences were reflected in a desire for specific skills. For example, in Aswan, where the tourist industry is important, parents want their children trained from the start in foreign languages. Parents also privately expressed the belief that girls must be trained in skills so they can work after marriage; women with skills have an advantage in the middle-class marriage market. The gap between the educational level of boys and girls in rural areas must eventually lead, if it has not already done so, to dislocations in the marriage potential for girls. Parents tend to respond rather rapidly to problems of this kind.

In almost every case, parents want their children's education to provide the skills that would prepare them for their adult lives. They become impatient with school programs that do not clearly lead to these goals as they perceive them. The parent who wants an academic career for a child is impatient with industrial arts training, for example, while the parent who expects a child to be a skilled laborer welcomes the opportunity for him to begin practical training. Specifically, what parents of children already enrolled in the schooling system want is for their children to be prepared for employment to the highest status occupation the parents feel the children are capable of attaining. They are not necessarily asking that courses be relevant to their particular socio-economic environment. The rural parent who is supporting long-term education for a child knows full well (in fact, wants) that the child will seek a more prestigious nonagricultural urban career after graduation. Parents are an important ingredient in the educational choices that are made for children. Their ambitions for their children often tend to make them react conservatively to proposals for changing the system. A known system with clearly marked channels of success provides more security than one whose outcomes are less well understood. For these reasons, parents and educational planners may find themselves in opposing camps unless a

dialogue is encouraged between them. The other alternative, which is to arbitrarily initiate programs without the support of parents, has sometimes aroused strong reaction according to Ministry officials, and the programs have had to be abandoned or modified considerably.

How are parents formally involved in the education process? A Ministerial decree (No. 34) was formulated in 1971 to require a parents' association for every school at the pre-university level. Each association has a council composed of parents and teachers selected from the larger membership. Students are permitted to serve on the council as representatives. In every regional office, an executive committee of parents is to be formed to advise on educational matters. The goals and responsibilities of the parents' councils are set at the national level, but because they are broadly written, they permit some degree of flexibility in interpretation.

Within each school, the parents' councils are expected to establish a number of committees to deal with specific areas of responsibility. These include cultural, social, school activity, and advisory committees.⁴

There was no information available at the writing of this report on how effective parents' associations are in cooperating with school officials. When asked what part the association plays, parents in several schools responded that their function consists mainly of informing the school principal of complaints about the educational system and the difficulties their children face in their daily school experiences. When asked if parents contribute time, money or labor to solving some of the problems of deficient buildings, equipment, maintenance, and repair that they complain of, several middle-class parents very emphatically replied that this was not their business nor should they be expected as white-collar government employees (muwassifeen) to contribute manual labor to the benefit of the school system. It was clear that most parents considered their role mainly as advisory (or more specifically, as a means through which complaints could be channelled to administrators), and they felt little responsibility themselves for affecting the quality of the educational experience of their children.

A more positive example of parental cooperation, probably more an exception than a common occurrence, was seen in Bulaq Integrated Care Project where parents provided help in painting and repairing a substandard school. Since the school is located in a lower-class neighborhood with a number of laborers among its residents, this may have been the reason that there was less resistance to the idea of the manual work involved. The example, however, suggests ways that resources can be stretched further if the enthusiastic cooperation of the parents is elicited.

⁴ From Education in Egypt: A Survey Report prepared for USAID, December 1977.

In another example, one parent from an outlying area noted his own reasons for being reluctant to participate more actively in improving his children's educational experience. He said, "There is very little that we can do locally to change what happens in the educational system. When we make complaints they are forwarded to the Ministry in Cairo and that's the last we hear of them." The solution he suggested was to leave more of the decisionmaking power in the hands of local parents, teachers, and administrators where he felt the choices made would be more relevant to children's educational needs. In this case, he was referring not only to questions of physical plant but also to teacher and administrator suitability, the content of course work, and the effectiveness of instructional method.

What about parents whose children are not enrolled in schools or those who allow their children to drop out in early stages? What are their expectations of the school system? And what are the factors that affect children's access to and longevity in the system?

DISPARITIES IN ACCESS TO THE SCHOOL SYSTEM

Statistically there are four dichotomous variables that have an effect on whether children are likely to attend school or not. They are: 1) whether children come from a rural or urban environment; 2) from a lower or higher socio-economic level; 3) from an Upper Egyptian or Lower Egyptian background; or 4) whether they are female or male. The first of each pair represents reduced likelihood of enrollment; the second, greater likelihood. The urban male child of educated parents, for example, is almost certain to be enrolled; the rural Upper Egyptian female daughter of peasants has a good chance of not being enrolled. One difference appears to lie in how, during the early years, parents and later, children, assess the benefits and costs of education in terms of their own priorities. A second difference lies in the social, economic, and physical environments in which children and their parents live.

Male-Female Disparities

It has been said that female education is the single most sensitive measure of the socio-economic status and modernization of a society. What then is the situation in Egypt?

It is well known that girls have a somewhat lower ratio of enrollment in Egyptian schools than boys and that this ratio remains fairly constant over the three stages of the pre-university system. Female percentages of total enrollment are 39.6 percent in primary, 36.7 percent in preparatory, 36.1

percent in general secondary, and 37.1 percent in technical secondary. Why does the ratio of girls to boys remain fairly stable? There are two possible answers. First, either parents have a tendency to emphasize the educational needs of boys over girls from the very beginning of primary school, or a second hypothesis, that separate factors reduce the enrollment of girls and boys at each level in a way that keeps the ratios in tandem. For example, girls may stay home from secondary school because they are reaching the age of marriage, and boys may be kept at home because the family needs their income.

The reasons reported by parents (usually, low-income) for why they do not send their daughters to school include the following;

1. Girls learn all they need to know from their mothers.
2. Girls' help around the house is necessary to the family welfare.
3. Girls need more "protection" than boys and therefore need to be kept closer to home.
4. Girls may learn "new ideas" in school of which parents would disapprove.
5. It is expensive to send children to school so it is better to invest in boys who eventually bring some return. Girls only "enrich" their husbands' households.

The encouraging note in girls' education, if we take the long historical view, is that slowly and steadily over time, the girls are narrowing the enrollment percentage gap between themselves and boys: 38.01 percent in 1971-72 to 39.6 percent in 1978-79. The discouraging fact is that because of population increases, the absolute numbers of those out of school is increasing.

The girls who stay in the school system for a considerable period of time show an impressive motivation to continue their studies. When a sample⁵ of students was asked what their future educational plans were, 57.8 percent of the boys and 84.2 percent of the girls indicated that they intended to finish secondary school and then planned to go on to university. Girls have significantly higher ratios (96 percent) than boys (73 percent) for continuing on to preparatory school once they have succeeded in the primary school exams. At primary school the percentage of girls passing these exams is about equal

⁵P. Dodd, "Youth and Women's Emancipation in the UAR," Middle East Journal, Spring, 1968. The sample consisted of 1,464 youths aged 15-18 in equal numbers from village, small city, and large city backgrounds.

to boys (74.4 to 74.5 percent) but at preparatory level the girls surpass the boys by about three percentage points and in secondary school, by about 4 percent in literature sections and 6.6 percent in science.⁶

Research has shown the importance of educating young women. Among other benefits, a definite inverse correlation has been shown to exist between women's education and fertility. The least educated tend to have the most children. Also, women who are educated make better role models for their children: they are more knowledgeable about health, nutrition, and hygiene practices, and they are more likely to urge their own children to continue and do well in school. A study of Egyptian youth⁷ showed that young men expressed more liberal attitudes toward their future wives working if they themselves had educated mothers. Class and urban-rural factors were not as important, according to this study, as the fact of having an educated mother.

Obviously, education also has an effect upon whether women can find employment. But curiously, the effect is not a straight-line form with employment consistently correlating positively with educational level. Female illiterates are more employable than those with some education below the intermediate certificate, but they are not as employable as those with secondary certificates. This suggests that the intermediate level education leaves women too educated for nonskilled labor and not educated enough for jobs requiring academic training. They therefore have a difficult time finding work. In this respect the practical courses proposed for fundamental education can prove useful if they give girls as well as boys employable skills for use in industry or elsewhere in the economy wherever extensive academic training is not required. If girls are trained exclusively in home economics, however, this may have the opposite effect of reinforcing the "stay-at-home" characteristic of this intermediate group. The implication of the possibility is suggested by the fact that there is also a lower ratio of acceptance of birth control devices found among Egyptian women with only intermediate educations. As one expert, Aziz Bindari, points out, for fertility rates to drop it is necessary not only for women to work but for them to work outside their homes. For the educational system to do its part, it has to provide the training that prepares both men and women for employment if they leave the academic ladder at different levels.

To strengthen women's participation in educational institutions, the following courses of action should be considered:

⁶From translated materials provided by the MOE, May 1979.

⁷Reported in P. Dodd, *op. cit.*

1. Encouraging more stringent enforcement of compulsory education rules which would put decisions about education in the hands of authorities rather than leaving them to the dictates of circumstance or to the bias of parents.
2. Encouraging active enrollment campaigns among the urban and rural poor where female ratios of enrollment are the lowest.
3. Developing nonformal educational opportunities in rural and urban areas that take into consideration the reasons parents do not send their girls to school, and provide channels that lead back into the formal system at regular intervals.
4. Encouraging training institutes that produce graduates with skills that require only middle-level education, such as nursing and industrial work, and making it possible for the trainees to participate in paid work-study programs during the course of their instruction.
5. Stressing practical courses that are suitable to local environments, both domestic and public, rural and urban, and encouraging the participation of boys and girls equally.

Of all these ways to strengthen women's access to equal educational opportunities, probably the most important are encouraging early primary enrollment and developing nonformal educational opportunities for young girls and young women. Half the population of the country is under 15 years of age; measures affecting this group produce an impact on development goals that are likely to be immediate as well as longlasting.

Urban-Rural Disparities

The 1976 Census showed a fairly even distribution of the population between urban (44 percent in towns and cities of over 20,000) and rural (56 percent) areas. As one would expect, however, opportunities and conditions of life often differ considerably in these two environments. Census figures are not normally broken down into urban and rural categories, but if we take samples of the governorates that are clearly one or the other and compare them, we can see where some of the disparities lie. For the following comparisons, urban has been defined as the governorates of Cairo, Alexandria, Port Said, and Suez, which are reported to have exclusively urban populations.

Rural is defined as the governorates of Dakahlia, Kafr El Sheikh, Sharkia, Minia, Sohag, Qena, and Menufia, in which 75 percent or more of the population is rural.

The qualitative differences between rural and urban life are difficult to calculate in any quantitative way. However, Field⁹ has developed a physical-quality-of-life index (POLI Score) for the Egyptian governorates which is based on the scores for infant mortality, literacy, and purified water in residential buildings. The higher the score, the higher the physical quality of life. Taking the sample of governorates we are using here and computing the POLI Score, we find that the average score for the urban governorates is 78.8 while the rural sample average is 28.4. This puts our sample of rural governorates substantially below the urban governorates, by the criteria used.

A number of indicators support the conclusion that educational opportunities are more readily available (or at least better taken advantage of) in the urban as opposed to the rural environment. For example, if one takes the totals for full enrollments in primary schools against total population of 6-12-year-olds by governorate in 1977-78, one finds that about 90 percent of all children in the age group are in primary school in the urban areas, against 62 percent in the rural areas. Taking boys' enrollments only in the same age group, 94 percent are in primary school in the urban areas and only 75 percent in the rural areas. For girls the figures are 86 percent in the urban areas and 46 percent in the rural areas.

At the preparatory and secondary levels in 1977-78, as one would expect, the ratios of children in the age group become increasingly smaller. Preparatory level maintains about the same urban-rural disparity, while at secondary level the disparity increases to the disadvantage of rural enrollments. Thus, at preparatory level the percentage of the total enrollment to total age group is 73.7 percent boys to 52.4 percent girls, while the enrollment to age-group ratio of boys is 79 percent in urban to 69.5 percent in rural areas and of females 68.2 percent urban to 32.7 percent rural. At secondary level, of total enrollments to total age-group, the ratio is 30.4 percent in urban areas and 14.4 percent in rural areas.

As one would expect, the proportion of girls to boys in urban primary schools is higher than in rural primary schools. Our sample of urban

⁸ Central Authority for General Mobilization and Census: General Census of Population and Housing, Preliminary Results, November 1976.

⁹ J. Field, Development in the Egyptian Governorates: A Modified Physical Quality of Life Index. MIT-Cairo University Health Care Delivery Systems Project, Draft Paper, 1978.

governorates gives a ratio of 46.8 percent girls enrolled while the rural sample shows a ratio of 35 percent. Taking Cairo alone, we find a 47 percent female enrollment, and other selected urban samples (several primary grade schools in Assuit, Alexandria, and Cairo) show an urban ratio of about 55 percent boys to 45 percent girls, plus or minus two percentage points, a figure somewhat higher than the national average of 39.6 percent. The urban ratio of girls' enrollment therefore appears to hold fairly steady even when, as we shall see later, socio-economic differences may affect the percentage of total children in the age group who are actually attending school.

It is encouraging to note that the ratio of girls' enrollment to total enrollment has increased in both urban and rural areas between 1969-70 and 1978-79. In the urban areas (figures given only for Cairo and Alexandria), the increase was 0.7 percent, while in the sample of rural governorates it was a higher 2.3 percent increase.

By way of comparison, several selected rural examples showed much more extreme differences. Kulasma School near Minia had only 15 percent girls enrolled in first year and 22 percent (including repeaters) enrolled in third-year preparatory. A study¹⁰ of schooling in the reclaimed lands uncovered the fact that close to half the landowners (45.8 percent) and tenants (41.8 percent) who had sons 6 years and older did not send them to school. For girls, it was slightly more than half (51.7 percent and 55.1 percent, respectively). The most important reasons given for not sending sons to school were:

1. Household heads needed their sons to help them in their work (103 out of 184 cases).
2. There were no schools near by at the time (40).

For daughters, the reasons given were similar:

1. Daughters were needed to help their fathers and/or mothers in their work (105 out of 208 cases).
2. Daughters are expected to become housewives and stay at home and therefore will not benefit from education (36 cases)
3. There were no schools near by at the time (28 cases).

¹⁰H. Tadros, "The Study and Evaluation of the Rehabilitation Process in the Newly Settled Communities in Land Reclamation Areas." Research Center, American University in Cairo, 1975.

The report concluded that there are several reasons why school attendance is low. Because these reasons are similar to comments made in other rural areas of Egypt, they are summarized briefly below.

1. Most teachers have difficulty getting to school on time because of the long commuting distances.
2. Because of the above reason, extracurricular activities are limited.
3. Many students live far from the schools; absenteeism increases in bad weather and during the harvesting period.
4. High financial costs of uniforms discourage some parents.
5. Supervision of programs is weak because of their remoteness from administrative centers.
6. Coordination between school and other service organizations is limited.
7. Poor maintenance of buildings and water supply problems.

Together, parental need for children's labor and the difficult physical conditions that exist in rural environments combine to keep the enrollments low in many of these areas.

It is interesting to note the possibility that though rural migrants to urban areas may continue to keep many children at home for their income potential, there may be an "urban boost" to girls' ratios of enrollment in the new environment. A sample of Bulaq families¹¹ who are either themselves migrants from rural areas or usually not more than one generation removed from a rural background, maintain rather high urban ratios of girls' enrollment (43 percent) even though about 44 percent of the children 6-18 in the sample are not in school. This suggests that perhaps the fact that schools are close at hand and convenient makes a difference for those parents who are inclined to send their daughters to school. Girls may also have more available time than young boys, who tend to be called on more often to help supplement family incomes.

One urban-rural comparison of figures that does not yield marked contrasts is the ratio of female illiterates to total illiterates in the population. Again, using the same sample of urban and rural governorates, we find that 61 percent of urban illiterates are women and a somewhat lower 58 percent of

¹¹Data collected in 1978 as part of doctoral dissertation by A. Rugh.

rural illiterates are women. It is not possible to determine conclusively why there is so little difference in these two illiteracy ratios, especially in light of the poorer educational record for females in rural areas generally. One might postulate however that the influx of low-income, first- or second-generation rural migrants who make up the bulk of the urban illiterates keeps the levels of urban illiteracy not only artificially high, but also similar in composition to that of their villages of origin.

From the limited data at hand, it seems apparent that there are pockets in rural areas where educational opportunities are either not available or not taken advantage of by large numbers of children. Undoubtedly, some variety exists so that remote villages with fewer facilities display patterns different from villages that are closer to urban areas or where a tradition of encouragement for educational institutions is found. Another important factor that parents frequently mentioned is the distance to schools of preparatory and secondary level. Rural children wishing to attend these schools must either commute over long distances or find boarding possibilities nearby.

Improving school enrollments and strengthening educational programs in rural areas requires that consideration be given to the following problems:

The distance rural children must travel to reach educational institutions. A variety of alternatives may be required, including provisions for transportation of children, boarding facilities for older children, and/or the use of alternate structures other than formal school buildings for setting up multi-age classes in areas that otherwise are too small or remote for standard institutions.

More substandard, poorly equipped schools with inadequate utilities are found in rural areas. Part of the reason may be that materials and facilities are made according to urban standards and therefore can only be maintained by urban technicians. Rural communities have pleasant and functional architecture that may be usefully incorporated into school designs.

Personnel problems are usually accentuated in rural areas. Improvement is possible by continuing to encourage the incorporation of special housing facilities for teachers in school designs and encouraging the training of teachers from the local area. Much has already been accomplished in these areas.

Course work lacks relevance. Programs must be designed that are more relevant to rural needs, so that graduates are not forced to migrate to urban areas to find employment.

A number of personal needs conflict with the demands placed on a child as a result of enrollment in school. To meet the seasonal needs of farm labor, daily schedules, the high cost to parents in terms of labor, the price of

clothing and school supplies, flexibility is necessary in school hours, uniform requirements, and what the school provides the student. It may require in fact that some form of incentive (such as food lunch programs) be offered the child as a form of compensation for the parent. The MOE has already anticipated this need by its rural lunch programs.

Education is usually viewed as an economic strategy in rural areas rather than as an opportunity for every citizen. When education is viewed as equally necessary to the occupational needs of the son who is to become a farmer as to the one who is to become a white-collar clerk in the local cooperative, the enrollment will increase.

Finally, coordination between the schools and other service organizations is often poor. A more effective system of referral and treatment is required to ensure that a child is not missing out on educational opportunities or failing to achieve as much as he could because of other psychological, economic, health, or nutritional needs.

In the urban areas, improvements in the educational system tend to be more cost-efficient (in terms of cost per student) than in the rural areas. But because the inequalities are greater in rural areas, it may be necessary to disregard strictly budgetary considerations in the long run if desired changes are to be obtained.

Disparities Among Socio-Economic Groups

Some of the evidence already presented has suggested that children from lower income groups have lower enrollment rates than those from higher socio-economic groups. It has been said that education, or the lack of education, is one of the major characteristics distinguishing the lower from the urban middle classes in Egypt. Individuals within the lower classes respond in a variety of ways to the question of their children's education, but basically much of the variety can be contained within three categories of parental strategy. Among the lower classes, most children start out enrolled in schools in their early years but as they grow older, parents divide over what course they encourage their children to follow.

Those parents with lowest incomes withdraw children from school as soon as their productive capacities are sufficient to earn outside income, or they can help effectively in household chores. Often, these children are set to work doing unskilled labor that has an immediate return. The long-term problem is that they are without the potential for much improvement of income over time.

The second category of parents has more money and generally greater economic flexibility. They value schooling for the sake of minimum literacy and numeracy skills, and they probably would encourage children who do well to continue. But for the most part they see training in a skill as more beneficial and with greater return than a long academic career. They therefore withdraw children from school, or do not encourage a child to continue who is not doing well. They seek to establish the children in apprenticeship positions where they can learn a marketable skill. Income returns are limited at first, but later they have the potential to expand rapidly.

The third group of parents are ones who have sufficient incomes, probably are skilled workers themselves, and so are able to encourage those of their children who are good students to go through the entire educational system up to a university degree. The tradeoffs for them are as follows: on the one hand, the cost to parents is the financial investment (clothes, special foods, tutorial expenses, uniforms, and school supplies),¹² the long period when child-income is lost, as well as modest incomes that graduates eventually earn as government employees. On the other hand, the gains are the higher status that comes from a white-collar position, the long-term security of a guaranteed job, automatic pension, and social insurance benefits.

These three strategies are basically those that lower-income parents consider when determining how long their children will stay in school. The middle-class educated parent by contrast has none of these dilemmas. In order for his/her child to maintain middle-class status, a prolonged period within the educational system is required. A middle-class parent expects that a child will continue through university if possible and assumes that the family will make any sacrifices necessary in order to see that goal accomplished. For this reason, it is not expected that children will contribute significantly to family income.

A comparison of the statistics for South Cairo, a generally poorer district of Cairo, and Heliopolis, a fairly affluent district, reveals some of the differences that exist between socio-economic groups. In South Cairo there is a predominance of government primary schools (119 government and 13 free private schools) and only a few (6) private schools. Heliopolis, on the other hand, has almost as many private schools (26) as government schools (31 government and 1 free private).

According to MOE sources the curriculum in public and private schools is the same and both are supervised by government inspectors. For the South

¹² Several low-income parents independently estimated the cost to be about LE5 per child per year. Children tend to wear "Western" style dress to school rather than the local "rural" dress. Parents feel the pressure to see that their children are appropriately dressed.

Cairo and Heliopolis schools, the students per classroom ratio is approximately the same. If anything, the private schools tend toward larger numbers of students in the classroom.

Why then do parents who are able to afford the additional expense prefer to send their children to private schools? Comments solicited from parents covered the following points:

The social atmosphere is better among the students, and between students and teachers.

The administration is more alert and responsible in demanding better quality performance from the teachers.

The children learn better because the classrooms are less crowded and therefore they are better prepared for major examinations. There is a longer school day because of the single shift (working mothers especially emphasized this point). Fewer days are taken off during the school year, and the school year extends longer than the normal middle of October to Middle of April government school year.

Usually, languages are taught from the early years. Teachers who know foreign languages well usually have better educations and therefore make better teachers, even if they are not qualified, by Ministry of Education standards.

Though parents will send both boys and girls to private school if possible, there is a general belief that some kinds of private schooling may be more essential for a girl than a boy. Private schools are thought to give a more cultured background and develop good manners in girls, and language skills are also considered important for them. Boys, on the other hand, should have wide experiences in the world, and should come into contact with a variety of people. If they stay all their academic careers in a private school environment, they may become "too soft."

One must make a distinction between various types of private schools. The private "language schools" tend to be attended by elites who feel their children will receive a higher quality education there (see above comments). Other private schools (both fee-paying and government-subsidized) are established for the purpose of giving children who are weak in school or who have failed promotional examinations a chance to prepare for future exams. If parents fear that children may not do well in school, they may put them in this kind of lower quality private school to keep them in school as long as possible.

Thus, primary schools are evaluated by parents in terms of quality in the following order, from highest to lowest:

1. Private language schools (primarily for elites)
2. Private nonsubsidized (for elites)
3. Government schools
4. Private non-subsidized (for dropouts or weak students)
5. Free private schools (subsidized by the government for dropouts)

More than half the children in school in Heliopolis go to private rather than government schools.¹³ By preparatory level, however, three times as many are going to government schools (reflecting the higher regard parents feel for government preparatory and secondary level institutions). The number of children in preparatory school is slightly more than one-half those in primary school. This is a surprisingly large number when one considers that the preparatory school includes only 3 years while the primary includes 6 years of enrollment.

Considerably more than twice as many children go to primary schools in South Cairo (73,861) as do those in Heliopolis (33,923). But by preparatory school, the ratio of children in South Cairo (23,159) to those in Heliopolis (17,273) has been reduced considerably. The predominant number of children in the low-income area therefore attends primary school but then drop off sharply by preparatory level, while in the high-income area the numbers of children enrolled in primary and preparatory school appears to maintain a relatively stable total.

The most surprising statistic that comes out of the South Cairo and Heliopolis material involves the ratios of girls' to boys' enrollments. In primary school, the ratio of the two districts are quite similar but by preparatory level there appear to be significant differences. In South Cairo, in government and private preparatory schools, the majority (56 and 60 percent) of the school enrollment is female. In Heliopolis, considerably more girls (58 percent) go to private preparatory school while the reverse ratio of boys (58 percent) go to government schools. It is quite possible that in the low-income neighborhoods, the need for the income generated by children places a heavier burden on boys so that they are withdrawn from the school system while their sisters are left to continue their studies.

Clearly, of the educationally disadvantaged in urban groups, the lower class comprises the majority. What was true for rural environments generally

¹³An error factor that there is not enough data to correct is the fact that private schools attract students from other areas of a city than the actual area where the school is located.

holds true, if modified slightly, for low-income urban environments. Though primary schools generally are accessible, preparatory and secondary schools are often not close at hand and may even exist outside the quarter where the child lives (a psychological distance at least as significant as the physical distance found in rural areas). Schools tend to be substandard in poorer urban areas, programs are not relevant enough for lower class needs, child labor is still important and conflicts with school attendance, parents relate schooling to occupational strategies, and coordination between the schools and other service institutions leaves much to be desired. All these problems need to be addressed if schooling for the urban poor is to become more universal and relevant.

Regional Disparities

The same kinds of disparity mentioned in the previous sections are also found between the two major regions of Upper and Lower Egypt. For comparative purposes we selected a sample of Upper Egyptian governorates (Qena, Sohag, Assiut, Minia, Beni Suef, and Fayoum) and Lower Egyptian governorates (Beheira, Kafr El Sheikh, Damietta, Sharkia, Qalubia, Menufia, Gharbiya, and Ismailia). To check for qualitative differences in the two samples, we again used the POLI Score.¹⁴ The differences between regions, as one would expect, are not as marked as in the urban-rural comparison since both regional samples are composed of primarily rural governorates. Upper Egypt had an average score of 19.7 and Lower Egypt a score of 37.6, with the larger number representing the higher quality of life score.

Enrollment figures consistently show disparities between Upper Egyptian and Lower Egyptian governorates in all cases, and in all cases to the disadvantage of Upper Egypt. For example, if one takes total primary enrollment to total number of children in the age group (6-12), the average for the sample Upper Egypt governorates is 58.7 percent and for the Lower Egypt governorates 70.25 percent. Preparatory level shows even greater degrees of disparity. For the ratio of girls' enrollment to total age group (12-15), Upper Egypt has a sample ratio of 24.5 percent to Lower Egypt's sample ratio of 42.9 percent. For total enrollment to total in the age group, the numbers are 43.4 and 57.5 percent, respectively. The sensitive indicator, ratio of female primary enrollment to total enrollment, shows about the same difference between regions as the difference between urban and rural samples. The average percentage enrollment of girls in Upper Egypt is 30.98 percent while for Lower Egypt it is 40.08 percent. The figures for girls' enrollment as a function

¹⁴J. Field, op. cit.

of total girls in the age group (6-12) shows the same kind of disparity: for Upper Egypt (38.75 percent and for Lower Egypt 57.6 percent). Observers¹⁵ suggest that the disparities between the two areas are due to the fact that Upper Egypt is an area that has retained its traditional customs more steadfastly than other parts of Egypt. As a result, more conservative attitudes about the "protection" of women prevent many girls from seeking admission to primary schools.

One variable that may affect girls' enrollment is the rate of development in an area. In areas that are known to have large-scale active development taking place, the ratio of girls to boys is increasing rapidly. Between 1969-70 and 1978-79 we see the most substantial rises in the Delta governorates of Ismailia (10.3 percent), Menufia (5.3 percent), and Qalubia (4.9 percent). In general, the average ratio increase in the Delta governorates in this 10-year period is +4.9 percent whereas in the less developed Upper Egyptian governorates there is an average ratio decrease of -2.3 percent.

The governorates that have the poorest records in narrowing such ratios are all located in Upper Egypt. Most have either maintained a fairly steady level of girls' enrollment or have experienced a decline in that ratio. The worst is Beni Suef with a drop of 8.5 percent. The one happy exception for Upper Egypt is Aswan (a 4.8 percent increase) where, again, an increased development activity surrounding the High Dam appears to have created new social dynamics. In Aswan, the ratio of girls (42 percent) to boys (56 percent) is also one of the highest in the country outside of the larger urban areas. If economic activity is indeed a critical variable, one may anticipate that as Egypt focuses more on its economic development in the peacetime period that some of the disparities in who takes advantage of educational opportunities will narrow of their own accord.

DROPOUTS

Another category of child that does not obtain the full advantages of an educational experience is the dropout. One assumes that dropout children are subject to the same kinds of variables that affect the attendance of all children. That is, one would expect to find disparities based on class, sex, regional and urban-rural differences, probably in the same direction that these factors affect children's enrollment overall. Unfortunately, there are no statistics available that would help us to verify this fact, however.

¹⁵R. Critchfield, "Egypt's Fellahin." Part II, "The Ant and the Grasshopper." American University's Field Staff Report, Vol. 21, #7.

Research done on dropout rates gives a somewhat confusing picture of how serious the problem is.¹⁶ From general materials supplied by the MOE, we find that of the students accepted into first year primary in 1973, 8.7 percent (50,446) have dropped out by the sixth grade class in 1978-79. Of those taking the sixth grade exam in 1978 (602,147), 79 percent succeed (477,551) and of those, 97 percent (463,483) went on to preparatory school in the 1978-79 school year. Of those in the third year preparatory (573,000), 69 percent (398,005) succeed and 83.2 percent (331,269) pass on to secondary education of one kind or another. Unfortunately, these figures do not follow a cohort continuously through the 9 years of primary and preparatory education so we might learn the total number of dropouts for this period. We are also handicapped by not knowing the number of repeaters contained in some of the enrollment figures and by not knowing more specifically the extent to which the dropout phenomenon is voluntary or a result of having failed interim exams along the way.

A study provided by MOE officials sheds more light on the dropout phenomenon. Looking at national figures, the report concludes that dropouts occur more often:

1. In the villages, and particularly in villages farthest away from school locations;
2. In popular (presumably urban) quarters;
3. Among girls, especially those in the rural areas, and those with limited "educational consciousness."

Two field studies were made of six rural schools in Sharqia and four in Daqahlia to identify more specifically why children dropped out of school. In the Sharqia study, cohorts of students were followed between entry in primary school (1972-73) and up until sixth grade (1976-77). The average dropout rate for the six schools was 23 percent in the 6 years but varied from 13 to 47 percent in individual schools. Not surprisingly, the average rate of female dropouts was much higher (40.4 percent) than that of boys (14.1 percent). The highest dropout rate was found in a school that had two shifts and was farthest away from the capital of the governorate (from which the schools are administered). The lowest dropout rate was found in the school closest to the capital, with available transportation, a physical plant "with

¹⁶The Team for example discovered materials reporting widely differing ratios of primary school dropouts, ranging from the 8.7 percent figure reported here as the 1973 cohort dropout by the time of sixth grade, to figures indicating a 6.4 percent dropout rate per year (averaged over 6 years, or 8 percent over 5 years). Other studies report much higher figures, reflecting what are perhaps variations that occur under certain conditions.

all conveniences," and only one shift. The highest dropout rates came in the second and fourth grades and then sixth, which the study relates to parents' fear about the exams coming at these levels.

Three categories of factors were suggested as the primary ones affecting a student's decision to drop out:

Personal factors. The child has an inability to learn because of debilitating diseases or lack of mental capacity; an inability to adjust to the school environment; or there is no one available at home to assist in learning and to one in school to give guidance.

School factors. Teachers (over 70 percent) do not live in an area near the school so they are often absent; school building and resources are not adequate; two-shift crowded schools do not allow for activities that make schools attractive; the absence of an appropriate educational environment.

Family factors. Poor economic conditions and high wages for manual labor encourage parents to rely on children to increase family income; family disruptions caused by divorce, death, or illness of parents; or parents do not feel the importance of education for their children.

The second study was carried out in four villages of Dagahlia chosen for the fact that they were in the heart of the countryside with no industry in the immediate area. The assumption is that the traditional countryside produces the kinds of conditions responsible for the dropout phenomenon.

Results did not show significant correlations of student dropout to occupational status of parents, number of family members, family social status, or economic level of the family. The main reason given for dropping out was that students had school records lower than their peers (60 percent or 262) and secondly, that students wanted to earn money (31 percent or 135). About half (51.6 of 225) of the dropouts were unemployed at the time of the study and another quarter (24 percent or 105) were working in farming. Over half reported that they felt indifferent about dropping out (56.4 percent or 246), but a fairly high percentage (27 percent or 118) regretted the decision. Relatively similar percentages (59.4 and 28.7 percent) of their families expressed the same feeling. The large majority (86.9 percent or 379) of dropouts said they had no wish to take any further vocational training and their families expressed much the same feeling (78.9 percent or 344), but both dropouts (78.9 percent or 345) and their families (77.5 percent or 338) expressed a desire to be literate ("wipe out illiteracy"). Most however said that they did not want to return to school (88.3 percent or 385). Again in this study, the dropout rate was highest in the fourth grade (23.6 percent) and second grade (18.6 percent), when promotional exams are taken.

The dropout phenomenon causes not only the loss to the individual himself but must be considered from the point of view of national resources. As the survey reports, the dropout phenomenon:

1. Represents a loss in government spending
2. Represents efforts wasted on the part of educators (assuming that no benefits have been absorbed, that is)
3. Adds to the illiteracy problem
4. Is related to individual failure and possible delinquency
5. Makes it difficult to plan the educational stages in any comprehensive way.

The picture one gets of the dropout from these figures is somewhat contradictory. He appears to be a person who has not mastered the skills that the education system approves and drops out in the years when he should be tested. He is one who feels the need to earn income, yet only half are employed. There does not in fact appear to be a correlation between dropouts and their economic level in this study. The dropout does not want to return to school or to take vocational training yet he wishes to be literate. These contradictions suggest that if educational opportunities are to be provided for dropouts, they would be most acceptable if they focused on literacy skills in a nonformal environment.

The results of the research undertaken on the dropout phenomenon in Egypt suggest ways that improvements might ameliorate the situation.

First, improvement in the conditions that affect accessibility to schools, physical plant, relevance of course work, flexibility in scheduling, and most other factors that we have already seen affect the enrollment of marginal groups, seem also to be significant for the student who contemplates dropping out. These factors affect all student groups adversely, those who are enrolled as well as those who never enroll. The dropout may simply be the student who statistically stands on the threshold of these two other groups and is symptomatic of adverse conditions that exist in the educational system.

In particular, one must note the importance given to the two-shift school system as a factor in student dropout. The lowered quality of the coursework offered, the restricted variety of activity, and the concentrated effort required by a shorter day combine to put intolerable burdens on the potential dropout.

Another significant element is the present exam system. The dropout is one who has usually not made adequate adjustment to the school situation. In anticipation of failure, he drops out most often in years when promotional testing is required. The right kinds of reform in the examination system therefore should produce lowered dropout rates.

Finally, the whole host of personal problems -- economic, vocational, medical, nutritional, parental attitudes, individual crisis -- and a host of other problems that affect and form an important part of why a student drops out are not adequately dealt with in educational institutions. This fact points out the need for student counselling services, which are available either in the schools or provided readily through more efficient coordination with other institutions that offer such services.

The dropout problem is of significant enough magnitude that it must be tackled along with enrollment campaigns if one hopes to address the question of universal education.

ILLITERACY

Illiterates represent the proportion of the society that for one reason or another has not taken advantage of educational opportunities. Better than other figures, numbers of illiterates show where the education system has failed to attract clients. According to the census of 1976, the number of illiterates in Egypt aged 10 years and over was 15,611,162. Females represent 60 percent (9,409,666) and males 40 percent (6,201,496) of the total. Of the total population of the same age (27,616,404), 56.6 percent, or more than half, are illiterate. Less than half (43 percent) of the men in the age group are illiterate and considerably more than half (in fact, almost three-quarters, 71 percent) of the women are illiterate.

Progress has been relatively slow in combating illiteracy. In 1902, over 90 percent of the population was illiterate (87 percent men and 99 percent women out of a total population of illiterates of 7 million). Illiteracy had dropped to 75 percent in 1960, for a total of about 12.5 million illiterates,¹⁷ and now, in the recent figures of 1976, to 56.5 percent for an illiterate population of 15 million. Thus, though the actual ratios of illiterates are decreasing, their absolute numbers are increasing dramatically. The gap is widening between the ratios of females compared to males in the age relevant population who are illiterate: 99 to 87 percent in 1907, 90 percent to 68 percent in 1960, and 71 to 43 percent in 1976. But despite the general

¹⁷ Nynop, Area Handbook for Egypt, American University, Washington, D.C., 1976.

improvement in the ratios of women becoming literate, the absolute number of female illiterates, like those for the total population of illiterates, are increasing.

A number of attempts have been made to deal with the problem of illiteracy, starting as early as 1940 (Law No. 110). In 1970 a law (No. 67) was passed which attempted to improve on earlier illiteracy laws.¹⁸ An illiterate was defined as a male or female between the ages of 10 and 45 not enrolled in school and not having previously attained the level of fourth primary. Under this law all governmental agencies, businesses, syndicates, even literate individuals, were held responsible for helping eradicate illiteracy. Money was allocated and special councils were established to implement the literacy campaign. And eventually, in 1972, the Higher Council for Adult Education and the Eradication of Illiteracy was founded. With the Minister of Education, the council prepared a plan to implement the literacy program. For ease of administration, the population of illiterates was first divided into a group that was employed in the public sector of industry and other government departments and a group that was in the population at large. In the first group, responsibility was placed with the employer to set up and finance literacy courses for the workers. The MOE was responsible for providing the necessary books and trained teachers for the program. On their side, workers were informed that they would not be permitted to receive a promotion without obtaining a literacy certificate by 1976. Through this means the government hoped to abolish illiteracy among public sector workers by 1976.

For the second group in the general population, the Ministry planned to open regular classes to eradicate illiteracy. By the year 1974-75 there were 6,688 such classes teaching a total of 240,000 students out of which 152,000 successfully completed the literacy certificate. The MOE also approached the problem of illiteracy in two additional ways. The first they called the preventive method, a concerted effort to increase the number of children entering primary education each year. By 1978-79 they had managed to reach a level of enrollment reported variously as 78 percent or 86.4 percent of the total children in the population who were 6 years of age.

The final approach was an experimental one held in conjunction with international and regional Arab organizations. One experimental project was carried out in two sugar factories in Hawamdiyya (with the Arab League) and another in the factories of Mahalla El Kobra (with UNESCO).¹⁹

¹⁸G. Hyde, *op. cit.*, p. 108.

¹⁹M. Hammam, "Women Workers and the Practice of Freedom as Education: The Egyptian Experience." Unpublished PhD dissertation, p. 168, 1977.

A study²⁰ made in 1977 of Egyptian factory workers gives some idea of how the first kind of literacy program (in the public sector) operates. In this particular factory in Shubra El Khayma, from the beginning of 1975 2 hours in the middle of the day were allotted to literacy classes. The morning workers were given 1 hour off at the end of their shift, and the night shift, 1 hour off before starting work. The workers were required to attend these classes and if they did not, received demerits, no promotions, and fines or reductions in the day's wages. Classes were formed of three different groups: those who could read and write but had no certificates, semiliterates, and complete illiterates. The course of study for the first group lasted 2 months, after which the pupils were tested and those who were successful received a certificate. The two other groups studied for 6 months and then also took examinations. According to the managers, the success rate was only 44 percent for women and 73 percent for males. The reasons given for the lower success rate for women were that they were absent more often, less conscientious about avoiding penalties, and their instructors allowed them more leeway in excusing them from classes. At the time of the research, an attempt was being initiated at the factory to encourage literate workers to assume the position of teachers, in hopes they could better encourage regular attendance among their fellow workers. For their extra efforts the worker-teachers would be given an incentive of LE2 per month and a bonus of LE6 at the end of the course if 80 percent of the class passed the exams.

If indeed functional literacy comes for children not much before the fourth year of primary school, one must question the effectiveness of a course that lasts only 6 months. Unfortunately there is no information available on the actual level of literacy achieved by those who passed the final examination or if indeed they did arrive at a level of functional literacy.

In the second major division of illiterates, the one for which the MOE took the major responsibility, a number of programs were initiated. Besides encouraging early primary enrollment, as already mentioned, some attention was also given to the dropout problem in the primary level. According to MOE materials, efforts were made to raise children's performance level, introduce food programs, and make the school work more relevant to the needs of the child. Where facilities were not available, one-room schools were introduced with a goal of 1000 such schools in the first 5 years to provide courses primarily for those still in the compulsory school age group of 6 to 12 years. By 1978-79 the reported number of such schools was 3,378 with an enrollment of 61,703 students. Other centers were provided for those who passed primary level examination and in these schools, vocational training was also provided. The MOE runs 50 of these schools.²¹

²⁰ Ibid.

²¹ The information for this paragraph comes from translated materials supplied by the MOE to the Educational Survey Team.

The MOE has plans to educate almost 4 million illiterates over the 10-year period that started in 1971-72. At the present yearly rate of less than one percent (147,085) of total illiterates who successfully complete literacy courses, in 10 years time less than 2 million individuals would have become literate. This rate does not even begin to make an impression in the rapidly rising total population of 15 million illiterates.

If the MOE goal is the eventual eradication of illiteracy and only a limited budget is available for this purpose, then some scheme of priorities must be established that will most effectively make use of the resources available. Budget figures for recent years are not available, but for the previous two decades there was a decline in money spent on literacy campaigns, from LE422,000 in 1951-52 to LE134,350 in 1964-65, and the total number of illiterates educated, from 372,449 in 1951-52 to 59,165 in 1964-65 and 48,000 in 1969-70.²² The fact that the number of illiterates educated in 1977-78 has moved up again, to 147,085, implies that the budget has been increased to expand the present program. But still, this recent number is less than half of the number enrolled in the program as far back as 1951-52.

Logic suggests that when planning literacy programs the following points be emphasized in the order given to make the most cost-effective use of available resources:

1. Emphasize enrollment campaigns for the first year primary in formal educational institutions (as the MOE is now doing).
2. For non-formal educational opportunities, focus first on children in the primary school age bracket and provide re-entry channels so that children can move back into formal school systems.
3. Focus next on children and youth in the 12-20 age group where literacy may improve their employment entry opportunities.
4. Finally, develop functional literacy programs for subgroups in the community (such as mothers, farmers, the self-employed) which are aimed at meeting their special needs through channels that they can conveniently take advantage of (factories, mosques, community centers, private homes).

The MOE has for the most part stressed the channel through which the program has been administered rather than considering the target audience for which the program is intended. Changing the way of viewing the problem may provide greater benefits in both the long and the short term.

²² Ayoubi, op. cit.

plastering.²⁶ Altogether there are 54 schools for those with hearing handicaps. In 1974-75 there were only 17 schools listed in MOE materials with a student total of 522.²⁷

In 1956, schools for the mentally retarded were established in Egypt. As with hearing impaired children, the primary school program for the mentally retarded lasts 8 years, with the first 2 years a preparation period of skills learning. The primary education is followed by a 3-year vocational training course where the mentally retarded are taught a skill: carpentry, metallurgy, upholstering, tanning, carpet manufacturing, knitting, embroidery, etc. In 1974-75 there were 24 schools with 660 students. Now in 1978-79 there are 46 schools and 7 classes annexed to regular schools.

If these figures can be relied on to indicate the trends in special education, then we find fewer schools for the blind now than in 1974-75 and a sharp increase in facilities available for the hearing impaired and the mentally retarded. It is encouraging to see this expansion in certain areas of special education but if, as some authoritative sources in the MOE estimate, about 2 percent of school-age children are handicapped in one way or another,²⁸ then clearly the effort is not enough and, equally clearly, more time, effort, and money should be spent in identifying the handicapped and providing the special services they require.

²⁶ From MOE materials 1978-79.

²⁷ Cited by Hyde, p. 202.

²⁸ Hyde estimates that out of 7000 children, only 1.4 percent of primary level handicapped children, are reached by the special education program.

Supplementary School Services

Supplementary School Services

NUTRITION

In 1975-76 the National Center for Educational Research in collaboration with the Faculty of Education at Ain Shams University and the MOE (Nutrition Administration) carried out a study on the relationship between nutrition and learning in fifth level primary classes of three governorates: Kafr El Sheikh, Sohag, and Giza. In the first two governorates, a lunch program sponsored by the International Feeding Program was introduced in rural schools to see what effect improved nutrition would have on children's school performance.

According to MOE materials, the study results showed that there was some relationship between nutrition and learning. Teachers reported for example that children from schools with feeding programs tended to like school better, became more lively, participated better in class, and had fewer behavior problems. It is not clear, however, from the materials available precisely what kind of difference the lunch program made in terms of actual learning. In the control group from Giza, student's learning ability was judged higher in urban as compared to rural areas. However, in Kafr El Sheikh, in the rural group where food programs were introduced, learning in math and Arabic was said to have surpassed that of urban areas, though this difference was not so great among the same groups in Sohag. The relationship between nutrition and regular attendance was also not consistent in the two sample groups. Kafr El Sheikh showed higher rural attendance than urban attendance as a result of the introduction of the food program, but Sohag showed no significant difference in the same direction. The study suggests that the differences between the two experimental groups may either have been due to inadequate recording of attendance or because teachers encouraged attendance in the experimental group. In the United States there has also been some difficulty in consistently relating incremental learning improvements to nutritional improvements in any but acutely malnourished children. Although we cannot impute a direct, incremental causal relation between the two variables from either the Egyptian study or the U.S. experience, it is still clear that from a human point of view, for health and other reasons, proper nutrition is important for children. Educational institutions may provide the most convenient opportunity where supplementary nutrition programs can be made available for young children.

Another study¹ carried out in 21 governorates on 9,794 children by the Nutrition Institute and the Ministry of Health with the help of the Center

¹Arab Republic of Egypt. Nutrition Status Survey, 1978. Nutrition Institute, Ministry of Health, A.R.E.

for Disease Control in Atlanta, Georgia, gives a better idea of what some of the nutritional problems of Egyptian children are and where in the population they can be found. Though the study was concerned with preschool children (6 to 71 months), it is likely that some of the findings will also apply to older school-age children.

The results showed relatively little (0.6 percent) acute undernutrition (defined as a weight for height ratio less than 80 percent of the NCHS/CDC) in the Egyptian sample, slightly higher incidence (1.7 percent) of marginal undernutrition (80-84.9 percent of the reference median), and considerably more (21.2 percent) chronic undernutrition (less than 90 percent of the reference median). The report concludes that there is not a significant problem of acute undernutrition but that there is a moderate problem with chronic undernutrition. According to the report, Upper Egyptian rural areas have a significantly higher prevalence of chronic undernutrition than does rural Lower Egypt. Urban populations in general have lower prevalence of chronic undernutrition than is found in rural areas and in the overall population. Both qualitative and quantitative nutritional deficiencies are found most frequently in rural Egypt. Though the study does not attempt to identify the full range of nutritional deficiencies, it does pinpoint anemia as one of the common problems of preschool children, though again the incidence of anemia is not as prevalent in urban as in rural areas.

According to other sources,² the diet of the average Egyptian is generally adequate in some of the most important elements. Calorie supply is usually sufficient, and government-subsidized whole grains and legumes provide the staple foods of much of the population. Many of the poor, however, do not eat sufficient quantities of proteins and certain kinds of vitamins and minerals such as vitamin C, riboflavin, calcium, and seasonally, vitamin A. Not less than half the population experiences anemia which results both from deficiencies in the diet and parasitic infections.

The foods which only a small number of poor children can afford to eat regularly are eggs, meat, vegetables, cheeses, and fruit juices.³ These foods contain the kinds of minerals, vitamins, and proteins listed above that tend to be lacking where undernutrition exists. If school lunch programs are to address the nutritional problems of children then they must concentrate on supplying the kinds of foods that in quantity or quality are lacking in children's diets.

²See R. Nyrop, Area Handbook for Egypt, pp. 99, 101, American University, Washington, D.C., 1975.

³Ibid.

But do they in fact address these problems? A plan for the primary stage feeding in some selected schools in Cairo and rural governorates⁴ lists the meals provided for the schools participating in the program: on Saturdays and Tuesdays a child is provided with a cake and 20 grams of cheese; on Sundays and Wednesdays, a date cake; and on Mondays and Thursdays a local loaf of bread and 20 grams of cheese. For children who do not receive adequate amount of food, the meal is satisfying and nutritious and provided at very little cost (40 milliemes) per pupil daily. Also, cheese is one of the items listed as frequently missing from a poor child's diet.

If the lunch program is meant to address the quality aspects of nutritional deficiencies, however, the program is not as successful, for it fails (with the exception of the cheese) to provide the essential elements most often missing from children's diet: fruits, vegetables, meats, and eggs. What is more, a note at the bottom of the meal schedule indicates that less nutritious white bread can be substituted for the local (presumably the whole wheat "baladi") bread in some cases.

A third possibility is that the lunch program is designed as an incentive to attract and keep children in the school. If this is the case, then it is difficult to evaluate how successful the program has been. The selection of rural and lower-income urban area schools, where enrollment rates tend to be low, as the institutions where these programs are to be introduced is an appropriate choice. Of the few parents of children in the urban school of Bulaq who were questioned about their reactions to the lunch program, all were enthusiastic. But it is still difficult to determine if enthusiasm for such programs translates into higher enrollments or fewer dropouts. Schools should make an attempt to measure these kinds of effects.

In looking at the relevance of nutritional factors to schooling issues, the following points need to be considered:

1. Nutritional deficiencies in Egypt are selectively spread. They are found primarily among both the urban and rural poor, more often among rural than urban groups, more often in Upper Egypt than in Lower Egypt.
2. If school lunch programs are to address the qualitative and quantitative nutritional needs of children, then schools in the areas named above need to be selected as the locus of priority attention.

⁴Integrated Care Project for an Urban and a Rural Primary School. Cairo Governorate. West Cairo Education Zone.

3. If school lunch programs are to create incentives for parents to enroll children in school, to encourage regular attendance, and to discourage dropouts, then the areas named above are again those that require particular attention. In earlier sections, we have seen that it is these areas where enrollment is low and dropout rates high.
4. In order to decide what problems lunch programs are intended to address, the MOE should develop a policy that specifically determined the objectives of such programs. Are they to improve quantitative nutritional needs, qualitative nutritional needs, or are they designed to act as incentives to enrollment? Are they primarily designed for the marginal child with acute nutritional needs who may show measurable academic improvement if his needs are satisfied?

At the present time it is not clear, lacking a more satisfactory means of evaluating such programs, whether or not any of the goals suggested above are being met. It is only possible to say, from an analysis of the content of the foods provided, that some of the qualitative nutritional needs of children are not being met.

HEALTH

It is generally recognized that the health needs of children must be satisfied before optimum learning conditions can be achieved. Healthy children not only learn better, but they are more alert and relate better socially to others in their environment.

There is no questioning the importance of health in the educational context. This report however will only touch briefly on what is a complex and significant aspect of the educational process. The reasons are twofold: 1) Health care is mainly the responsibility of the MOH and is therefore administered separately from, though in cooperation with, the MOE; 2) A very excellent report already exists, "Mother and Child Care and School Health."⁵ which indicates that the problems are already well known to the MOE and that areas of improving health services to school children have already been identified.

Here we will briefly describe the major health problems of children, the facilities available to deal with the health problems of school children, and the specific health problems the MOE can address within its own sphere of

⁵ Among materials provided to the Educational Survey Team by the MOE, May 1979. See Appendix B.

responsibility.

The major health problems of school children are as follows:

1. Malnutrition (the major problem)
2. Parasitic infections
3. Rheumatic heart disease
4. Cutaneous diseases, in particular, scabies
5. Hearing loss
6. Intestinal parasites
7. Loss of eyesight
8. Otitis media
9. Tonsillitis and recurrent nasosinusitis
10. Vertebral column malformation
11. Accidents

Briefly elaborating these health problems, we find that malnutrition has the effects of retarding growth (24 percent of primary school children are underweight and 19 percent are below height standards), causing anemia (22 percent of children at primary, preparatory, and secondary schools), and in delaying puberty (1 year among males and 6 months among females). Parasitic infections affect 44 percent of primary school children (most prevalently ankylostoma among urban children and bilharziasis among rural children). Rheumatic heart disease is commonly blamed for the high death rate among school children (0.3 percent suffer from the disease and in 1976, 1368 died of the disease). With proper treatment the disease can be prevented altogether so it is a particularly unfortunate affliction when it occurs. Six and a half percent of school children suffer from scabies. And in a random sample (1964), 30 percent of children were found to be infected with otitis media, a disease that affects the hearing. Those with other kinds of hearing loss constitute from 2.5 to 5.3 percent of males and 3.7 to 4.6 percent females. Rural children in this case suffered less hearing loss than urban children.⁶

⁶From a report on School Health in Egypt, in materials provided by the MOE to the Educational Survey Team in May 1979.

Of a sample of students in the three pre-university levels in 1975, 15.9 percent suffered from eyesight impairment, mostly near-sightedness. The "School Health Report" notes that the administrative system of rehabilitation contributes to the problem by taking 266.1 days to provide corrective lenses for children having eyesight problems. Another common complaint among school children is found in the lateral disposition of the vertebral column (6.8 percent among 14-15-year-olds and 9.18 percent among 15-16-year-olds). The rate of anterior and posterior disposition is even higher (29.5 percent among the same sample group). Accidents to school children were found most frequently among primary school children with traffic accidents the most common, followed by injury from a heavy tool, falling from a high place, puncture wounds, burns, and poison. The death rate of school children 10-14 years (1.69 per 1000) is less than newborn rates (118 per 1000) and the 5-10 age group (1.89 per 1000), but it is high compared to other countries of the world (Sweden has a death rate of 34.9 per 100,000 for 5-9-year-olds, 24.8 per 100,000 for 10-14-year-olds). In Egypt the three major causes of death in the age group 10-14 are heart disease, accidents and tuberculosis.⁷

The MOH study divides school children's health problems into three categories: those related directly to the child (such as bodily disfigurement) which are difficult to prevent; those relating to the surrounding environment; and those related to the available health services. Some of the relevant factors in the child's environment are the economic condition of the family (affecting growth rates and resistance to disease), whether the mother is illiterate (which makes her less able to administer the family budget properly), and the overcrowded conditions of a large number of homes (producing high rates of infection).

What are most pertinent to our concerns here are the conclusions that the MOH arrives at that relate to ways in which the school environment is unhealthy or, more seriously, contributes to the health problems of children. A separate annex at the back of this report reproduces some of the conclusions and the standards used to measure deficiencies. In summary, the report finds architectural deficiencies in 46 percent of the schools, especially with regard to appropriate forms of lighting, ventilation, and acoustics. Ten percent of classes needed urgent maintenance. Ventilation was inadequate in 42 percent of classes. Classrooms were crowded (65.6 percent of schools did not provide the 1.3 to 1.5 square meter space per child considered to be a minimum necessary for healthy conditions). Lighting was not adequate in about 31.9 percent of the school sample. In 88 percent of the classrooms, the noise level with the window open was higher than the highest permissible levels allowed under U.S. standards, and with the window closed, 60 percent of the classrooms had higher levels than is generally considered permissible. The

⁷World Health Organization Report, p. 37, 1972.

report also strongly criticized the way students were seated in classrooms, two or three to a desk, too close to the blackboard so that eyestrain results, and at desks that are of only two standard dimensions that are not appropriate to the age and size of many children. The report cites studies that show a relationship between twists in the vertebral column and improper desk measurements.⁸

A catalog of other problems related to health are found in the schools and either mentioned in the report or have been observed by the Team members in schools around Egypt. For example, the toilets observed by Team members were in every case not kept clean, partly because the facilities were not adequate for the numbers of children who used them and partly because in many cases, plumbing fixtures were either broken or the outlets did not drain properly.⁹ Partly, however, the reason rested in sheer negligence on the part of cleaning personnel and their supervisors. In one school, a medical technician collected stool specimens from children and arranged them amid a cloud of flies on a table near the area where children were playing. Negative lessons of this kind, learned by children from school personnel, undoubtedly carry more weight than theoretical lessons on the dangers of infection from flies or from unclean bathrooms that are included in the children's textbooks and taught mechanically by teachers.

The same is true in the case of lessons on nutrition. A child in the classroom learns what foods are nutritious to eat yet he sees that the school authorities encourage the sale of high-priced snacks that are not nutritious: candies, cookies, and soft drinks. The reason given for the practice is that by providing a place where snacks can be bought, the school administrators are able to supervise the cleanliness of the product. But, at the same time, they often forbid the sale of healthful nuts, bean dishes, or fruits that the peddler is likely to be selling at a cheaper price outside the school wall.

Health services for school children in urban areas are provided by school health groups, health units, and students' hospitals. Special beds and medical treatment are also available to students in public and central hospitals.¹⁰

Specialists in the school health groups provide more intensive care than the health units both in terms of preventive care and medical treatment. Each

⁸The heavy book bags that children carry to and from school because schools have no locker space, may also be a factor that needs to be considered in relation to this deformation.

⁹In the section on buildings and equipment of this report, more attention is given to some of the deficiencies in physical plant that affect the health of children.

¹⁰School Health in Egypt, op. cit., p. 46.

health group provides services for about 30,000 students.¹¹ Reports differ on the number of clients served by the health units. Some say they provide services for about 10,000 students each on the average, and others report that the number is about 23,000. The numbers appear to vary in different parts of Egypt (up to and including as much as 43,333 in Cairo). Preventive treatment is carried out at a ratio of one doctor for every 7,840 students and medical treatment at a ratio of one doctor for every 17,928 students. Health workers are available at a ratio of one to every 966 students and dentists at a ratio of 1 to every 13,678 students. The five student hospitals in the country are located in Cairo (two), and one each in Alexandria, Ismailia, and Mansoura, with approximately 532 beds in each hospital. Also, all public hospitals are required to reserve facilities so that medical treatment can be provided for five students at all times.

The major complaints made about the student medical services are that they are understaffed, usually housed in poor facilities, lacking in essential equipment, and not able to make proper use of statistical material that has been collected. Usually there are inadequate supplies of drugs, and often, inadequate transportation facilities for the use of supervisors.

Though the MOH has primary responsibility for health, it is clear that a great deal of coordination with the MOE will be necessary in order to make improvements in health delivery services, both in terms of preventive services and in terms of medical treatment. Again, the plan proposed by the MOH study is essentially sound in its main ingredients,¹² and can serve as a summary recommendation here for the three sections on nutrition, mental health, and medical health. The following are improvements they would like to see made:

1. A lunch program for children that would provide half the daily nutritional needs. We again caution that the nutritional deficiencies be well known and compensated for, and that where universal programs are not possible, food programs be directed at the most needy groups in the society.
2. Health instruction for school children. Here, we also warn against adverse and contradictory practices in the school which negate what children learn in the classroom.
3. Improve the healthfulness of the school environment, most urgently through improving the physical conditions that exist with regard

¹¹ Ibid., pp. 28, 46; in two sections of the report, conflicting figures are found.

¹² The general ideas are those of the School Health Report, with added comments by the author.

to layout, suitable activity areas, and school equipment appropriateness. Building and equipment standards need to be continually reevaluated and adhered to rather than overlooked. Here we would also point out the need for cleanliness of bathrooms, safety measures to prevent accidents, and enhancing the esthetic qualities of schools in order to improve mental outlook.

4. Physical education needs to be incorporated more extensively into the school program in order to improve the physical and mental development of children. Particularly, the children of low-income, crowded neighborhoods need the release afforded by a spacious, and protected, play area.
5. A lengthened school day (and perhaps a longer school year) would provide the opportunity for the kinds of programs that meet the mental, physical, and psychological needs of school children. Now, these programs are short-changed in the restricted daily schedule that puts other priorities first.
6. A coordinated approach to health is needed that seeks to restructure the way teachers relate to students, the physical environment of the schools, the administrative system for health services delivery, and to address the problems of lack of appropriate activities, and the whole view of education as a means of moving on to higher educational levels.
7. Finally, the plan calls for geographical redistribution of health units and planned increases in services to meet future needs, and it recommends that rehabilitation centers be an essential part of the services offered to school children.

MENTAL HEALTH AND COUNSELLING

Mental health and counselling programs have not been considered an area of priority attention in the Egyptian school system, undoubtedly because of budget limitations and critical overriding demands coming from other parts of the system. Nevertheless, these programs deserve attention for several reasons that relate to issues discussed elsewhere in this report.

First, there is a need for vocational counselling services that would help children make rational choices between the educational streams leading to alternate careers. Too frequently children get locked into training that is not appropriate for them or for which they have no interest.

Second, children who drop out of schools for a variety of reasons unrelated to their school performance need to be counseled on the consequences of various courses of action. Perhaps training in skilled work under the supervision of a master craftsman may have long-term advantages that supercede the benefits of continuation in the school system, while on the other hand, dropping out in order to do unskilled labor may produce long-term income deprivations that the student may not be fully aware of. A well-trained counsellor can help the student evaluate his prospects.

Third, children having difficulty in the school system need to have the services available to identify problem areas and help overcome them. Many dropouts report that the reason they left school was related to personal problems, an inability to adjust to the school environment, and lack of anyone to advise them in their schools. If these problems affect the dropouts' experience in school, one must conclude that others in the system also feel their affects.

Psychological services in Egyptian schools are the responsibility of the Ministry of Education (Special Education), the Ministry of Social Affairs (providing the social services facilities), and the Ministry of Health (providing the psychiatrists, psychologists, and social workers).¹³ Those who have written specifically on counselling services in the school system¹⁴ have generally condemned them as being inadequate, lacking trained personnel, as not sufficiently coordinating with other ministries that have similar or complementary services, and as not being sufficiently aware of the social environment in which children live.

The present (1977 data) school psychological services consist of two parts: a clinic at the Institute of Education at Ain Shams University and student health clinics in Helma, Geziret Badran, Kubri el Kobba, West Cairo, and Dokki. Alexandria Students Hospital and Assiuit University have psychology units. All the educational areas are reported also to have school social services where students can obtain counselling and guidance services.¹⁵

¹³ Much of the information in this paragraph comes from G.D.M. Hyde, Education in Modern Egypt: Ideals and Realities, Routledge & Kegan Paul, Longon, pp. 184-194, 1978.

¹⁴ See A. Boktor (1963), School and Society in the Valley of the Nile, Elias Modern Press, Cairo; S. Girgis (1967), The History of Mental Health in Egypt from the Pharaohs to the Nuclear Period, El-Kateb el-Araby, Cairo (Arabic; S.M. Tawadros, ed. (1973), Assessment of Children's Needs in Egypt: Report of the Psychological Committee, the National Centre for Social and Criminological Research, Cairo.

¹⁵ G. Hyde, op. cit., p. 185.

that deal specifically with student psychological disorders are located in Cairo. They cover in effect only four governorates, two of these in the Cairo area, and provide only four clinics to deal with a school population in these areas of over one million students. Each clinic has about 400 schools from which it receives referrals. The staff itself is composed of one child psychiatrist, two social workers, one psychologist, and one speech therapist. Obviously, there is little time available for each case. Second, the other, broader social service units are scattered more widely through Egypt in each of the educational areas, yet are still concentrated in large population centers. The social workers themselves are not based in schools, and in most cases they are some distance from rural communities where the needs may be greatest. Finally, nowhere in the literature is there any specific discussion of vocational counselling as an important aspect of student guidance.

Estimates of handicapping mental health problems among children between the ages of 3 and 15 in developed countries range from 5-15 percent.¹⁸ One would expect at least the same level in developing countries. A study of a village in the Sudan near Khartoum showed that 10 percent of children had severe enough symptoms to require the attention of a psychiatrist.¹⁹ In Egypt, the few studies available have concentrated on mental retardation and juvenile delinquency. Only one²⁰ has attempted to study the nature and extent of mental health problems of Egyptian students. This study indicated a rate of 1 percent of the total student population. Most suffered enuresis (one out of 2 cases), psychoneurosis (one in five), school failure (one in ten), epilepsy, and a number of other neurological conditions.

A pilot study²¹ was conducted in 1977 on a group of 50 children referred to a mental health clinic in the Western area of Cairo. The preliminary findings showed that the most numerous complaints referred to the clinic were school failure, speech difficulty, nocturnal enuresis, and to a lesser extent, mental retardation, psychoneurological disorders, psychomatic disorders, and epilepsy. Mental retardation was frequently found to be associated with prenatal, perinatal, and postnatal factors. More boys than girls (3:1) were referred to the clinic, and most children were between the ages of 6 and 10 years. Most came from large families with incomes ranging from LE15 to LE30 a month, a third lived with their families in one room, and many had no water or electricity in their homes. Forty percent of the children were given I.Q. tests and of those a quarter were within the mentally defective range and

¹⁸ Reported in Nahid O. Waines, "Child Mental Health in Egypt," unpub. research proposal, p. 6.

¹⁹ Study by Baasher and Ibrahim, 1976, reported in Waines, op. cit., p. 7.

²⁰ Baasher, reported in Waines, op. cit., p. 8.

²¹ This is a study proposed by Nahid Waines that unfortunately has come to a standstill through lack of funding.

another one-half within the borderline range.

The pilot study cited above holds promise of providing us with more of the kinds of data necessary to developing a comprehensive mental health program for the Egyptian school system. It is worthwhile here to summarize the goals of this research proposal, as an example of what needs to be done:

1. To provide information on the extent to which school children utilize existing mental health facilities and how the service is organized and integrated with other public health services.
2. To discover some of the socio-cultural and familial variables that affect children's performance in school.
3. To explore the relation of mothers' physical and mental health to child development.
4. To obtain data on the child's health, nutrition, and development history and relate them to behavioral problems.
5. To assess the quality of the student-teacher relationship and determine the attitude of teachers toward the definition of behavioral problems.

We may find in the end that many of the emotional and behavioral problems of children that prevent optimum performance in school or cause them to drop out of the school system altogether, are preventable by providing the proper medical care, nutritional needs, sports activities, and guidance counselling that children need. Such a study can also alert us to the ways that teachers can be sensitized to the emotional needs of children during their initial training or in-service training periods.

Perhaps the most critical need is the vocational guidance component. As the educational system "loosens up" and provides more career alternatives for school children, it will become imperative that their decisions about which alternatives to choose are rational ones. This will be important not only in the transitional period as priorities are shifted from theoretical to practical study, but also in some future time when ideally, career choices will be based upon demand factors, aptitude, and interest rather than the grade in a school-leaving examination.

Ministry of Education

MINISTRY OF EDUCATION

LEGAL BASIS FOR EDUCATION

Law 68-1969, for general education states: (Article 2) education at all levels is free of charge in government schools; and (Article 9) education at the primary level is compulsory.

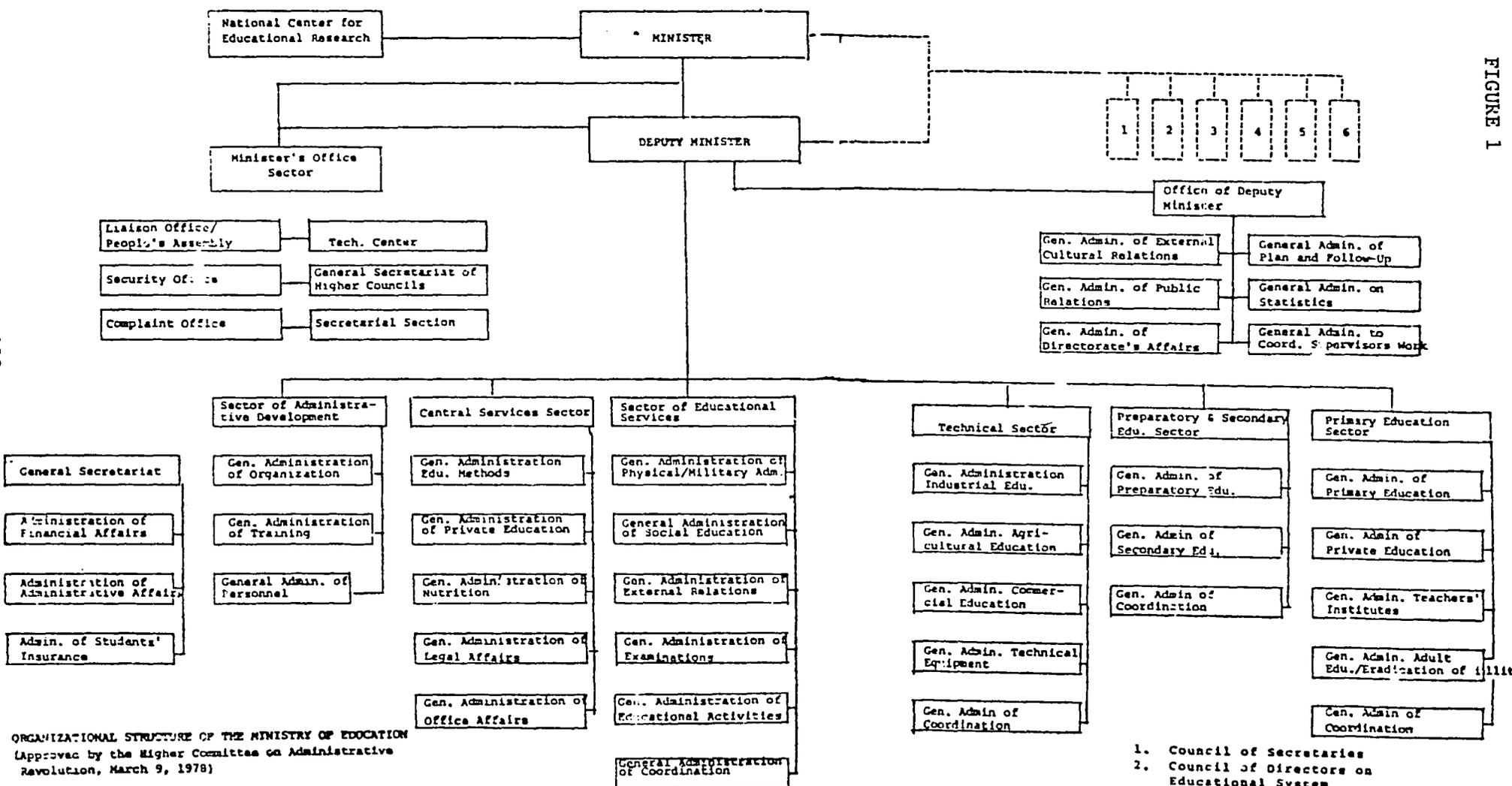
ORGANIZATION

Egypt's educational system is supervised by the Ministry of Education who is responsible for educational planning, policy formulation, setting rules and regulations, technical supervision, quality control, and coordination. The actual operation of the schools is the responsibility of the MOE authorities in the governorates, except for the universities which are autonomous.

An organizational chart of the Ministry of Education is presented in Figure 1. In general, this organizational structure is replicated at the governorate and the district level. The four largest governorates are under the direction of undersecretaries, while the rest are under directors-general. Although policies emanate from the Ministry of Education, the directors-general or undersecretaries in the governorates are responsible for the operation of the schools in their governorates. The development of curricula and textbooks are centralized Ministry responsibilities. Each governorate is divided into districts with a chief administrative officer reporting to the director-general or undersecretary. These officials supervise the headmasters in the district.

In addition to the help of the staff, the MOE has the advice of the following groups:

1. Council of Undersecretaries of State for Education
2. Council of Directors of Education
3. Council of Advisors of Subjects Curriculum
4. Central Council for General Education
5. Central Council for Technical Education
6. The Higher Council for Adult Education.



ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF EDUCATION
 (Approved by the Higher Committee on Administrative
 Revolution, March 9, 1978)

1. Council of Secretaries
2. Council of Directors on Educational System
3. Council of Advisors on Curriculum
4. Central Council for General Education
5. Central Council for Technical Education
6. Higher Council for Adult Education

PERSONNEL

Professional personnel for the MOE are recruited largely from persons having one of three backgrounds of training and experience. As has been previously noted, planners have graduated from the university and have received an additional year of training from the Ministry of Planning. A second source is persons who have graduated from the university and have demonstrated superior skill as teachers and, therefore, ultimately have been promoted to inspector. The third source is from the administrative ranks. On this career ladder, those involved have graduated from the university and taught in the schools. They have been promoted to master teacher and ultimately to headmaster. In-service courses in administration are provided to masters and headmasters.

Persons being employed by MOE normally enter at the second degree on the salary schedule although some may enter at a higher level according to their training and experience. Placement on the second degree usually denotes university graduation and at least 10 years experience. Movement to the first degree requires at least an additional 6 years of successful work but 10 is more usual. Of course, promotion is dependent on a vacancy existing in a position calling for the higher classification. Promotion to General Director is limited to very few individuals and is awarded due to unusual merit in work plus a better than average record in previous training and experience.

Small cost-of-living increases are granted each year and those employees required to work more than 6 hours per day may be paid up to 25 percent more for overtime.

DECENTRALIZATION

Decentralization of the authority of the Ministry of Education to the governorates has only been partially implemented, mostly with regard to primary education. The governorate educational offices, each of which has a bureaucratic structure similar to the ministry itself, save for being smaller and having no research bureau, were first created in 1939. Their current responsibilities are:

1. To perform the normal functions of operating school systems and their ancillary support systems
2. To make sure local and area needs are taken into account in educational planning (each has a planning officer)

TABLE 1

Typical Governorate Educational Expense Budget
 Percentages by Budget Categories
 (Fiscal Year 1978)

		Percentage
Chapter I	Salaries & Wages	80-82
Chapter II	Operating Expenses (rent, utilities, transportation, etc.)	13-14
Chapter III	New Capital Expenditures (essentially new projects)	7-4

Note: Expenses appearing in Chapter III in one fiscal year are added to operating expenses, Chapter II in succeeding fiscal years).

TABLE 2

Differentials Between Budget Requests and Allocations
 Giza - 1977

	Requested	Budgeted
Chapter I	4,029,296	2,920,000
Chapter II	3,790,151	2,897,791
Chapter III	19,853,240	969,300

Source: The Budgetary System in the Arab Republic of Egypt, Its Role in Local Government Development, J.B. Mayfield, University of Utah:1977, p.19.

3. To provide for supervision and quality control of instruction
4. To encourage local citizens to participate in educational activities (ranging from parent-teacher organizations to adult literacy classes)
5. To make full use of local financial resources in education (for example, a village may donate land to a governorate for a school)
6. To execute the policies of the Ministry
7. To enforce MOE rules and regulations at the local level
8. To prepare spending plans and projections
9. To administer their budget in accordance with law and policy.

The governorates select and hire teachers, but they do not have any general authority over the development or use of the syllabi and textbooks prepared by the National Center on Educational Research, though their advice about them is required. Yearly each governorate summarizes the comments of teachers on each syllabus and text used in instruction and provides the summaries to the National Center.

The governorates have been delegated some limited curriculum authority, however. They are to adapt their "social studies programs to suit local environments," and are to work with groups of parents to select environmentally suitable prevocational topics and groupings for the primary and preparatory schools in the proposed Basic Education program. In addition, they now have the authority to prepare and administer the primary school certificate examinations following central MOE guidelines. When asked if they would like more general authority over the curriculum and syllabi, some rejected the idea outright while others said they would welcome the responsibility if they had the necessary research capability.

With regard to decisions on financial matters, it is doubtful that much actual decentralization can take place in education until certain basic changes take place, since almost all education revenues are national and no local tax revenues dedicated to education are generated in the governorates. The only room at present for any local bargaining on the MOE budget is in Chapter III of the annual budget, the "New Projects" section, and that usually represents only 5 to 6 percent of the total. (See Table 1.)

Some local influence of the local village and district councils is usually felt in the preparation of Chapter III of the budget, and since they always request more than is received, some hard bargaining and lobbying usually takes

place once the Chapter III allocation is known. (See Table 2 below for an illustration of the difference between the requests and the allocations.)

Clearly the issue of decentralization is quite provocative. Many in the governorates spoke enthusiastically about it, though they hoped for a fuller implementation with more local autonomy in budgetary decisions, both in planning and in execution. Some local taxing power or authority specifically dedicating the revenue generated to education plus a national equalization formula should accompany full implementation. They expressed concern, however, that moving to full decentralization would entail some potential confusion and risk until well understood. Some feared that education might get lost if local political squabbling over priorities for spending developed, as it might.

Whereas, prior to decentralization, major responsibilities of the central MOE revolved around planning, supervision, operations, budgeting, staff selection and promotion, policy formulations, budget control, etc., the role of the central Ministry under full decentralization emphasizes the need for central coordination and planning, and for providing leadership, training, research, and other support services to the governorates. Therefore, the full implementation of the decentralization decree should continue to affect changes in the structure, authority, and the operation of the central Ministry and the governorate offices. Decentralization explicitly requires the delegation of the requisite authority for the delegated responsibility in order for there to be any clear accountability at each level.

The central MOE could well be streamlined for a more efficient operation at the national level, eliminating at least some of the overlapping functions both within the central Ministry and between it and the governorates. The parallel structures of the central MOE and the governorates will undoubtedly have to be rethought, for if their respective responsibilities are different, they will require that different functions be performed. Moreover, full decentralization of education and training will involve more than the Ministry of Education. There are at least 21 other ministries involved heavily in education and training and, coordinating mechanisms operating both nationally and in the governorates, will be required. National and local concerns and plans do not always coincide. Some regular and equitable system for conflict and problem resolution, joint planning, and equity in resource distribution will be required.

RELATIONSHIPS WITH THE GOVERNORATES

Although decentralization appears not to have gained much momentum as yet in the educational sector, there is a direct relationship between the central Ministry of Education and the governorates. The governorate staff

meets frequently with the top staff of the Minister of Education, and the directors-general are encouraged to make suggestions for consideration by the Minister. The governorates can also influence policy by their annual budget requests to the Ministry.

POLICIES

Policies in the Ministry, in addition to those pertaining to day-to-day operations, are designed to accomplish the goals of affording opportunities for all students to complete the first six grades and for practically all to complete the preparatory schools. In addition, efforts are being made to extend the school day, particularly for those students on split sessions, and to reduce absenteeism. Attention is also given to reducing class sizes, improving textbooks and teaching materials, upgrading the teaching staff, constructing and improving buildings, and expanding health and feeding programs. Currently a major policy of the MOE is to make education less theoretical and more practical through the primary and preparatory levels.

PLANNING

The central MOE staff bears the major responsibility and burden for educational planning, working in concert with appropriate governorate staff and with other ministries, especially the Ministry of Finance and the Ministry of Planning. For this purpose the Ministry employs a staff of 624 professionals, 25 technicians, and 115 secretaries (see Table 3).

The professionals are college graduates who have taken another year of preparation made available by the National Institute of Planning. Those dealing with planning at a particular level of education have also had experience at that level in the local schools. The planning department is divided into six sections, as follows: Minister's Office, Primary Education, Intermediate and Secondary Education, Technical Education, Educational Services, and Central Services. Planning is continuous and comprehensive even though it is the responsibility of the governorates to help in the preparation and execution of the plans. Other than the more routine planning, needs may be identified by the National Council for Education, Scientific Research and Technology or they can originate with the National Research Center for Education in its quest to find better ways for providing educational services.

An aspect particularly in need of close examination and strengthening is that of data collection, processing, and dissemination. The Department of Statistics, under Central Services, needs strengthening to enable it to collect

high-quality data more efficiently and more quickly to serve the many planning, assessment, and monitoring functions of the MOE. The NCER and other specialized centers or departments of the MOE have increasingly heavy responsibilities for research, analysis, and planning. However, the collection, storage, and dissemination of such data as is required for most purposes is, and should be, primarily the responsibility of the MOE Department of Statistics.

At present data is collected mainly for administrative purposes and according to the administrative schedules (the beginning and end of the school year, for budget submissions, etc.). The time involved in reporting data from the schools to the districts to the governorates to the MOE often means that current data are unavailable or incomplete at the times decisions must be made, with the result that many decisionmakers must rely on estimates and projections from previous years. Further, since data are collected through several administrative departments, each with somewhat different needs, the data sets available centrally for use by the Department of Statistics often have different bases, definitions, and aggregations which make it difficult to compare data and develop a composite picture. Many of the statistics required for this report, for example, had to be gleaned by hand from several reports.

There is a small but competent staff in the Department of Statistics. The weaknesses appear to be: lack of data handling, storage and retrieval equipment; lack of equipment to copy reports; inadequate workspace in a physically distinct unit or set of offices; lack of standardized definitions and reporting procedures; insufficient budget to allow data to be collected additional to that which is administratively reported; inadequately trained staff for collecting and checking data at the governorate and district levels.

RESEARCH AND DEVELOPMENT CAPABILITY

The major research and development capability of the Ministry of Education is the National Center for Education Research, an autonomous agency affiliated with the Ministry. Created in 1974, the National Center for Education Research was given responsibility for all curriculum and textbook reform and development, for the nation's testing program, and for such other research, development, evaluation, experimentation, and innovation efforts as the Minister may require, or their own analyses dictate. In general, the National Center for Education Research is charged with developing and maintaining a developmental research program that is problem-oriented, with application as its ultimate objective. Hence, the National Center should continuously monitor the health of the Egyptian education system, with a view to preventing problems before they occur, where possible, and curing them if prevention was not possible.

To accomplish this broad set of objectives, the NCER is expected to maintain a program to assess the system and its sub-systems for effective and efficient functioning and to keep itself informed of how other countries have solved or are attempting to solve the same or similar problems, in order to adopt or adapt their procedures and solutions where possible. Consequently, the Center maintains a documentation department with research library, cataloging, research information, and reproduction services. This set of services, including statistical data storage, bibliographic and information search services, and research librarianship training, is available to all qualified researchers and educators, not just to the National Center staff.

Likewise, the Center maintains a statistics division, a research and studies division, and a testing and evaluation division (see organizational chart). They plan, coordinate, supervise, and conduct research studies; develop and coordinate testing; develop and coordinate curricula reform; perform comparison evaluation studies of alternative texts and pedagogical systems; coordinate and perform program evaluations of new or revised schooling models; and work cooperatively with scientists, researchers, scholars, and educators at the university research centers.

Given the scope of the responsibilities assigned to the National Center, its staff and budget size are quite small. In 1978-79 the budget was LE179,400 of which some 80 percent went for salaries. Yet, with modest international funding help, great personal dedication and hard work by the staff, and the willing cooperation of university scholars and researchers, a most impressive list of studies, curricula reforms, and research projects are under way.¹ This output is even more surprising when one considers the fact that only 24 of 50 professional staff were available to work on these projects in 1978-79 as 12 of the remaining 26 were abroad receiving further training and 14 have been seconded to other Arab countries.

The predominant activity in terms of staff hours expended seems to be in the area of curriculum reform and syllabi and text development. Major reforms are made on specific curricula every 3 to 5 years, in concert with scholars and subject experts from universities, the relevant ministry departments, inspectors, and others (a recent effort involved some 400 people before it was completed). Unfortunately, there is as yet no systematic evaluation and revision of these newly developed syllabi and their accompanying texts in well-designed field trials before they are printed and distributed in large quantities to the schools in Egypt. A modest investment of time and effort in such field tests would be a good investment, both economically and psychologically. It would also enable the center to design, test, revise, and produce the appropriate proficiency and diagnostic tests for the materials.

¹See Annex D for a complete list of NCER projects for 1978-79.

The current system of having the reports of teachers summarized by the appropriate subject expert in each governorate, forwarded to the central Ministry staff and reviewed again by a national subject-area committee, while helpful, needs to be supplemented by a rigorous, formative, and summative evaluation effort.

Aside from the conduct of their own research work, the National Center staff cooperates closely with such other research organizations as the Science Education Center at Ain Shams University -- in the design stages, in program evaluation, and in the design and development of parallel efforts -- as, for example, in the development of science evaluation kits for the sixth grade designed to test the extent of children's applied science learning. Such commendable efforts in which one piece of work builds on another should be encouraged, both for reasons of economy of effort and, perhaps more importantly, because these efforts can be designed so as to interact with one another in ways that inform both group interests. Over time, one would expect to see much more of this kind of cooperation between the National Center and university centers, particularly as the other universities develop the applied educational research development interests and capabilities of their faculties. A modest grants program (dependent on an increased National Center budget), coupled with a research and development training program, and a dissemination and implementation training program (for supervisors and teacher institutes, perhaps) would be of great help in encouraging participation. Over the long term, such a relatively modest grants program could be used to encourage a wide range of scientists and scholars from the social and behavioral sciences, religion, philosophy, mathematics, and the arts, to participate actively in both basic and developmental research efforts.

Earlier in this section, mention was made of the advisability of studying the central Ministry and how it functions in order to streamline its operations, eliminate overlap and duplication of effort, and make it a more efficient and effective operation. That study will be important to the more efficient functioning of the National Center as well, for there are still unresolved duplications of functions and split authority in the actual operation of some parts of the Ministry, the National Center for Education Research, and the universities. Though some redundancy of capability and effort is both necessary and wise, it is also expensive and should arise, therefore, as a matter of thoughtfully designed policies and procedures.

With even greater emphasis to be put on decentralization in the future than is now the case, regional research and development capabilities will need to be fostered in governorate level education offices, regional universities and their laboratory schools, and in the teacher training institutes and their demonstration schools. The Team is in accord on this, for reference is made in almost all the other sections of this report to the need for research and development programs in teacher effectiveness, in

assessment and measurement, in curricular and textbook development, in instructional systems development (for example, the alternative models for Basic Education), and in school health, adult literacy, and educational finance. Moreover, the Team and the National Center staff agree on the need:

1. To reform the national testing system, with particular reference to developing assessment instruments and procedures for measuring the degree to which the "theoretical" approach to teaching has been replaced by an emphasis on practical education, applied science learning, and learning in prevocational areas

2. To not only devise effective programs for prevocational and applied science, but also to change the relative emphasis in primary and preparatory schools from a "theory" and rote teaching and learning system to a more applied, "integrated" instructional approach

3. To design, develop, test, and produce a reliable system for continuous program assessment for students, based on a more sophisticated assessment system and a more comprehensive set of student data than is now used

4. To devise ways and means to develop valid and reliable instruments for making critical placement judgments, particularly at the end of the 9th and 12th years of schooling

5. To have much more say in "in-service" education, which is the responsibility of another sector of the Ministry and is accomplished by yet a third, the institutes and universities

6. To perform both formative and summative evaluation of new curricula and teaching materials so they may be made more effective before their large-scale publication

7. To establish a Social Studies Research Center within, or closely attached to, the National Center for Education Research

8. For better trained staff (including training for themselves), more adequate and quieter space (five, sometimes six professionals use one small office), and a more adequate library, better equipped documentation service, and at least minimal equipment for statistical analysis work

9. To devise a system for up-grading the primary school teachers' abilities and skills, especially for the change to Basic Education, and to enable some of them to earn the B.A. degree

10. To establish a strong reciprocal working and technical assistance relationship with one or more foreign research and development institutions

11. To have the professional staff of appropriate degree status treated equally to university faculty with regard to pay and status

12. To have a reasonable annual budget which would enable the staff to perform their responsibilities more ably, to establish a small grants program, to run educational research and development training programs, and to further their own professional growth through a staff development program.

In addition to the foregoing general statements of need, the National Center could also make prompt and efficient use of modest support for equipment to modernize their information, data storage, data handling, and reproduction services, and to enable them, with some technical assistance, to conduct a much needed series of seminars for appropriate university education faculty and advanced students on modern research information and retrieval systems and procedures. Their statistics department needs financial help to upgrade itself, both in equipment and staff development.

The National Center might well be located in their own separate facilities, for though they are autonomous, they have no distinct physical identity. They need the space now. Having five or six professionals occupy one small office is simply counterproductive, and the expected increase in staffing and responsibilities will be constrained by working space.

In summary, the National Center for Education Research and its commitment to Basic Education reform and improvement on a solid basis of problem-oriented research represents one of the major resources of the Egyptian educational system which should be strengthened, broadened, and deepened as quickly as possible. Building the Basic Education program in such a way as to make it cost effective, efficient, and acceptable to the people whose children it will serve is not a trivial task. There are enormous social, political, and economic consequences for Egypt depending on how well the system is designed and managed.

Neither the children whose futures will be shaped by the change to Basic Education nor Egypt itself can afford any expensive false starts. Research and development efforts may not by themselves be able to prevent all mistakes, but through careful, thoughtful, and well-designed developmental research programs, many of the potential errors can be identified prior to large-scale adoption, thereby minimizing personal risk for the children and their parents, and minimizing the economic risks and psychological damage to which one is liable with false or halting starts.

Examinations

Examinations

Any attempt at major reform or change in the Egyptian schools will have to deal directly with the problems of the role and importance of the current examination system. Promotion examinations, by which students advance to the next level, are given in second and fourth grades of the primary school, and in every year except the exit year in the preparatory and secondary schools. School-leaving examinations are given at the exit-years in primary school (sixth), preparatory school (third) and in secondary school (third or fifth, depending on whether one is in a 3- or 5-year program).

Even though the predominant focus of public interest and discussion seems to be on the secondary school-leaving examination, objective analysis indicates that the preparatory school-leaving examination is the most critically important one for the majority of students. Their scores on this examination determine which type of secondary school education they will be offered, if any, and upon that choice and their subsequent scores rests their chances for a university education.

In a society such as Egypt's with its reverence for scholarship, its extraordinarily long history of university education, its social status rankings heavily influenced by one's educational history, and a government guarantee of a life-time, white-collar job if one completes a university education satisfactorily, this is an exceedingly important examination for youngsters since so much of their future depends upon how well they score.

The decision as to whether a student is eligible for further public-supported education, and if so, whether a place will be offered in general secondary school, a teacher training institute, or a 3- or 5-year industrial, agricultural, or commercial secondary school is based largely upon the aggregate score the student obtains. Student preferences are considered, but the examination score is compelling, and only the highest scoring students get the preferred option of general secondary school. Basing such an extremely important decision on one examination would seem to indicate great confidence in the power of the exam to predict success over its full score range for these many different types of secondary schools. One suspects that the upper range (say the upper quintile or so) does predict success fairly accurately for the general secondary program, other things being equal. Whether the other ranges predict equally accurately across the remainder of the secondary school options is very doubtful.

In the case of the very important secondary school-leaving examination, a similar sorting and assigning process is based on the aggregate score, but additional weight is given to students' preferences (in direct proportion to

their scores). These assignments are made either to an intermediate higher institute, a vocational training institute, or to a specific faculty (engineering, medicine, law, etc.) in a specific university.

Quite properly, Ministry officials take great pains to ensure that the preparation, administration, and scoring of the school-leaving examinations are as secure and equitable as such a system will allow. Nevertheless, because of their extraordinary importance to students and parents, a predictable exam-preparation industry flourishes in Egypt. Thus, special books that purport to prepare one for the exams are published and used, many teachers tutor for the exams after school hours, and a consequent warping or distortion of instruction from what is officially intended results.

Egyptian education now faces a testing situation in which it is only a slight exaggeration to say that the servant is now the master. The examinations were originally designed as a means of determining how much students had learned and which of them had earned the right to further education. Now, however, they have a heavy influence on the content of instruction and the use of instructional time, affect the use or nonuse of the government-supplied texts (thereby often imposing an economic burden on less affluent parents), have spawned an illegal public school teacher tutoring-for-pay system, and seem to have created a virtual stranglehold on the system, greatly inhibiting innovation and creativity in teaching, in curriculum development, and in education system changes. Out of exasperation at the existence of these unwanted by-products, one might be tempted to eliminate the testing system entirely.

However, like all other nations, Egypt's short- and long-range economic and social planning goals depend heavily upon its ability to use its economic resources wisely in providing education and training. It seems quite clear, therefore, that allocation decisions must be made and, in a rational system, should be based on a reasonably equitable, economic, and efficient system of assessment procedures and instruments in whose predictive powers one can legitimately have confidence. Normative-referenced achievement and "ability" tests such as the Scholastic Aptitude Tests in the United States are frequently used for this purpose, but usually scores from both kinds of instruments, along with other additional student performance data are used. This would of course raise costs, unless the additional testing and data recording are done routinely for instructional purposes.

Second, there is a clear need for an assessment system of high utility in measuring the effectiveness of schooling at the various levels and in the various subject areas, so as to be able to build upon strengths and remedy weaknesses. Domain referenced or criterion referenced (frequently labelled proficiency tests) are useful for this purpose, for they adequately measure what a student knows, i.e., can do, in a given subject field. When tied closely,

as they must be, to both the objectives of instruction and to the instructional materials themselves, they provide excellent and direct qualitative feedback to teachers and other instructional personnel on the effectiveness of instruction.

Third, there is a clear need to devise diagnostic procedures and instruments that can be of direct use in the instructional program, so that teachers, senior masters, curriculum developers, supervisors, and other instructional personnel can channel instructional attention and effort in highly specific ways to those children and subject areas or parts of subject areas that need them most.

Most of what has been mentioned so far in this section is familiar to the experts in the MOE, and some is currently the subject of experiment and development. The development of sixth grade science testing kits in cooperation with the Ain Shams Science Center is one good example. Another is the experiment with continuous assessment and automatic promotion at Medinat Nasr school, as are the projects to develop new tests in English language teaching and in a variety of other subjects.

High priority should be placed on the continuation of those experiments and on the development and testing of a comprehensive integrated assessment system. With technical and financial assistance, such a development research program in educational assessment and measurement is well within the capability of the MOE and the scholarly and technical resources it can command, and is worthy of support. Ultimately, such a system would provide educators with reliable means for making scarce resource allocations (i.e., placement and advancement decisions) in a fair and equitable manner, for guidance of students, for assessing the effectiveness and efficiency of the educational system and its constituent parts, and for diagnosing problems. In time, when coupled with a performance-based budgeting system that provides more fine-grained cost data, this comprehensive assessment system should permit the development of an information system of great utility in managing the schools efficiently.

Ideally, the development of a comprehensive assessment system should proceed as a part of the necessary curriculum development process - particularly with regard to proficiency examinations (which are objectives- and materials-bound). The others may require a longer time for development and ought not to be made final, of course, until the curriculum itself has achieved some stability.

Any large-scale effort such as is suggested here, particularly one that presents the possibility of a change which may appear quite radical to many, needs to be approached most carefully and scientifically, beginning with analysis and proceeding through a rigorously controlled series of development research trials, revision, retrials, and revisions until it has been well

developed and fully understood by all those who are vitally affected. MOE experts, university scholars and researchers, statisticians, psychometricians, and psychologists need to be joined by a wide spectrum of teachers, parents, subject experts, and learned persons as the process begins. Clearly, the MOE and the behavioral and social science faculties of the universities in Egypt have or can develop the expertise they need with some help from international experts. The job is huge and should be broken up into subwork groups, which in turn may be organized into task groups.

Developing such a set of procedures, instruments, and other assessment and measurement devices for use in the schools will not of itself eliminate all the ills to which we have referred, for many are heavily influenced by other factors in the educational system and the society. However, if a wide variety of measures are embedded in an assessment system in which test scores are but one element of the data used for critical decisions about student advancement, the intense pressure that students and teachers alike feel as the critical examination time approaches should lessen. Moreover, the use of a mixture of data about student performance for decisionmaking makes it less likely that tutoring can influence test performance enough to outweigh the system. In time, as people discover this for themselves, the practice of illegal out-of-school tutoring will dissipate, though it probably will never totally disappear.

Secondary, Technical and Higher Education

Secondary, Technical and Higher Education

There are three general objectives for Basic Education that require attention to the secondary and higher education levels. First, it is desired that the Basic Education schooling (1-8 or 9) prepare students so that those who are unable to go further (or who choose not to go further) are prepared for employment and have the skills necessary to function effectively as young adults in their environment. Second, a significant percentage of students successfully completing the preparatory stage (in 1978, 69 percent of the 582,000 examined succeeded, with 83 percent of them continuing) will continue to some form of secondary schooling, with many (currently about 70,000 a year) continuing to higher education. Basic Education is therefore also expected to provide a sound preparation for further education. Third, Basic Education is intended to provide expanded, reformed, and improved education for a larger percentage of the age group 6-15 than is now provided (currently about 68 percent of 6-12, with about 90 percent of 6-15 coverage planned by 1990). The teachers who will be expected to implement this expansion, reform, and improvement must be produced from the secondary, technical, and higher education institutions.

In addition to the training of teachers and the preparation of students for higher education, the postpreparatory "educational ladder" is geared to produce three levels of technical workers:

- "Skilled workers," are the products of the 3-year technical schools of the MOE and the secondary-level training institutes of other ministries. These are certificate level.
- "Technicians" are the products of the 5-year technical institutes and the fourth and fifth year "extended studies" institutes open to products of the 3-year programs and the intermediate technical institutes associated with university faculties. These are diploma level.
- "Technologists" are the products of the university engineering and other technical faculties, and are degree level.

Technical education in the MOE is the responsibility of the Undersecretary for Technical Education. This section is responsible for all MOE programs concerned with skilled workers and technicians and with the preparation of practical teachers (laboratory and workshop) for other levels.

In this section we will discuss the three sets of objectives for secondary, technical, and higher education as they relate to Basic Education. There are

TABLE 1. SCHOOL YEAR 1978/79

*Parentheses indicate new enrollment.

Type	Schools	Div's	Classes	Students (000's)		
				M	F	Total
1) <u>Gen'l Secondary</u>	497	250	10,885	283	160	443
				(86)	(51)	(137)
Indus. Second.	122	6	3,747	112	14	126
				(41)	(5)	(46)
Agric. Second.	55	1	1,491	45	5	50
				(16)	(2)	(18)
Commer. Second.	220	281	8,976	147	163	310
				(56)	(62)	(118)
Tech. (5-year)						
Total	12	-	258	6	1.5	7.5
				(1.8)	(.6)	(2.4)
Indus.	7	-	188	5.1	.3	5.4
Agric.	1	-	6	.2		.2
Commerc.	4	-	64	.6	1.2	1.9
						(1.6)
						(0.2)
						(0.6)
2) <u>Total Technical</u>	409	288	14,472	310	183	493
				(114)	(70)	(184)
3) <u>Teacher Training</u>	69	10	1,209	21	19	40
				(5)	(5)	(10)
4) <u>Private Secondary</u>	2	3	22	[insignificant]		
5) <u>Total Secondary or</u>						
Equivalent (10-14)	977	551	15,703	614	367	976

SOURCE: Compiled from translated MOE materials.

of course other objectives for secondary, technical, and higher education, e.g., the production of middle and high level manpower as required by the Egyptian economy and services, contribution to Egypt's R&D, the role of these institutions and their specialized centers as a technical and intellectual resource base available as needed for government service, etc. However, our main concern here is the degree to which the higher levels of education and training match or conflict with the objectives and needs of the Basic Education initiatives.

We will discuss the 3-year secondary programs (general secondary, commercial, industrial, agricultural), the 5-year programs (teacher training, commercial, industrial, agricultural) and, briefly, the universities. We will also discuss several types of skill training which, though influenced only indirectly by the MOE, are essential parts of Egypt's response to the first Basic Education objective: the preparation of young people for employment and "for life." These are: 1) the large and diverse set of secondary-level technical training programs run by ministries and agencies other than MOE, 2) the nonformal skills training and apprenticeships programs organized by various agencies and industries, and 3) the nonformal education efforts organized for purposes other than employable skills training, ranging from illiteracy campaigns and adult education to public health and other public information efforts.

Table 1 gives an overview of all secondary or equivalent education in 1978-79. Attention is drawn to the following:

- About 45 percent of the enrollment is in general secondary education. Most of these students can be expected to continue their education at higher levels.
- Almost a third of the enrollment (310/976 thousand) is in secondary/commercial.
- The total of all 5-year MOE programs, including teacher training, is only 6 percent of all secondary enrollment (48/976 thousand). This is the main source of primary school teachers. Thus, a flow of 8000-9000 qualified teachers annually is the maximum that can be expected from this source if none continued to the universities or sought alternative employment, which many do. This enrollment is somewhat misleading as several technical institutes were combined in 1975 to form Helwan University. The other 5-year institutes are relatively new and are expected to expand fairly rapidly. In addition, there are 20-30,000 enrolled in some 35 2-year

postsecondary vocational technical institutes.¹ Most of these are attached to various faculties, e.g., nurses training institutes attached to the faculties of medicine. These programs are at present not a significant source of teachers for secondary/technical or Basic Education. There are other, "extended study" programs open to graduates of the technical schools which may in the future be used for preparing practical teachers.

- In 1978-79 total enrollment in technical schools (3- and 5-year) surpassed general secondary for the first time. In fact, 3-year enrollment alone surpasses general secondary (also 3-year). This marks an important milestone for MOE, as it plans to achieve 60 percent of the secondary school enrollment in technical schools by 1982 and about 70 percent eventually, depending on the results of the manpower studies in progress. This shift of enrollment priority is continuing, as can be seen by the new enrollment (grade 10) in 1978, when 56 percent (184/331 thousand) were enrolled in technical schools and 41 percent (137/331 thousand) in general secondary.
- Female enrollment (about 38 percent of the total, 367/976 thousand) is also distributed slightly more in technical/secondary than in general secondary, but with a much higher concentration in the commercial schools and much less in agriculture. The low enrollment in agriculture, where women are a significant part of the work force, seems particularly serious.
- It can be seen that the shifts in enrollment distribution are being accomplished mainly by restricting the growth of general secondary. In fact, if the new enrollment is distributed in 1979-80 and 1980-81 on the same pattern as 1978-79, a general secondary will decline in absolute numbers while all other secondary schools will increase both in absolute enrollment and as a percentage of total enrollment.² Note that this possible decline in general secondary enrollment does not seem to be taken into account in current manpower planning; at least one major study³ assumes a continuing growth of general secondary at 8.5 percent annually (the rate of growth since 1975). This assumption is also used in projecting the labor force to 1987 (see Book II of the 5-Year Plan 1978-1982).

¹ A more accurate estimate or complete listing of these institute programs has not been obtained.

² There are two comprehensive secondary schools which are presently counted as general secondary. There is some possibility that this model may be expanded, but no decision has yet been made.

³ Vocational-technical Education in Egypt, prepared by Sobhi Abul Saad, USAID, 1978.

The new enrollment of 331,000 in 1978-79 represents 83 percent of those who successfully passed the preparatory school leaving examination (398,005). Of those eligible, 126/144 thousand females and 205/253 thousand males enrolled, 87 percent and 81 percent, respectively. Two aspects of this promotion pattern bear directly on Basic Education policy.

First, it appears that since there is a steadily increasing percentage of females continuing into secondary schooling and almost two-thirds of them are going into technical schools and the teacher training institutes, the curriculum emphasis for females in primary and preparatory training should emphasize prevocational preparation and practical training more than it does now. For these female students, for example, there is no apparent connection between their preparation in home economics and their studies at the secondary-level. If more females are to be enrolled in secondary/agriculture, they should begin the practical training in agriculture in the primary and preparatory schools.

Second, in addition to the 331,000 who completed preparatory and enrolled in secondary, there are almost 200,000 who completed preparatory and did not enroll, either because they failed to pass the examination or for other reasons. It is this set of preparatory school leavers that Basic Education must prepare for wage employment, for life (e.g., marriage, self-employment), and/or for job-specific nonformal training and apprenticeship. If secondary-level education is to be properly coordinated with Basic Education, there is a fourth type of education and training, "nonformal" job-skill training, which must be provided in addition to the academic preparation for higher education, the formal training of technicians and technologists, and the training of teachers. Secondary level education and training may be defined as "postpreparatory" or "post-basic," thus including all the remaining educative tasks of "fitting" those who do not continue to secondary schooling into occupations and jobs.

The improvement of the "fit" is one of the essential tasks both for those concerned with Basic Education and for those concerned with secondary and technical. If the secondary level is not coordinated with Basic Education, it will distort the incentives and reduce the effectiveness of any Basic Education reform. On the other hand, Basic Education must "fit" the secondary level by providing a sound preparation for those who will go on. If this "fit" is not optimum, it is a constraint both to Basic Education and to secondary education.

The difficulty of fitting secondary-level education both to the expectation of the students and parents and to the manpower demands of the Egyptian economy can be seen in the following. Students state their three preferences for secondary education when they apply for the preparatory school-leaving examinations. The Team has not seen any complete study (there are

some partial studies) aggregating these preferences or correlating preferences with various socio-economic factors. Such studies would be useful. However, the understanding is that the student preferences are approximately as follows:

1. 3-year general secondary } these options, 1 & 2,
provide the best possibility
2. 5-year teachers institute } of continuing to university
3. 3- or 5-year commercial
4. 3- or 5-year industrial
5. 3- or 5-year agricultural

However, the enrollment pattern that results from the MOE allocation of places based on examination scores is:

1. 3-year general secondary
2. 3-year commercial
3. 3-year industrial
4. 3-year agricultural
5. 5-year teacher institutes
6. 5-year technical
 - a. industrial
 - b. commercial
 - c. agricultural

There is not at present a complete manpower assessment, projection, and plan for Egypt. The lack of such a detailed plan, and data on specific manpower needs and employment projections (by sector and subsector, occupational level, industry, and job classification) is a major constraint on the ability of the MOE to plan and allocate its education and training places. The Higher Council of Manpower and Vocational Training, chaired by the Minister of Manpower and Vocational Training, is currently preparing an assessment by governorate, and it is hoped that in the near future, perhaps before the end of 1979, the MOE will be able to begin using these projections to help guide its expansion and allocation plans, particularly for technical/secondary, according to governorate needs.

Though the projections of additional manpower likely to be required over the next 3-10 years do not provide more than an approximation of broad categories of need, they are adequate to test the priorities of secondary and higher education. Tables 2 and 3, drawn from the USAID study, suggest that of the additional labor required in 1981 (the first year of turn-out for university graduates from the 1978 general secondary intake), the requirements for managers and other high-level positions may be about 67,000.

If we take these estimates as valid at least in order of magnitude, they suggest an order of priority for secondary enrollment as follows:

1. 3- or 5-year industrial
2. 3- or 5-year commercial
3. 3- or 5-year agricultural
4. 3-year general secondary
5. 5-year teacher training

Tentative and subjective as these judgments of priority may be, it appears that the present enrollment distribution represents neither the preferences of students (and parents) nor the future needs of the Egyptian economy. The stress of a more practical Basic Education and the steady shift of enrollment priority at the secondary-level are in the right direction. However, the questions facing the Survey Team are: What is it that prevents or constrains the Ministry of Education from shifting more rapidly? Why, despite the general awareness that students often have to accept their second or third preferences and that the graduates of secondary and higher education have difficulty finding positions in the fields in which they were trained (often being employed after a period of searching in a field for which they were not trained), does the intake and enrollment at the secondary-level continue to change only slowly?

The following seem to be the main constraints:

- The inertia that exists in any large system, which allows change to be made only incrementally in the extant system and most easily by adding new increments. If we look only at the new institutions, we see a dramatic shift in the desired directions. One of the constraints is thus the rate of expansion of new institutions and programs.

TABLE 2. ADDITIONAL LABOR FORCE NEEDED ANNUALLY, DISTRIBUTED ACCORDING TO OCCUPATIONAL LEVEL:
1977-1987 NATIONAL LEVELS *

OCCUPATION LEVEL	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Managers	-	19,324	19,943	20,531	21,417	25,532	26,477	28,224	29,781	31,419	32,886	34,969
Higher Positions	-	24,792	25,971	25,810	26,923	32,078	33,286	35,482	37,440	31,500	41,342	42,960
Technical and In- intermediate	-	34,782	33,847	36,956	38,570	45,958	47,660	50,893	53,887	56,555	59,125	62,943
Clerical and Assistants	-	34,230	35,328	36,369	37,938	45,230	46,903	49,997	52,756	55,657	58,255	61,944
Skilled Workers	-	109,316	112,820	116,147	121,156	144,441	149,787	159,667	168,478	177,745	186,041	197,822
Non-skilled Workers	-	330,156	340,741	350,787	365,916	439,241	452,387	482,227	508,838	536,824	561,881	597,462
TOTAL		552,000	569,800	586,600	611,900	729,500	756,500	806,400	850,900	897,700	939,600	999,100

* Vocational-training Education in Egypt, USAID, 1978, prepared by Sobhi Abul Saad, Table 11, Annex.

- The enrollment of females in agricultural and industrial programs is very low. Since the MOE intends to provide secondary enrollment for all females who qualify, it has enrolled proportionally more females in commercial education. This reflects many factors, but until more females are enrolled in other fields, the enrollment pattern will be skewed toward commercial. The MOE appears to be aware of this problem and is planning increased female enrollment in agricultural and industrial fields.

- In the absence of reliable projections of manpower demand and probable employment, students (and their parents) tend to base their expectations and preferences on the achievements of various rolemodels: older family members, public figures, images in their textbooks, etc. Typically, student expectations are based on the economic realities (and the associated educational options) of the past 5-10 years, rather than the future decade. The lack of reliable and well-publicized projections of employment opportunities 5-10 years in advance is thus a constraint, as are the roles presented to students as successful and of high status in their texts, in the media, and in their everyday lives.

- The desirability of distributing secondary education equitably conflicts with the desirability of siting industrial and other specialized training as close as possible to the areas of potential employment, i.e., the urban industrial areas. The most standardized or generalized skill needs are the most equitably distributed (e.g., commercial and teacher training). There thus appears to be a structural constraint, which may require experimentation with other models (perhaps smaller and more specialized institutions, or regional institutions, or greater use of the fourth and fifth years for extended study in specialty areas).

- Agricultural and industrial education have much higher capital costs for equipment and demonstration/laboratory workspace than do commercial and general secondary.⁴ Thus, there is a tendency to expand the less expensive alternatives somewhat faster. Capital technical equipment (not necessarily buildings) is thus a constraint. Equipment shortages are also a problem for commercial education, though the problem is apparently the number of these schools rather than the cost of equipment. The 5-year industrial and agricultural programs have been assisted with equipment by the

⁴The unit costs in 1977-78 were reported to be general secondary 101, agricultural 156.3, industry 122.3, commercial 37.5, teaching training 245 Egyptian Pounds, respectively.

TABLE 3. NUMBER OF ADDITIONAL LABOR FORCE DISTRIBUTED ACCORDING TO OCCUPATIONAL LEVELS AND RELATIVE EDUCATIONAL LEVELS, 1977-1987. *

Educational Level	Relative Occupation Level	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Univ. Educ.	Directors and Higher Positions	43,616	45,014	46,341	48,340	57,630	59,763	63,706	67,221	70,919	74,228	78,929
Mid. Educ.	Tech. and Mid-positions, Clerical & Assistance positions, Skilled Workers	178,328	184,045	189,472	197,644	235,629	244,350	260,467	274,841	280,957	303,491	322,709
Prim. & Prep. Educ.	Unskilled Workers	330,156	340,741	350,787	365,916	436,241	452,387	482,227	508,838	536,824	561,881	597,462
	TOTAL	552,100	569,800	586,600	611,100	729,500	756,500	866,400	850,900	897,700	939,600	999,100

*Vocational-technical Education in Egypt, USAID, 1978, prepared by Sobhi Abul Saad, Table 32, Annex.

U.K., GDR, UNDP, IBRD, French government, as well as by the Egyptian government. Six more 5-year schools will be assisted by IBRD. The equipment problem is thus more in the 3-year industrial and agriculture programs than in the 5-year programs and in the commercial schools.

- The lack of sufficient numbers of teachers with practical experience limits the rate at which the technical schools can be expanded and improved. Though numbers of teachers does not seem to be a problem, the numbers with the necessary technical experience, either from work experience or from intensive practical training, are inadequate. Most teachers available from the universities and higher institutes have theoretical education with little practical experience or training. Thus, the workshop/practical training aspects of technical/secondary are understaffed or inappropriately staffed. In most cases, the industrial school workshops (3- and 5-year) are staffed by graduates of the 5-year technical schools and the extended industrial studies program.⁵ For the theoretical and general education subjects in the industrial, and for most subjects in the agricultural and commercial schools, most teachers come from the universities, with little pedagogic training or work experience.

There are two technical teacher training schools (at Mataria and Kubba), producing teachers for secondary schools: at Mataria producing mechanical, electrical, architectural, and engineering teachers and at Kubba (UNESCO-assisted) producing its first graduates in 1979 in mechanical, electrical, electronics, automation, and fine mechanics.

The majority of graduates of the teacher training institutes are intended to teach at the primary level. Projections available to the Team (discussed in the section on teacher training) indicate that teacher supply is adequate for the Basic Education needs. The shortage is in workshop teachers and supervisors of practical training at all levels.

For practical training in the primary and preparatory schools, the main options are to expand the technical training branch of the teacher training institutes (particularly for agriculture and commercial) or to add educational training for the graduates of technical secondary schools. A third option is to use the summer schools for in-service training of teachers in practical training methods and practices for all fields.

⁵There is a need for research on teacher effectiveness to assess whether the practical teachers should be prepared in 5-year programs or in 2-year extended studies following technical secondary.

There are several efforts being made by the MOE technical education sector to improve the linkages with the production and services sector. First, there is an effort to develop specialized programs for technicians in priority areas. For "technicians," the MOE concentrates on the 5-year programs, considering the 3-year programs as preparation for "skilled workers," and the universities as preparing "technologists," i.e., engineers. The MOE is attempting to locate these specialized schools in governorates having a major need for the technical field, but to distribute the enrollment according to the relative need of all governorates. Until the manpower council completes its study of manpower needs by governorate, it is difficult to know whether a reasonable fit has been achieved.

There are now seven secondary/industrial 5-year schools with specialized programs in mechanics, electricity and electronics, automobiles, textiles, construction and building. The one 5-year agricultural school added a program in food technology in 1978-79. At the specific request of the commercial sector, new programs were begun in the four 5-year commercial schools in 1977-78 in the fields of social insurance, commercial insurance, banking, administration, customs, and accounting.

The Ministry is very positive about this pattern of specialized technician programs, and intends to add additional programs. For example, new programs are being considered for the printing and railway industries. These programs are still relatively new, and only a few industrial graduates have completed the 5 years. The programs need to be monitored and assessed to determine employer satisfaction with the graduates and to trace whether the graduates are in fact employed successfully in the fields for which they are trained.

Two problems requiring further attention are: 1) the need to arrange more in-plant or other direct experience with the technologies and systems during the period of training and b) the need for a more effective mechanism to ensure that potential employers contribute more directly (finance, equipment, staff) to the training, to ensure more relevance in the training, to ensure the employment of graduates, and to share the cost of training. Such contributions may require a new law.

The U.S. has a substantial amount of experience in training at this level, linked directly to various industries. There are several thousand institutions offering associate degrees (2-year postsecondary) in almost as many fields (some within full universities, some as agricultural and technology colleges, some as technical institutes, many as community and junior colleges). About 700 institutions offer associate degrees in engineering technology ranging from industrial technologies to agricultural engineering, and new fields such as fisheries technology. Contact with these institutions and programs may be made through the International Committee of the American Society for Engineering Education (ASEE), the American Association of Community and Junior

Colleges (AACJC), the National Association of State Universities and Land-Grant Colleges (NASULGC), and the National Association of Technical and Trade Schools (NATTS).

Second, the MOE links some of the schools directly to production in "projects of continuing capital," through which students and teachers produce needed goods in return for nominal wages, using a revolving capital fund. The agricultural schools produce field and fruit crops, animal, poultry, and bee products, processed foods. The industrial schools produce wood and metal furniture, textiles and carpets, leather goods, blackboards, and other goods.⁶ This seems to have been very successful, with project capital growing from about LE60,000 in 1960, to about LE2 million today, plus valued incentives for students and teachers, and reduced MOE subsidy for practical training costs.

Another MOE option for improving the linkages with the production and services sector is through cooperating with other ministries and agencies in establishing secondary training programs for specific occupations. Specialized schools and new programs at existing schools have been established in collaboration with the ministries of Health, MOIMR, MOHR, MOF, MOSAI, MOTC, MOJ, MOC, MOT, and MOEC. These schools or branches are supported by the other ministries, but the MOE is responsible for the curriculum.

The MOE has also assisted other ministries and public sector companies in setting up short craft skills and vocational training programs. In these cases, the other ministry, agency, or company runs the training center or program with the MOE only assisting as needed or requested. These programs are generally relatively short (most are 4-16 weeks, with some apprenticeship programs up to 2 years). The programs range from formal apprenticeships or on-the-job training for skilled workers to accelerated training for semi-skilled workers, to upgrading training for workers already employed. Trainees range from primary school dropouts to preparatory school completors, depending on the trade and the requirements of the employer. The major organizations providing such training are the Ministries of Industry and Mineral Resources, Housing and Reconstruction, Agriculture, Communications, Public Health, and the Armed Forces.

It is difficult to get an accurate estimate of these programs and the numbers served, but there are at least 121 centers serving at least 100,000 trainees annually. Thus, it is a major part of the training available to adolescents entering employment and should be considered as part of the Basic Education strategy. The major constraints to expansion and improvement of such training appear to be:

⁶It is suggested that these schools could produce most of the teaching aids and simple tools required for the Basic Education program.

1. Much of the equipment in the training centers is old and outmoded, and there is little instructional equipment or aids.
2. The instructors are generally untrained as instructors.
3. There is little capacity within these organizations to develop curricula and materials, train instructors, or assess the effectiveness of the training.
4. There is no effective mechanism for coordinating training with specific job placements. The MOM functions mainly as a labor office, with little influence on training priorities.

Though there is a diversity of training programs for entry-level positions, there are few programs for midlevel positions, which could use more in-service, upgrading, and short-course specialized training.

It would be useful for the MOE to have an expanded "service agency" capacity, with professional trainers and training program planners and assessors, to provide more direct technical support and coordination for these vocational training programs.

Such a "service agency" capacity is also needed for the formal technical training schools of the MOE. There is not at present an adequate center or central capacity for curriculum and materials development, in-service technical teacher training, or assistance to directors of technical schools with their administrative problems and with their linkages to industry and other employers.

Most of the discussion in this report is concerned with the Basic Education of children 6-14. It is important to ensure that attention is also given to the Basic Education needs of older adolescents and adults. This is a necessary complement to the other Basic Education efforts; it is highly cost-effective, and it is clearly needed by adult women and men, i.e., the parents of school children.

In addition to the Department of Literacy and Adult Education of the MOE, there are the large number of nonformal skills training programs discussed above and about 20 agencies specifically concerned with various aspects of adult education and literacy. These agencies range from the Council for Rural Information of the Ministry of Agriculture, to the Adult Education Program of the Egyptian Broadcasting Service, to the Institute of Worker's Education associated with the labor syndicates, to the Adult Education Divisions of Cairo, Ain Shams and Al Azhar universities.

There is thus some well-established capacity for adult education in Egypt. However, there does not seem to be any effective mechanism for coordinating activities as part of a national strategy or program of adult education. Most activities are rather ad hoc in nature, only loosely coordinated with each other, and generally undersupported.

Related to this is the fact that few of the universities and technical institutes have any effective extension programs, either for outreach to disseminate information and the results of research and development work, or from providing the universities with feedback from field work and research stations on the needs and interests of the communities which they are expected to serve.

There has been some discussion of experimentation with "open university" approaches to adult education, using the universities to provide a variety of specialized training for adults who, though they have not proceeded through the full educational ladder, have nevertheless developed expertise and work experience in certain fields which they now need to formalize in an academic setting. One of the few examples of this is the Workers University at Heliopolis, which enables skilled workers to prepare for degrees in the evenings. This could also be done in the technical institutes.

Research and organizational work appears to be needed to enable universities and technical institutes, including the institutes for extended study, to take a much more active role in adult education. This could be accomplished by opening the institutes to formal study for adults in specialized fields, using the institutes to provide technical support and organizational assistance for a variety of adult education and training activities in their localities, and developing much more active and interactive programs of extension.

Such initiatives would provide the "post-basic" nonformal activities necessary to complement the formal Basic Education effort, would provide a way by which the secondary technical institutes, the universities and other institutes of higher education could contribute directly to the Basic Education effort, and would help to accomplish the objective of more effectively involving the specialized faculties and institutes in research and development activities responsive to local needs.

The MOE seems to be making substantial progress in providing secondary, technical, and higher education, as summarized below:

- The total numbers (though not the distribution) of students enrolled appears adequate to meet Egypt's projected needs for skilled workers

and technicians, particularly when we take account of the planned expansion of specialized 5-year technical institutes and extended studies vocational/technical institutes.

- The numbers of teachers being prepared at all levels appear adequate, or nearly so, to meet the needs of planned expansion.
- There is a proliferation of apprenticeship, job-specific training programs, mostly under the other ministries and agencies concerned, which provides a training capacity to "fit" new entrants to the labor market of semi-skilled and skilled jobs.

The major constraints, weaknesses, and problems observed are:

- The shortages of teachers with the practical training and experience required for laboratory and workshop instruction at all levels.
- Equipment and instructional materials inadequacies, particularly in 3-year technical schools and in nonformal skills training programs.
- Lack of a manpower assessment and plan with sufficient disaggregation by specific skills, subsectors, and geographic locations to enable the MOE to plan its expansion more effectively and confidently.
- Lack of an effective mechanism between the MOE and other ministries or agencies for coordinating skilled worker and technician training programs, to reduce gaps, duplications and redundancy, to relate supply of training to the demands for workers, and to make it feasible to provide technical support and qualitative inputs efficiently and effectively. (A first step might be a complete inventory of the diversity of training programs now available).
- Lack of a law or other administrative mechanism to obtain more effective cooperation, coordination, and input from employers to the training programs, particularly in finance, equipment, real work experience, apprenticeships, or OJT opportunities.
- The current system of placement of students into secondary technical schools is controlled more by the examination scores than by students' vocational plans and preferences. As a result, many students are studying in technical fields in which they have little intention of being employed. Experimentation with alternative means of placing students, giving more weight to vocational preferences, appears to be needed. A solution to this placement problem appears to be one of the keys to the general need to improve systemic

efficiency, in the sense of improving the fit between the resources invested in training for specific vocations and the degree to which such training is eventually applied in the intended areas and sectors.

Over time, this last issue seems to be also one of the keys to the success of Basic Education, which is intended to prepare students realistically for the employment and other life choices they will make. For Basic Education to succeed, the choices after Basic Education must be real, as well as realistic.

Teachers' Syndicate

Teachers' Syndicate

The interests of teachers in Egypt are represented by the Teachers' Syndicate, one of a number of associations¹ that represent the interests of doctors, lawyers, the press, and other professional groups. It is not a teachers' union in the sense that that term is understood in the United States.

The first syndicate for teachers was established for the graduates of the higher institutes in 1920. Lack of consensus on goals and policies caused them to fragment almost immediately into smaller committees, probably encouraged by the then ruling groups who feared the formation of a strong syndicate that might coalesce the grievances of the teachers. Another abortive attempt to reestablish a teachers' syndicate, through a law passed in 1951, resulted in the early suppression of the law and the expulsion of syndicate leaders to positions in remote areas of the country. It was not until after the Revolution of 1952 that a law was passed (in 1954) finally permitting the present syndicate to be established (in 1955).

At the present time there are about 320,000 members in the Teachers' Syndicate including 250,000 actively teaching, 40,000 working in other foreign countries, 20,000 serving in the military, and 10,000 who are retired teachers. All teachers with the exception of those from the universities, Al-Azhar, and the military institutes are required to be members of the Syndicate, and dues (reported to be 30 piasters per month) are automatically deducted from their wages.

A 1969 law (#79) sets the aims of the Teachers' Syndicate as follows (in summarized form):

1. To mobilize the members to achieve national objectives by promoting culture and education through the establishment of schools and other academic institutions, by participating in educational development projects and by cooperating with professional institutions in the rest of the Arab world.
2. To work to raise the standards of the teaching profession by raising professional standards, through educational planning and development, and by cooperation with regional Arab educators.

¹Most of the material for this section comes from a translated talk given by the President of the Egyptian Teachers' Syndicate, Dr. Mohammed Radwan, before an American teachers' association in June of 1979.

3. To provide economic, social, cultural, recreational, health, and social security services for the membership.

The Teachers' Syndicate has its headquarters and executive office in Cairo. There is a Board of Directors and a General Assembly composed of all the members of the boards of directors of the local branches found in each educational zone. The local branches are formed of 30 individuals representing the teachers of the zone. Finally, there is a syndicate committee found in every administrative department. The Syndicate and all the branches have technical committees composed of members and outsiders to address questions of concern to teachers. These committees deal with technical research, national, international and Arab affairs, social, health and sport activities, teachers' affairs, women's concerns, registration, and pension funds. The Syndicate meets regularly to consider teachers' professional problems and to hear speakers on subjects of interest to the members.

The Syndicate obtains its funds through the dues of its members and through its own investments. The GOE does not support the Syndicate financially.

Though strikes and other forms of political demonstration are not permitted for teachers nor is the Syndicate as an organization allowed to align itself with a political party, there are other channels on local, national, and regional levels through which professional and political interests are voiced. The President of the Syndicate is, for example, a member of the Arab Socialist Union Central Committee, a member of the Council of Syndicate Presidents, a member on a number of specialized national councils, and a Senior Undersecretary in the MOE. In these positions he is able to express the views of the teachers, encourage policy changes that benefit his constituents, and prevent the enactment of measures that would be detrimental to their welfare. Eventually the Teachers' Syndicate along with other professional syndicates will be represented in a National Consultative Council (Shura).

In the area of improving teachers' professional competence, the Syndicate has been active in working on instructional methods and syllabi revision policy, in upgrading the training of teachers, and in holding conferences and seminars on educational problems and innovative solutions. The Teachers' Syndicate is routinely represented on the committees formed to review and revise curricula.

From the point of view of individual teachers, perhaps the most significant benefit of membership in the Syndicate comes from the services provided. Teachers enjoy the use of clubs, summer camps, and subsidized cafeterias in larger towns and cities; a number live in subsidized housing units or have bought land at nominal prices on easy terms from the Syndicate

housing cooperatives. All teachers are eligible to be treated in The Syndicate's private hospital in Cairo at a nominal rate or free if medical services are not available in their school district. Loans are available for those who need them, and various kinds of pensions are offered beyond the normal government pension for teachers who retire, are disabled, or for the widows of those who die.

One of the major grievances of teachers has been the low salaries they receive and the fact that they are denied some of the privileges of other civil servants. The Syndicate has succeeded in obtaining the same civil service status for teachers that is enjoyed by other public servants, has helped set basic guidelines for hours of work, and has attempted to obtain more equitable pay for its members. For example the Syndicate has assured that a teacher who works more than the standard 24, 21, or 18 hours at the primary, preparatory, or secondary levels, respectively, is compensated by an addition in pay for the proportionate number of hours worked. This permits the teacher who needs the supplemental income a means of increasing his pay and at the same time gives the system a degree of flexibility in responding to teacher supply needs.

One of the accomplishments the Teachers' Syndicate is proud of is the improvement in teacher morale that has been achieved through the annual celebration of a Teachers' Day to honor the profession. On that day, ceremonies take place in schools across the nation; "ideal" teachers are chosen from each governorate, and a number of dignitaries mark the occasion with speeches.

The Survey Team visited several Syndicate facilities in various parts of Egypt including the main headquarters in Cairo. The Teachers' Syndicate facility in Qena can perhaps serve as an example here. These teachers find boarding accommodation in a club area and cafeteria facilities. Twenty-one male² boarders pay about 25 percent of their salary for room and board. The director of the Syndicate, himself a retired teacher, noted that about 90 percent of the teachers are now inhabitants of the Qena area, which means that there is less need now for boarding facilities than in the past.

At the end of the school year, the Syndicate also provides rooms for teachers who are seconded from other parts of Egypt to Qena to correct exams. Other benefits that the members enjoy are library facilities, access to subsidized vacations at summer resorts, special rates for trips and for the annual pilgrimage to Mecca, special rates to buy land in the Qena area and other benefits that are nationally available to all teachers such as hospital

²Women teachers who do not have places to live locally usually live directly in the schools where they teach. It was reported that they spend from 2 percent to 4 percent of their salary for these accommodations.

care service. When a teacher retires he receives LE100 from the Syndicate besides his government pension, and if he dies his widow receives a lump sum of LE365.

In general the Director felt that the main function of the Syndicate was to provide a source of economic and psychological security for those in the teaching profession.

Teacher Training and Supply

Teacher Training and Supply

The supply of teachers for Basic Education is a critical factor affecting both the feasible rate of expansion and the feasibility of resolving qualitative problems such as result from overcrowding or from lack of teachers prepared for the practical, applied, and more integrated emphasis of the proposed curriculum changes. Though teacher supply is not a serious constraint on current enrollment, it will be a constraint on the planned enrollment growth and qualitative changes over the next decade. Teacher supply is affected by the rate of training for new teachers, and policies regarding appropriate qualifications, policies regarding teacher utilization.

The main source of primary school teachers is the 5-year teacher training institute (TTI). There are three types of students admitted to the primary teacher training program. These are 1) regular students who are graduates of preparatory schools, 2) external students who are teaching but do not hold a teaching diploma, 3) graduates of technical secondary, who may enter in the fourth year.

Regular students must be less than 18 years of age in the year in which they are admitted, must have received a preparatory certificate from either the general preparatory schools or from Al-Azhar preparatory schools, must have passed a medical examination, and a personal interview. Students who choose teacher training as one of their options are generally given their choice (providing their examination scores are adequate), but it is generally understood that most have not chosen teacher training as their preferred option.

External students are mostly teachers who have not been fully qualified for the primary teacher diploma but who have won admittance to the teacher training program for the last 2 years of training, usually by receiving a favorable recommendation from participation in an in-service education program.

In the first 3 years, the curriculum of the teacher training institute is considered equivalent to that taught in the secondary schools. Its academic and scientific component parallels the subject fields generally taught in the primary schools. Special attention is given to the study of the Arabic language as it relates to improving communication and understanding of the Arabic culture. Most professional education courses do not begin until the fourth year, though there is a proposal to add some work in the third year. In the fourth and fifth years, four distinct areas of study are required: 1) mathematics and science; 2) preparation in one of the teaching specializations; 3) professional education courses; 4) required coursework in Arabic, religion, a foreign language, civics, and a number of extracurricular activities.

Presently there are 77 teacher training institutes; 27 are for men, 24 for women, 20 are coeducational and 6 have classes attached to secondary schools. These are distributed in all governorates, though somewhat unevenly. There are 52 schools that provide boarding facilities. Further school additions will include similar boarding facilities at Sohag, Sharquia and Daqahlia Governorates. New institutes are planned at Damenhour, Kafr-al-Shaykh, El-Mahalla, El-Manzala, Beni Suef, and Qena.¹

Of the 132,899 primary school teachers, about 30,000 are considered unqualified, meaning that they do not hold a diploma in education from one of the teacher training institutes or from another source such as a faculty of education at one of the universities. Most of these "unqualified teachers" are older teachers trained before 1963 in one of the 3-year teacher training colleges, Arabic teachers without teacher training, or holders of secondary certificates without the teaching diploma.

At the preparatory level most teachers are expected to have a BA or BS degree from one of the universities, either in one of the academic disciplines followed by a year of educational specialization in a faculty of education, or a BA from a faculty of education. There are also a number of teachers who have completed general secondary and then taken a diploma in education from one of the teacher training institutes or faculties of education. Most of these are employed as laboratory instructors. Perhaps 30 percent are considered unqualified, i.e., not having the professional training as teachers. Science (15 percent), mathematics (13 percent), and domestic science (10 percent) have the fewest unqualified teachers, while Arabic (87 percent), French (84 percent), and art education (53 percent) have a majority of unqualified teachers.

There are no "para-professionals" employed as such, though some 25-30 percent of the teachers in the primary and preparatory schools have less than the desired professional preparations. This varies from 2 percent to 46 percent depending on the governorate.

One of the first problems encountered in attempting to assess the teacher supply situation is that there is at present no reliable means of making comparative judgements about teacher effectiveness, other than impressionistic data, such as the opinions of inspectors and headmasters as to whether individual teachers are satisfactory. Thus, there is no basis for concluding with any confidence that the presence of significant numbers of unqualified teachers is a major constraint on education expansion or on the quality of

¹Boarding raises costs to LE245 versus LE40-140 for other types of secondary education. One possibility of reducing costs is through the increased enrollment of transfer students in the fourth and fifth years.

Basic Education. It is plausible that in at least some respects some of the "unqualified" teachers may be at least as effective as those with the desired certificates and diplomas. Until more effective means are devised of assessing teacher effectiveness in terms of some desired set of outcomes, and of correlating such judgments of effectiveness with a range of options for training, utilizing, supporting, and motivating teachers, it is appropriate to be very cautious in recommending major changes in training strategy or "approved qualifications," particularly if such changes require major investments of time, effort, or finance which might be utilized in other ways to bring about qualitative improvement or change. Note that in terms of salary, the raising of primary school qualifications to the BA level would have little effect, since the diplomaed teacher is now on the same salary scale as the BA teacher (though with a lower ceiling). The costs of extending training would be mainly the additional costs of training.

The intention here is not to argue against further efforts to improve the quality and relevance of teacher training. Clearly, this is required as part of a continuing process of educational improvement and reform. The Basic Education curriculum reform now under consideration provides a unique opportunity to reconsider all aspects, including the questions of what qualifications are appropriate and what factors contribute most to effective teaching.

If the overall objective for Basic Education is taken to be the effective management of learning in the new curriculum for as many children as possible, it is important that we consider teacher effectiveness as only one of several interrelated factors contributing to effective learning. The faculties of education, the research centers, and the teacher training institutes can help to assess these factors and to incorporate the findings into teacher training and utilization strategies appropriate to the basic education emphasis.

There have been a number of studies in many countries, including the 10-year longitudinal study of 10 countries, "The International Assessment of Educational Achievement," which have attempted to isolate the factors that account for most of the differences in learning between schools and between systems of schools. There is very little support in this research for the proposition that the number of years of training the average teacher has had is by itself a significant factor explaining differences in student achievement. Other factors, including average class size, number of contact hours with the teacher, availability of certain minima of instructional equipment and materials, appear consistently to be more significant. Other factors are also significant, such as the nutritional status of the child. There appears to be no reason to expect a different result in Egypt. It is necessary to balance the priority given to expanding the years of professional preparation given to the average teacher with the need to address the other factors that are critical to student achievement.

One of the factors that should be monitored closely in any experimental or demonstration schools is the question of teacher effectiveness. Where possible, it is desirable to choose as demonstration or experimental schools those schools that have a typical mixture of teachers, including "unqualified" teachers, plus other typical facilities and student characteristics. Though experiments such as the 8-year school at Medinat Nasr may show what can be done with a fairly optimum staffing, it is probably more important to demonstrate what can be done in more typical schools, such as the "integrated care" schools of West Cairo.

The number of teachers is clearly a critical factor, since the number affects the feasible rates of expansion, the class size, and the amount of "extra-curricular" activities and guidance that can be provided. The aggregate number of teachers does not appear to be a serious problem at present, but it is a constraint in qualitative improvement and accelerated expansion of enrollment.

There are at present 132,899 teachers of 4,287,124 primary students. There are at present 40,595 enrolled in teacher training institutes, providing about 6,000 new teachers annually now and a potential of about 10,000 by 1984-85. There are also about 20,000 administrative personnel, i.e., directors, headmasters, deputies.

The total number of teachers is somewhat imprecise, since a number of additional teachers (about 30,000) are loaned on contract to other Arab countries and because many of the teachers are teaching part-time in second-shift classes. Arithmetically, there is about one teacher per 32 students (1.34 teachers per classroom). The MOE staffing plans are based on 1.2 teachers for every primary class (class sizes averaging 40 but ranging from about 30 up to 60 or more students). Each primary teacher is limited to 24 salaried teaching periods out of 26 to 32 class periods per week, though many have 10-15 periods of additional teaching in second and third shifts at an hourly rate. Preparatory school teachers teach somewhat less, 21 salaried periods per week out of 34 scheduled periods. The staffing ratio is often worse than these figures suggest, due to significant rates of teacher absenteeism (estimates of 10-20 percent are commonly heard). One cause of absenteeism appears to be that in some of the urban middle-class residential areas, the teachers must live some distance away and often arrive late or not at all. Understandably, such absenteeism is exceedingly difficult to quantify and include in official planning.

The replacement rate for teachers (death, retirement, promotion, change of job) is estimated at 5 percent annually. If we project an increase in enrollment of about 4 percent annually (the rate required to reach 90 percent of 6-12-year-old enrollment by 1990), and a replacement rate for teachers of 5 percent annually, there is a need for new teachers at the rate of 9 percent

annually, or about 12,000 annually, over the next decade. If the rate of enrollment increase is less, say 2 percent or about the same annual rate as obtained over the last decade, the need would be closer to 10,000 annually.

In addition to the increasing first-year enrollments, there are several other variables that affect the demand for new teachers (including any changes in average class size, assumptions regarding dropouts, double- and triple-shifting practices, numbers of retirees who may continue to teach on an hourly basis, policies regarding employment of "unqualified" teachers) on which we can only speculate at this point. There are many academic secondary students who are employed as "unqualified" primary teachers, and there are also substantial numbers of university graduates who could be assigned as teachers (especially in fields such as Arabic, math, science). If such people were employed, this would clearly produce more than enough teachers, though many would not have the desired pedagogical training.

However, if we assume a long-term policy of staffing the primary schools mostly with graduates of the teacher training institutes, the growth of the teacher training institutes should be aimed at an out-turn in 1990 and thereafter of slightly more than the replacement requirements for that year (assume 5 percent) plus the rate of expected increase in the age group (assume at least 2 percent). To meet the estimated demand or out-turn will require a slightly higher intake 5 years prior.

Thus, if we project total enrollment growth of 4 percent from 1979-80 to the 1989-90 total enrollment, there is an apparent need in 1989-90 for about 189,000 teachers. This would require about 13,000 new teachers in 1989-90, or a new intake of about 13,500 teachers in 1984-85. By comparison, if enrollment grows over the decade at 2 percent annually, the total needed in 1989-90 would be about 159,000, about 11,000 new teachers annually, or an intake to teacher training institutes of about 11,500 in 1984-85. The first year intake in 1978-79 was 10,536.²

Thus, it appears that if primary education continues to expand at the rates of the past decade with no major change in class size or policies on teacher employment and utilization, the current rates of teacher training will be adequate through about 1984-85 and, with an expansion of about 10 percent, will be adequate for the remainder to the decade. This appears to be about the rate of increase currently planned.

² If a decision is made to extend primary school training to the BA level, the increased out-turn will be delayed about 2 years and the intake schedule must be moved up accordingly.

However, if the MOE aims at a higher enrollment target, e.g., 90 percent of 6- to 12-year-old children enrolled by 1990, or if major qualitative changes such as reducing class size are taken, there will be a shortage of teachers and of teacher training capacity by about 1982-83. Teacher training capacity will thus be a constraint to accelerated enrollment to reach the quantitative goals of Basic Education, though it will not be a major constraint to continued expansion at current rates. To remove this constraint by mid-decade would require increasing teacher training institutes capacity by up to 30 percent over current levels (12-15 new institutes or equivalent expansion) and/or increased use of secondary certificate and university graduates ("unqualified" teachers).

This conclusion that teacher supply is adequate or near adequate at present is valid only in the aggregate, i.e., on the national level. If we look at the distribution of teachers and of teacher training capacities by governorate,³ it is clear that there are substantial disparities in teacher training capacity. Since the policy is to train and employ teachers as much as possible in their own governorates, it is clear that substantial expansion is required in some governorates (e.g., Cairo, Alexandria, Gharbia) while little or no expansion is required in others (e.g., Qena, Aswan, Matrouh, New Valley). There are no teacher training institutes at present in Sinai.

Given the emphasis on localization of Basic Education, it may be necessary to continue this expansion in selected governorates beyond the point at which the total supply of teachers in the national system is adequate or moving into a surplus situation. Any surplus that emerges would then be available for other purposes, such as reducing class size or making further progress toward universal enrollment. A modest teacher surplus should be viewed as a "problem" only in the budgetary sense.

A second distribution factor to be considered is the male/female enrollment in teacher training. This ranges from about twice as many girls as boys enrolled in teacher training in Cairo, Alexandria, and Suez to less than half as many in Sohag, Qena, and Assuit. Improvements in these ratios should be brought about within the expansion program. The importance of raising the percentage of female teachers is that the enrollment objectives for primary schools cannot be reached unless the enrollment of girls in primary schools in these same governorates can be raised substantially. Ninety percent enrollment requires a minimum of 80 percent female enrollment. While the supply of female teachers is not directly related to the enrollment of females in primary school, it is difficult to see how the social factors inhibiting such enrollment can be overcome until more representative numbers of female teachers are trained and employed.

³See Annex Table 5, pt. 3.

It is understood that one of the constraints to increased female enrollment in teacher training is the availability of suitable dormitories or hostels. The lack of suitable housing associated with the primary schools is also a constraint affecting the employment of female teachers. This accommodation constraint should be surveyed and quantified, and it should be taken into account in any building program that is undertaken.

In addition to questions of aggregate numbers and the distribution of teachers, the supply of teachers is affected by the way in which they are utilized.

At present, teachers are classified as "whole class" teachers responsible for all activities in the first four primary grades, as "specialized" teachers responsible for one or more subjects in the fifth and sixth years, or as practical instructors. There are also a small number trained and classified as nursery teachers. The normal pattern is for a teacher to be placed first as a whole-class teacher in the lower grades and then after a few years to become a subject teacher in the fifth and sixth years.

At the preparatory level, teachers are considered either theoretical subject teachers (BA or BS) or laboratory teachers (diploma) or workshop/practical training instructors (including many of the unqualified).

The classification of teachers reflects the curriculum pattern of separate subjects with little integration either between subjects or between the theoretical exposition of the subjects and the application in laboratory or workshop and practical training activities. It also leads to inefficiencies in teacher utilization, such as:

- "Specialist" teachers are reluctant to supervise or teach the laboratory and workshop activities, mainly for status reasons.
- The more experienced teachers graduate to the upper grades, leaving the lower grades (and usually the largest classes) to new teachers.
- In the smaller (six-class) schools, it is difficult to cover all the specialties (subjects) without redundant staffing.
- The students generally stay in one classroom, with the teachers moving in and out, which makes it difficult for even the well-trained specialist to make use of displays or other teaching aids or equipment.

At present there are specializations in religious education (usually combined with Arabic and/or social studies), science, mathematics, art, music, physical education, agriculture, domestic science/home economics. Among the current proposals for change in teacher training (though not as yet in the primary curriculum) is the combination of the specialties into two major fields, or "branches." The student would choose a major either in the field of Arabic and social studies or in the field of math and science. She would then choose (in addition to required common courses in education and a foreign language) two of the other specializations (one major, one minor) from agriculture, home economics, art, music, physical, and nursery education.

This seems a very constructive proposal, and it may become a first step toward curriculum integration at the primary level. The major weakness is that fields such as agriculture and home economics are still left as minor, optional fields of preparation for teachers expected to implement the basic curriculum.

For both the primary and the preparatory levels, the most serious shortage is the lack of teachers with the practical training and experience required for laboratory and workshop instruction, and guidance of the practical training activities. There is no effective program at present for training such teachers, and most laboratory and workshop activity is currently supervised either by technical secondary graduates without teacher training or by holders of education diplomas without technical training or practical experience. This problem is a major constraint to the Basic Education initiative and should be given high priority in any expansion of training capacity. There appear to be three courses of action as follows:

1. Establish one or more specialized technical institutes (5-year) to prepare technical teachers, and laboratory and workshop instructors for the preparatory and upper primary years. There are two ways to do this. One is to add a specialization to the fourth and fifth years of selected teacher training institutes, which would be open mainly to transfer students from the 3-year technical secondary schools. The other is to select several 3-year technical secondary schools and add fourth and fifth year programs to them. At present there is an agricultural education specialization. This might be broadened to become a rural teacher training institute. Other specializations should be considered for urban teachers. The first option would have the advantage of building on an already established teacher training capacity. The second option would have the advantage of building on some established linkages with relevant industries and practical training facilities. On balance, either option seems workable.

There is a third option, to establish a technical teacher training program at the university level. This is not recommended for the Basic Education programs, since it is doubtful whether teachers trained at this level would

be retained in the preparatory and primary schools. In any case it would first be necessary to make the university program much less theoretical and academic than is now generally the case. Such a program seems more appropriate for training secondary technical teachers. What may be useful to consider is an option for the graduates of technical teacher training institutes or 5-year technical institutes to enter a faculty of education after a period of successful teaching.

2. Expand the in-service training of teachers, with perhaps two successive summer programs required to provide sufficient preparation in methodology and practical experience for the average teacher. Such courses could be organized locally in each governorate, using facilities of teacher training institutes, technical secondary schools, or preparatory schools. This option could be organized relatively quickly and would help to solve the short-term problems of getting enough teachers prepared for the new curriculum emphasis on practical training. A continuing program of in-service training is also recommended over the long-term as a means of keeping teachers current and of involving them in on-going curriculum revision and idea-sharing. In view of the importance of developing sufficient numbers of well-motivated practical teachers, it would be helpful if a way could be found to recognize attendance at such a series of in-service workshops either as credits toward a higher certificate or degree or in the form of a modest salary increase recognizing the added competence.

3. Seek ways to involve skilled craftsmen, master farmers, artisans and other local individuals with practical experience as instructors in the primary and preparatory schools. Such individuals, working with qualified teachers who can assist with pedagogy and classroom or laboratory organization, could provide excellent practical experience, would solve many of the problems of linking the schools more effectively to the community, and would provide realistic role models of possible success in practical trades and vocations. One of the major obstacles to obtaining sufficient numbers of qualified teachers with practical experience is that the levels of education and professional training considered as the minimum for qualification are higher than are the levels at which such individuals are normally employed or self-employed. It may be useful to consider a new "para-professional" qualification which reflects a substantial amount of actual work experience plus a period of formal training at a teachers institute or in-service training program such as is proposed for other teachers above. Even though it may prove difficult to do this on a large scale (there are problems with incentives for such craftsmen and there is likely to be at least some opposition from the trained teachers), it should still be possible to use such people as community resources for a few hours a week.

It is recommended that a plan be developed combining elements of all three initiatives. Such a plan would require cooperative planning between

the teacher training, in-service training, and technical education divisions of MOE. External assistance would be useful mainly: in helping to establish expanded physical capacity for teacher training, particularly for the fourth and fifth year programs for technical teachers; in providing specialist input to the summer in-service programs (such as experienced workshop, "open-classroom" and "real-problem solving" teachers) and; in curriculum development technical assistance with the laboratory, workshop, and practical training activities with which the new teachers will work.

The Department of In-Service Training is under the jurisdiction of the Undersecretary for Administrative Development. It has four "main training centers," at Cairo, Alexandria, Assuit, and Tanta. The Cairo center is the best equipped, with good library, science and language labs which the other centers lack. All centers are understaffed, with a total of 42 staff authorized, but fewer than half in place.

The central Department functions through the main training centers to assist the governorates and districts to organize courses according to needs identified at that level. Most of these courses seem to be for administrators and subject masters either preparing for new administrative responsibilities or studying toward a higher degree. Most of the instructional staff for these in-service workshops are drawn from the university faculties.

There is little connection at present between the in-service training and preservice teacher training, curriculum development and related research or experimentation, the development and dissemination of new texts and instructional materials. Each of these is in a separate section of the Ministry and even where as in the case of the Cairo main training center, which is located in the same building as the General Directorate for Audio-Visual Materials, there is little interchange or joint planning.

The weakness of the In-Service Department and its separation from other departments responsible for qualitative change seems a major constraint on the ability of the MOE to effect curriculum change and encourage the use of new materials and instructional aids.

A significant increase in funding and staffing appears required; reorganization to create more effective coordination and joint initiatives for instructional improvement with other departments responsible for such change should be undertaken; and the in-service activities should be linked more closely to the pre-service training functions of the teachers institutes.

An issue closely related to the need for in-service training is that of the promotion opportunities open to primary teachers. At present these opportunities are very restricted. Few primary teachers are promoted beyond positions of headmaster of a primary school. The result is that most of the

inspectors, most of the faculty of the teacher training institutes, and most subject experts or university faculty working on new curricula and materials have not taught at the primary level. There are exceptions who after teaching a few years manage to gain entry to a university, but these account for at most 10 percent of the enrollment of faculties of education.

One of the ways in which the problems of improving the staffing of the teacher training institutes might be addressed is by increasing the opportunities for the more experienced and innovative primary school teachers to formalize their qualifications at least to the BA or BS level. This could be done through a combination of opening more places for experienced teachers in the faculties of education (some of whom might be continued into a professional Masters in Education program) and of using the in-service training organization in combination with the faculties of education to provide "open-university" study opportunities for teachers still working in the primary schools. Upon completion of such degrees, such individuals could be given preference for positions in the teacher training institutes and in the inspectorate. An initiative such as this would help both to ensure that MOE staff in such critical positions are thoroughly familiar with problems and possibilities at the classroom level, and to provide a valuable means of recognizing and motivating exceptional primary school teachers.

A final critical problem needing attention is the supply of teachers of teacher trainers (i.e., key faculty for the faculties of education). This is one of the most difficult bottlenecks of any teacher training system. Some external training may be needed for key individuals, to provide comparative experience and currency with other educational systems. However, most of this problem can be addressed within Egypt as part of the process of curriculum reform and experimentation. Two strategies are suggested.

First, the strategy for teacher training should be thoroughly integrated with the process of curriculum, text, and instructional materials development and experimentation. The people most likely to contribute to teacher training are those who are also engaged with such development and field testing work. One of the recommended ways to train teachers of teachers is to build upon the specialized curriculum centers such as the Science Education Center at Ain Shams university, involving both faculty and students in development, experimentation, and field-testing work.

Second, related to this is the desirability of linking such work more closely to the teacher training institutes. At present there are 67 primary and 30 preparatory schools associated with these institutes as "demonstration" schools. At present, "demonstration" mainly means demonstration and practice for the teacher-in-training. If these schools were also used more as demonstration schools for field-testing, experimentation and development of the new curriculum, materials, and pedagogy, an important link would be made

between the teacher training, the curriculum/materials development, and the teaching of teacher trainers functions.

In the long run, it is through this development of an effective linkage and integration of these three critical functions (and the individuals and institutions responsible for these functions) that the supply of effective teachers for Basic Education will be accomplished.

In summary, the projected supply of primary teachers appears adequate or nearly so if enrollment expansion continues at the rate of the past decade and if there are no major changes in class size, dropout rates, or employment qualifications for teachers. Any shortfall in graduates from the teachers institutes can be filled with BA or BS teachers and "unqualified teachers" such as holders of general secondary certificates. No quantitative problem in supply is foreseen for preparatory teachers, though there is a qualitative problem of shortages of practically trained teachers.

However, if expansion is projected at rates higher than 2-2.5 percent annually, or if there are reductions in class size or dropout rates, there will be primary teacher shortages. At a 4 percent annual rate, there is a need for expansion of teacher training capacity by about 30 percent by mid-decade. This percentage may be reduced by greater use of noneducational BA or BS teachers, but some expansion will still be required.

The priorities for expansion should be: 1) specialized teacher training for laboratory, workshop, and practical training instructors, 2) improved distribution of teacher training capacity by governorates, 3) increased female enrollment at least to levels proportionate with the expected female enrollment in primary schools.

It is recommended that in-service education be expanded and improved 1) to contribute to teacher retraining as part of the diffusion of new curricula, materials, and instructional aids, 2) to help link the teachers institutes and faculties of education more effectively to the primary classroom, and 3) to provide a degree of upward mobility for some of the primary teachers to advance to degree status and higher responsibility in MOE programs.

It is recommended that curriculum development, research, and experimentation (particularly the activities of the NCER and the specialized centers such as SEC Ain Shams) be linked more directly to the teacher institutes, possibly through greater use of the demonstration schools as pilot or experimental schools. One of the recommended areas for research and experimentation is on the factors that contribute to teacher effectiveness in the classroom.

The faculties of education should be encouraged to provide more places for upgrading of experienced primary teachers, to concentrate on the training of preparatory school teachers, and to provide advanced training and internships for the trainers of teacher trainers.

External assistance would be helpful for some of the physical expansion of teacher institute capacity, particularly for the practical teachers; for technical assistance with in-service training and retraining; for technical assistance with the linkage of curriculum and materials development to the demonstration schools; and for providing fellowships and expert assistance with the training of teacher trainers.

Textbooks and Materials

Textbooks and Materials

The MOE produces (or purchases) and distributes some 80,000,000¹ volumes of textbook material, plus workbooks and other school supplies, every year. A major part of this material, perhaps two-thirds, is distributed to primary and preparatory school students. These materials are distributed free of charge to the students.

The fact that the MOE successfully manages this massive task indicates that it does have much of the capacity it requires to meet its textbook and materials needs. However, the materials effort is constrained by a variety of rigidities and inadequacies of the basic education system. Among the main constraints are:

- A centrally determined curriculum and syllabi which leaves little room for materials innovation and adaptation to local needs
- Inadequate provision for continuous assessment, research, and experimentation with new materials
- Inadequate production capacities for nonprint supplementary aids of all kinds, ranging from basic classroom equipment to audio-visual aids to simple science equipment and materials
- The sheer logistics of the production and distribution system, which forces reliance on standardized and inexpensive formats, limits editing and field-testing, overloads the inspection system with administrative tasks, and creates wastage due to storage and handling problems
- Physical inadequacies in the primary and preparatory schools, which limit the use of improved materials, even where they can be made available
- Skills and motivations of teachers are often inadequate to use improved materials effectively and creatively.

Textbooks follow closely the official curriculum which is reflected in the prescribed syllabi. Most materials are rewritten, based on a review of the curriculum and syllabi, at least once in every 5 years, with minor changes in materials and syllabi in intervening years. The last general review and

¹Estimate of Director of Government Printing Agency

revision of curricula and materials was begun in 1973 and completed in 1975. Reviews of social studies, science, mathematics, and some aspects of the technical training curricula are currently underway.

The formal responsibility for initiating curriculum changes, and therefore syllabi and textbook changes, rests with the MOE. The National Center for Educational Research² plays a major role both in assessing curricula and materials to identify needed changes and in coordinating the development of new curricula and materials. The senior consultant of the MOE for the subject concerned works closely with the MOE experts for the subject and level and with the general inspectors.

One of the main bases for assessing the suitability of existing materials is the reports received from the inspectors, who are expected to visit each school at the beginning of the school year (October) and again toward the end of the year (April/May) and to prepare a report on the suitability of materials based on the opinions of the teachers and headmasters. These reports are not systematically collected or processed (they are mainly for the first year in which materials are used) nor are they based on a scientific assessment methodology. They are useful mainly for assessing general satisfaction with the materials, not for detailed revision and development of new materials. There are also a variety of informal channels by which the MOE receives feedback, including letters from parents and teachers, complaints in the newspapers, views expressed through the Teachers Syndicate, etc. Preservice and in-service teacher training workshops may also identify problems needing attention.

A more scientific assessment may be undertaken by the NCER, or occasionally by specialists at one of the faculties of education, such as the Science Education Center of the Faculty of Education at Ain Shams University. The NCER may initiate a survey of the materials in use for one or more subjects (with necessary coordination with the MOE experts, consultants, and general inspectors) and present the results of its formal assessment to MOE. A problem here is that unless the assessment is officially requested, the NCER has to find the resources in its own budget.

On occasion, a decision may be made at the cabinet level that the curriculum or materials need to be revised according to national policy, and the Minister may simply direct that the curriculum be reviewed and changed as necessary. In this case, the detailed assessment may be made after the decision to change has been made.

²The NCER is an autonomous body of the Ministry, having its own Board and budget, with responsibility for educational research of all kinds and with particular responsibility for the assessment of curricula and materials.

Once a decision is made to revise the curriculum for a subject, the normal procedure is for the NCER to be asked to form an advisory committee (and subcommittees as necessary) involving MOE experts and consultants, NCER staff, professors from various university faculties, representatives of the Teachers Syndicate and other individuals having expertise or interest in the subject. Such committees may require 6 to 12 months to complete their work, depending on the subject and the extent of the revisions. Once the committee has completed its work, and the revised curriculum has been approved by the MOE undersecretaries, it is presented as a formal recommendation to the Minister. The Minister then reviews it and (if he approves) issues a Ministerial Decree for the subject or subjects.

This is the procedure used for the last general review of all primary school curricula and materials in 1973-1975 (some 400 members served on various committees and subcommittees) and which is being used at present for the revision of social studies (NCER) and primary science (NCER and the Science Education Center at Ain Shams University).

There are thus several ways in which curriculum change or textbook revision may be initiated. However, they all have two general characteristics: They all require a decision or an initiative by some part of the central MOE, and they all have little direct participation from the teachers and students using the materials, either in the revision of the curricula or in the development of new materials. In the development of new materials for the Basic Education programs, it will be desirable to explore other approaches to enable teachers to participate more directly in the development of materials appropriate for their localities and students. For at least some subjects (e.g., the practical subjects) parents, local craftsmen, experienced farmers, industrialists, and even students might be involved.

The social studies curriculum changes currently being considered provides a case study both of the means by which the MOE is able to act quickly and decisively on needed changes, and of a major weakness in the approach.

In a Ministerial Memorandum dated January 20, 1979, the Minister directed his staff (and the NCER) to review and to change as needed the social studies curriculum. Several reasons were stated for the proposed changes. First is the general need to include new developments in the social and behavioral sciences since 1975. Second is the need to introduce the applicative uses of the behavioral sciences so that knowledge and skills acquired through them may relate functionally to everyday life. Third is the need to respond to the criticism that the primary school program provides instruction in discrete subjects, e.g., history and geography, without attempting to correlate or integrate these and other subjects into a unified and conceptually consistent

curriculum frame.³ Fourth is the need to introduce into the program new concepts in population education and environmental studies. Given the reasons stated above, the Ministerial Memorandum asked that a committee be formed to 1) review the existing curriculum and textbooks, 2) review the opinions and points of view of field workers (i.e. senior teachers and inspectors) about the curriculum, 3) review articles and texts for new developments on the subject in other countries, and 4) propose a new curriculum. Thus, the mandate appears to be to reassess the content and bring it into line with current social policy, rather than to reconceptualize the underlying philosophy and pedagogic strategy.

From the point of view of decisionmaking, it is interesting to note the composition of the advisory committee. The committee is chaired by the Director of NCER and includes 13 members. The composition of this important committee (thus the ultimate decision) remains exclusively with the MOE and NCER, though other groups and individuals will be represented in subcommittees and working meetings.

The process by which the social studies curriculum is being changed illustrates both the strength and the weakness of a centralized system of education. In a decentralized system, a change such as this in a crucial curriculum area of interest to many groups would have been a long-term process, possibly requiring the collaboration of several agencies over a period of a number of years. On the other hand, a centralized system that works through an official committee cannot fully involve all the interested groups and individuals, particularly the teachers, in the planning or revision process even with extensive use of subcommittees and runs the risk of developing programs that are not realistic for all localities or which do not take full advantage of opportunities to experiment at the classroom level.

The desirable process, in the view of the U.S. team, is one that makes effective use of the ability of the MOE to act decisively in initiating or supporting change, the ability of specialists and experts to contribute to the content, and the ability of teachers, parents, and students to help shape the curriculum according to the realities of the teaching and learning situation. Such a process usually requires a workshop or committee approach continuing throughout all stages of curriculum or syllabus development and materials development, with experimentation in several different learning contexts.

³It should be noted here that 'social studies' in the U.S. sense (i.e., an integrated program based on thinking skills and decision-making) does not exist here. The prevailing organizing concept in Egypt is the 'separate subject' approach.

Once the decision is made to prepare a new textbook (i.e., the new curriculum has been officially approved), the current MOE procedure is to implement it through the direct engagement of experts in the field who are commissioned to write the texts. Most text writers are MOE subject experts and university professors, some of whom also serve on other textbook revision committees. The set of people who do most of the writing thus appears somewhat restricted and ingrown. In addition to subject expertise, it is desirable that writers be experienced in classroom problems and with children in the relevant subject and grade level. Though the writers may be expert in the content of the subject, most of the writers have not taught at the primary level and have little opportunity to work directly with classroom primary teachers.

The comment here is not a criticism of the individual writers. The present promotion system is such that it is rare for a primary school teacher to advance through the ranks to a senior MOE position, and the senior MOE personnel are heavily burdened with administrative duties and are in contact with the classroom mainly through their administrative duties. However, it is clear that text materials written in this way cannot be expected to be fully responsive to the pedagogic problems and opportunities in the classroom.

A partial solution is to provide opportunities for teachers, e.g., senior masters, to work with the writers during development (perhaps in a workshop or series of workshops) and to ensure that sufficient time is allowed for materials to be tried in representative classrooms and revised as needed before publication. The primary school teachers may not have the content expertise needed for all subjects, but experience in many other countries and in Egypt⁴ confirms that the teacher brings valuable perspective and ideas to the development process. In any case, for the materials to be used effectively, they must be understandable to the teacher as well as to the students.

The authors have certain severe limitations imposed on them as they write the material. First of all, they have to operate within the curriculum syllabus prescribed for the subject. This syllabus presents in detail every topic and subtopic to be studied, the order in which they are to be studied, and the classroom time to be allotted to each. There is thus limited opportunity for innovation or deviation in content by the author, though there is no room for pedagogic innovation. Other limitations include the fact that there is a set format for all the textbooks in terms of chapter development and organization, ratio of visual to written material, type of print, etc. Underlying all of this is the general understanding by all concerned that the examinations are

⁴ See Maude White, "Report on Preliminary Study on the Need and Feasibility of Teacher Produced Materials in Egypt and on a Workshop to Design Materials", MOE-USAID, July 1977.

keyed directly to the syllabus, that the teachers tend to teach to the examination, and that materials which are too innovative or which contain extraneous material may not be used by the teachers. Finally, there is generally a time constraint which obligates the author to complete the manuscript in time for production and dissemination for the next school year. For this reason, little editing, field testing, or trial teaching is done before the manuscript is finalized.

Another major problem which affects the quality of new textbooks is the relatively low remuneration offered to authors. To write a new textbook, authors receive between LE400 and perhaps LE800, a sum of money that does not serve as an adequate incentive to compensate top professionals for the time involved in thorough revision, pretesting and editing.

Once new textbooks are written and approved by the corresponding MOE committee, the General Administration for Textbook Affairs in the Ministry takes over and sees to it that the texts are printed in sufficient quantities to meet the textbook needs of the children in the respective level and subject fields. About one-third of the texts are printed by the government printer, which is under the authority of the Ministry of Education and Culture. Private printers are used for the remainder, and, for a few subjects such as foreign languages, commercial materials and readers are used. Other than copy books and a few readers, most of which are commercially printed, there are no supplementary materials (dictionaries, atlases, reference books) distributed to primary students.

The materials are printed under contract, essentially at cost, using paper supplied by the MOE. After printing, the materials are either distributed directly from the printer to the governorates or returned to the MOE book storage facilities for later distribution. The distribution of texts is the responsibility of the General Administration for Textbook Affairs and the district offices. Each school in the district receives a textbook allotment and arranges for its final distribution to the students.

One major problem is that the distribution of such large quantities of materials every year places a substantial administrative/logistic burden at every level from the MOE to the district. If ways could be found to reduce this administrative burden, valuable time of the inspectors and others could be freed for other technical tasks. One suggestion is to consider some decentralization of the materials storage, and possibly the production, to perhaps five key centers serving different regions. Another is to consider alternatives to production and distribution for all subjects every year. Materials might be produced for 2 years' needs at one time or they could be technically improved (especially bindings) to be usable for more than 1 year. Some subjects might be combined or "integrated" into one text. Improved transport at the district level would also help.

A second problem is the amount of wastage which appears to occur through the several stages of materials handling, printing, storage, and distribution. The MOE has insured itself against disruptions in paper supply by maintaining stocks of about 20,000 tons against an annual need of about 16,000 tons. However, there appear to be some problems with the handling and storage of both paper and printed materials which result in wastage of 30-50 percent from the import of paper, or production at the papermill in Alexandria, to the final delivery at the schools. There is a need to improve storage and materials handling at all points.

As many observers have confirmed, and as seen by the U.S. team, many of the textbooks currently in use are unattractive, both to the teachers and to the students. They use very few visual presentations, mainly drawings and only occasional photographs (only in black and white). As the ongoing "Retention Project" indicates, textbooks by and large are too difficult for children to understand, especially at the lower primary levels. Some of the texts show pictures that are difficult to interpret or which do not represent accurately the situation in the average urban or rural setting. There is a general need to improve the format and appearance of printed material, to grade the materials according to levels of reading and visual interpretation abilities, and to provide for more editing, field testing, and revision after the completion of the initial manuscript.

The basic problems here appear to be:

- There is no incentive for the writer to do more than the most straightforward presentation of the material. The compensation is not related in any way to the quality of the product.
- There is no provision for editing of copy after the author has completed the manuscript.
- There is essentially no pretesting or trial teaching of material before it is approved for printing and distribution. Materials should be used experimentally for 1 year before they are printed and disseminated for the entire system. At present, this is done only for foreign language materials.
- The author(s) have little technical assistance with illustration, format, or layout other than that which the author seeks on his/her own as part of the commission.
- The materials are printed at cost (actually somewhat below cost in the case of the Government Printer) and there is thus no incentive for the printer to improve the appearance, assist with illustration, or use more expensive print technology.

- Neither the printer nor the author have any financial incentive to concern themselves with the attractiveness of the material once it leaves their hands. They do not receive any royalty or percentage on the numbers actually used.

In many cases, textbooks are accompanied by teacher guides which are simply restatements of topic outlines from the syllabi. While instructional goals are stated, there are no behavioral objectives in the teacher guides and there are no activities or suggested instruments to provide needed feedback to the teacher. These problems are increased by the absence of workbooks and audio-visual aids. Thus the burden of instruction rests much too much on the teacher and his/her ingenuity, conscientiousness, and labor. If the teacher has none of these virtues (as many do not), the students are learning very little of anything. The preparation of materials aimed primarily at assisting the teachers, rather than the students, should be given more emphasis in future materials development plans, particularly as the curriculum is reformed to include greater emphasis on local resources, activities, and practical experience.

It may be that the kinds of materials implied by the term "textbook" will not be appropriate for much of the practical training and situation-specific learning activities to be emphasized in the new Basic Education curriculum. It may be necessary to experiment with a variety of guides, kits, modules, and nonprinted materials for different subjects and localities. It is particularly in subjects such as these that local experimentation should be encouraged and for which local expertise and ideas will be valuable. One role for the MOE curriculum committees (and for NCER and the faculties of education) may be to facilitate the exchange of ideas and materials among teachers and to collect the more innovative suggestions or materials for such centrally produced materials as continue to be needed.

It is well known, though officially discouraged, that teachers and students make extensive use of privately prepared and distributed materials which summarize key items in the respective subject areas, and which the student with the help of the teacher memorizes in preparation for the examination. It is reported, for example, that the entire history syllabus is available in summary form on one folio size sheet of paper, which illustrates the factual content emphasis of the curriculum and the reason why such summaries are tempting to students. These materials, plus the private tutorials in which many students and their teachers engage, place an additional financial burden on poor families, which is one of the reasons for MOE disapproval. However undesirable these materials are from the point of view of the MOE, they do demonstrate that a substantial capacity exists in Egypt to respond to the problems faced by the teachers and students. If the MOE is not able to provide the desired materials, private sources will respond. The existence of these materials and the unauthorized tutorials is thus a symptom of a basic

problem in the system. A reduction in their use will be the most reliable indicator of MOE success in providing appropriate materials. A major change in basic educational philosophy and the reform of the examination system are necessary before a solution to the textbook problem is likely to be found.

In addition to the problems with printed materials, there is a serious lack of supplementary materials and teaching aids. There are a number of demonstration schools (67 primary, 30 preparatory) which have received equipment assistance from UNICEF, and a few specially favored schools such as the experimental 8-year program at Medinet Nasr. However, most of the primary schools have little more than a blackboard, a few charts and maps (many quite old) and some minimal equipment for simple science and agricultural demonstration.

The Ministry has a Central Agency for University and School Books and Educational Aids (CAUSE) and there is the General Administration for Educational Aids, located at Manshiat El Bakri which was established in 1957 to provide educational aids to all educational levels, including technical, plus illiteracy campaigns and other MOE programs.

There is a general problem of inadequate educational aids at all levels, up to the universities, but such aids as are produced by the General Administration appear to be mainly for the secondary level (laboratory equipment, microscope slides, pictures, tapes), many of them are produced only as prototypes for reproduction at the governorate level (which does not have the capacity to reproduce) and little is provided for the primary or preparatory levels.

As with printed materials, it is desirable that the development and the production capacities for educational aids be increased (probably requiring substantial increases in staff, finance, and equipment) both at Manshiat El Bakri and at several regional centers. It is understood that recommendations along this line are being considered by the USAID consultant working with the Manshiat El Bakri center. However, it is also necessary to set careful priorities. Educational aids can be very expensive, and it is tempting to think that the Basic Education problems can be solved with sophisticated equipment, teaching aids, and "packaged" learning. Most of what is needed for Basic Education, particularly education related more effectively to local needs and realities, is also "basic" and capable of being produced or found locally.

Before investing heavily in production facilities for such equipment and aids, it is recommended that the MOE explore steps such as the following:

- Increase the local production and dissemination of essential equipment such as blackboards, chalk, weights or scales and measuring equipment, T-squares and triangles, glassware, wallcharts, basic tools, simple educational games and workbooks, movable desks and seats, and similar items which are now inadequately available. This material can be inexpensively produced in Egypt and would help to remove the basic materials constraint on instruction.
- Encourage the use of "found" materials from the locality and the use of teacher-produced materials. Workshops on such possibilities were held in 1977 and 1978 (see Maude White report) and further development of such materials is probably the most cost-effective solution to Egypt's materials problems as well as the solution most compatible with the new emphasis on local realities and practical problem-solving.
- Particularly in science, but also in practical technical training, curricula and materials can draw extensively on the resources of the community. Some very relevant examples of such approaches exist, both in the United States and in other countries, e.g., the Science Education Programme for Africa (SEPA) coordinated from Accra, Ghana, (USAID assisted for many years) and the out-of-school primary science experiments at the National Institute of Technology in Mexico.
- Involve selected primary schools and teachers institutes as resource centers at which a variety of materials can be developed, tested, and made available for other schools. Faculties of education could provide useful support. Several Egyptian educators are now receiving some exposure to the ways in which resource centers function (at Clarion College, Pa.) and more efforts of this type should be encouraged.

In summary, the MOE obviously is making a major effort to produce materials in large quantities and is committing large amounts of its budget and its educational expertise to the effort. This massive effort to revise, produce, and disseminate improved materials should be expected to contribute to a high rate of curriculum and materials reform and to improved instruction in the primary and preparatory schools. The fact that it has had only modest success is due to the following general problems:

- The materials can only be as good or as relevant to student needs as the syllabus on which they are based. As is discussed in the section on curricula and examinations, it is first necessary to reconceptualize the curriculum to encourage more integration, less theory, and more application and to reduce the restrictive influence

of the examinations before improved materials can be expected to contribute to significantly different classroom practice, pedagogy, or content emphasis.

- Most of the primary school classrooms are overcrowded, with minimal demonstration areas or instructional equipment other than a small blackboard, no library or even storage facilities other than perhaps a small cupboard, often no electricity or running water, and many other physical inadequacies. Until progress can be made in resolving such problems, the options for effective use of improved materials are extremely limited.
- Though the MOE with the assistance of NCER, the faculties of education, the Teachers Institutes and other sources of educational and subject expertise, is able to involve a variety of people in the curriculum planning and revision process, there is little involvement of classroom teachers in the actual design, and field testing of materials. This contributes to many of the materials being written at a level of difficulty or in a format that is inappropriate or unrealistic considering the realities of the typical classroom and student. Measures to increase the participation of classroom teachers in the actual design and development of materials would be useful.
- The materials are often unattractive, with few illustrations or photographs and often contain errors or printing mistakes. This appears to be due mainly to the need to keep printing costs to an acceptable minimum and to the time and logistic constraints resulting from the need to print and distribute such numbers of text materials to every student on an annual basis. The need to print and distribute in such numbers and in so many subjects results in some unfortunate reductions in editing, formatting, and other measures to improve the attractiveness and readability of materials.
- Finally, the materials can only be used effectively if the teachers are properly trained and motivated to use them. The materials problem must be considered as only one part of the general reform of all aspects of the Basic Education system, and it must include the teachers.

Buildings and Equipment

Buildings and Equipment

One serious deficiency faced in common by all levels of Egyptian education is a shortage of adequate buildings and educational equipment. This report is limited to Basic Education, however, so there will be little discussion of building or equipment needs at any level other than the primary and preparatory, except where the facilities problems of another stage are relevant to or act as a constraint on Basic Education. This is not to deny the seriousness of need at the other levels.

Particularly in the primary and preparatory school stages, the inadequacy and shortage of school buildings, and to some degree their consequent use patterns, seriously inhibit the system. Often one finds teachers having to teach in whatever space is available, regardless of whether it is appropriate or not, and teaching classes that are much too large in a school day and week that is shorter than desirable.

In addition to the need to meet the current urgent demand for more buildings and equipment, the school-age population will continue to increase, thereby generating additional needs to meet the anticipated growth. By 1984, to take but one group as an example, an increase is projected of some 28 percent in the number of 6-year-olds alone (from about 978,000 in 1978 to 1,250,000 in 1984). There are also national efforts underway or planned to increase the enrollment percentage of compulsory-age children (to 90-95 percent in 1990), to reduce dropout rates, and to recycle dropouts back into primary schools. When combined with the need to accommodate increased population, these factors will increase the pressure on Egypt to continue to build new facilities and improve present school buildings.

Since 1952-53, the school-age population increased some 375 percent, but the number of primary schools built during the same period represents an increase of only 141 percent. As a consequence, Egypt's primary and preparatory school classrooms are badly overcrowded, many schools are on double shift (25.4 percent of the primary schools), and a few (474) have night courses as well. The school year is already shorter than many educators think wise, and the reduction of the teaching day and week to accommodate double shifts further decreases instructional time, seriously constrains the development of sports programs, and restricts other desirable educational activities such as clubs, field trips, and after-school youth activities.

Table 1 shows that nearly 67,000 primary-school classes have been added since 1955, and the schools are barely able to hold their own in terms of class size. The preparatory schools, on the other hand, with almost 30,000 new classes, have fallen steadily behind (with the exception of 1979 when a

Table 1. Schools, Classrooms and Students 1955-79*

Educational Level by Yr.	No. of Schools	No. of Classes	No. of Students	Avg. per School	Avg. per Classroom
<u>Primary</u>					
1955	7,203	40,724	1,589,126	211	39
1961	7,254	62,066	2,633,517	363	42
1967	7,893	81,702	3,455,103	438	42
1973	8,874	93,002	3,994,132	450	43
1979	10,604	107,407	4,287,124	404	40
<u>Preparatory</u>					
1955	686	10,202	350,680	511	34
1961	1,010	9,347	302,594	300	32
1967	1,232	19,939	694,363	564	35
1973	1,505	25,256	1,020,525	678	40
1979	2,022	39,657	1,547,308	765	39

*Translated from material provided by the MOE, April, 1979.

Table 2. Intended Use and Ownership of School Buildings (1976/77) *

Educational Level	Built as School				Ownership			
	Yes	%	No	%	Gov't is Owner	%	Rent, Part Rent	%
<u>Primary</u>	5731	69	2600	31	4530	54	3801	46
<u>Preparatory</u>	1443	82	311	18	1208	68	546	32

*Translated from materials provided by the MOE, April, 1979.

Table 3. Condition of School Buildings, 1976-77*

Educational Level	State of Repair						Utilities			
	Good	%	Need Repairs	%	Unfit	%	Elec.	%	Good Water	%
<u>Primary</u>	4750	57	2674	32	907	11	3470	42	7770	94
<u>Preparatory</u>	1185	66	479	28	90	6	1230	70	1668	95

*Translated from material provided by the MOE, April, 1979.

reduction of one pupil per class was reported). Visits to more than 50 classrooms throughout Egypt, and conversations with teachers, local school administrators, and Ministry officials lead to the conclusion that the class size in many schools is actually much larger than the national averages imply, showing that there is a distribution problem as well as a problem of total numbers. Moreover, in many schools the space available is not used efficiently. In some instances the Survey Team saw large rooms being used for offices, or reception rooms, while 45 or 50 pupils were being crowded into small rooms that could adequately accommodate only 15 or 20. Some schools had fairly adequate rooms for libraries, but had only one or two tables and no chairs. Many buildings that are in use were never intended to be used as schools. Some are former homes acquired or rented and converted to school use. This is especially true in the cities. Table 2 illustrates the extent of this problem. Some of these buildings have been expanded to add classrooms and play areas, but many of them are still inadequate for implementing the type of Basic Education that is the Egyptian national goal.

Due to inadequate planning and/or poor construction, plus inadequate maintenance, many buildings are in such a condition that they seriously handicap the instructional program. Some of them also lack such facilities as electricity and tap water that are absolutely essential in the use of audio-visual aids, science laboratories and workshops. Lavatories and restrooms are almost uniformly in poor condition. Table 3 shows the extent of the school building problem.

The Team's observations indicated that the condition of buildings is worse now than it apparently was in 1976. Many new buildings are deteriorating rapidly. One school visited, although less than 2 years old, had peeling paint, broken plaster, broken water lines, and generally showed signs of "shoddy" construction. Many of the older buildings, although theoretically supplied with electricity and water, are suffering from poor lighting and other problems.

Many buildings are not properly maintained. While many principals try to keep the buildings clean, they are handicapped by poorly trained custodial personnel and lack of funds. An even larger problem is building repairs. For whatever reasons, schools seem to have great difficulty in getting good maintenance service from the directorate offices. Consequently, principals have to spend valuable time finding ways to get repairs made.

This is a very serious deficiency since children cannot be taught properly unless they are in an atmosphere that is conducive to learning. It is difficult to have this kind of learning atmosphere in a school that is poorly lit, badly ventilated, ill-equipped, with bad acoustics, and with classrooms that are much too small for the number of students to be accommodated. One school visited, which was only 2 years old, had up to 54 students in classrooms

measuring 6 x 8 meters, or less than one square meter per child. While this is considerably larger than most classrooms we saw, it seems that at least the new schools should come closer to providing the kind of space needed for implementing the new Basic Education.¹

Nearly all schools have inadequate teaching space for workshops, for health, for physical education, and for extra-curricular activities. Children also need room for individual and group activities that are not possible in small, crowded spaces.

Buildings are still being constructed and equipped without adequate regard for the health and safety of children. One new school, for example, had only three fire extinguishers for four floors, and there was no provision for fire drills. Nutritional deficiencies are a major health problem of school children in Egypt. Fortunately, MOE officials report that all village school children in Egypt benefit from a school feeding program, along with some urban children. In most cases, only minimal provision has yet been made in the primary schools for the sanitary preparation, distribution, and storage of food.

Several other health problems are attributed, all or in part, to the school environment. 1) Poor eyesight can be attributed partially to poor lighting and to desks as close as 1.5 meters from the chalkboard. 2) Spinal problems can be associated with desks that are too high or too low, or with the sharing of the same desk by too many pupils. In addition, other health problems are attributed partially to poor ventilation, bad acoustics, inadequate maintenance, unsafe water, inadequate waste and sewage disposal, and inadequate health services.

There exists a clear and present need, therefore, for a well-planned program to build and equip primary schools, in order to:

- Replace dilapidated, unsafe, and unsuitable buildings
- Eliminate third shifts
- Accommodate increased enrollment from population increases, increased school enrollment, increased school retention, and re-involvement of dropouts

¹See Annex B for an excerpt from Mother and Child Care and School Health, submitted to the Extensive Committee for Mother and Child Care, Section III, "School Health in Egypt," pp. 40 through 46. For example, the recommendation is that "the ideal sub-surface per child not be less than 1.3 to 1.5 square meters..." Studies showed that 65.6 percent of the schools do not meet this requirement.

- Eliminate second shifts
- Provide the necessary additional facilities and equipment for changing to the Basic Education system proposed.

In turn, before long a preparatory-school facilities and building program also will be required. The current preparatory schools handle 97.3 percent of the present primary-school graduates. However, not only will the absolute numbers of primary-school graduates increase, but the number applying for preparatory school entrance will increase also. Most of the existing preparatory schools will require some additions for shops, more adequate classrooms, materials and equipment storage, and in some instances, additional laboratory facilities and far more adequate libraries.

Whether or not a school has an adequate library helps determine the quality of the schools' instructional program. A well-stocked library should be not just a depository for books and magazines to be checked out and read somewhere else. There should be enough space for a primary school teacher to bring a class to the library, instruct the students in its proper use, and encourage them to browse through the books and other materials. The library should be much larger than a regular classroom, and it should be designed to be a library. It should also be located in the most convenient place for students and teachers, which is seldom the case now. There should be a small room where the librarian and others can develop instructional materials and a storage place for valuable equipment, if and when such items as audio-visual materials, tapes, etc., are made available to the schools. It should not be assumed that the provision of space alone is all that is required for an adequate library program. Also needed is a companion program to stock school libraries²

The MOE has some very preliminary estimates (which will need considerable revision) of the building requirements by year for a rapid 5-year expansion program. The reader should see the Educational Finance and Budget Analysis section of this report for an extended discussion of the revisions needed in the MOE projections before too much reliance is placed on them.

In addition to making sure that the demonstration schools attached to the faculties of education and the teacher training institutes are healthful, safe, adequate buildings suited for Basic Education, the teacher training institutes themselves have facilities needs. These bear on teacher preparation and, therefore, though of a much lower priority than the facilities problems of the primary and preparatory schools, are of relevance to Basic Education.

²See An Analysis of Problems and Possibilities of the Audio-Visual General Department: A Report, prepared for USAID/Cairo, June 1979, p. 26

Most of the deficiencies identified in the primary and preparatory schools are duplicated to some extent in the teacher training institutes namely, inadequate space, poor utilization of the space available, inadequate lighting, poor maintenance, classrooms too small for the number of students taught, and poor building planning.

However, there are also some problems unique to the institutes. Students need a quiet place where they can prepare their lessons, but frequently the housing facilities provide little suitable space for study. Also, students should be able to use the resources of the library during hours when they are not in class. One way of accomplishing both purposes is to keep the library open at night. However, this is apparently not being done, at least not in the institutes visited.

Generally, resource centers are not located in individual teacher training institutes. A depository of audio-visual materials is located in the Audio-Visual Center in Cairo. A resource center can be an invaluable tool for teacher training, serving as a curriculum laboratory where low cost, effective teaching materials can be made, and as a depository for audio-visual aids such as films, filmstrips, pictures, charts, maps, etc. Providing there is an available room, the initial cost for a resource center is minimal.

Adequate scientific and language laboratories are especially essential in teacher training institutions. Many of the ones visited, however, were too small, poorly planned, and inadequately equipped. Science laboratories are designed for traditional modes of science experimentation and method and are not suitable for applying modern teaching methodologies.

Presently, of the 77 teacher training institutes, 52 provide boarding facilities. Even in the schools that have such facilities, there is neither appropriate space nor equipment to care properly for the students and teachers living there. In particular, boarding facilities should be provided for those students who could not attend an institute unless provided with housing accommodations. Many of the students coming from rather simple home environments thereby receive an education in social and healthful living they would not receive otherwise. Also, many of the students come from distant communities, and it is not possible for them to commute. Adequate housing accommodations need to be provided for the teachers as well.

Information supplied by the MOE suggests that training facilities for institute teachers are not adequate. There is no central facility for training or retraining the institute teachers and no mobile units to take the training to inaccessible regions. A shortage of such facilities, unless corrected, will only delay implementation of the new Basic Education program because the teacher trainers, until they are trained themselves, cannot properly instruct teacher trainees in how to implement the new curriculum.

It is fair to say that school buildings at all educational levels are woefully inadequate. Buildings may or may not be the number one priority in Egyptian education, but it can be said that it will be extremely difficult to design or test the new Basic Education curriculum adequately, much less implement it fully, until an appropriate number of suitable buildings are available.

In addition to being in bad repair, much of the classroom equipment is not designed for the new Basic Education curriculum. Immovable double or triple desks are not only inadequate and a potential contributor to school-health problems, but for a curriculum based on problem-solving and "learning-by-doing" they are particularly unsuitable. The Basic Education program, when fully planned, will require flexibility in classroom furniture so that it can be used for individual study or for group work. Most classrooms are deficient in file cabinets, usually containing only one small cabinet for storage, and have few desk drawers or other storage space for instructional materials or pupil records. Very few classrooms are equipped with electrical receptacles for using audio-visual equipment. This probably is not important now, since few audio-visual aids are available, but it should be taken into account in planning new buildings. Although the MOE produces some audio-visual materials (slides, films, etc.), we found almost no schools that have the equipment to use them. The 50 or more classrooms visited contained very little equipment other than chalkboard and much of that was in poor condition.

Most laboratories are poorly equipped. Some of the private schools and experimental schools we visited had a fair amount of equipment for demonstration purposes by the teacher, but few if any had enough equipment for students to conduct individual experiments. Much of the equipment we saw was broken or in need of repair. Many laboratories were lacking stools, and pupils were required to stand during the entire class, even when watching a demonstration lesson.

Workshops usually have very limited equipment. Much of it is in poor repair. Some are using dangerous equipment, such as table saws without safety guards. Many shops do not have adequate space, workbenches, or equipment for pupils to do individual work. Many of the agriculture classes have only a few potted plants for pupils to observe. Home economics classes are often deficient in sewing machines and kitchen equipment.

Most libraries are poorly equipped. This is probably due to the fact that few books and other materials are available. However, as more becomes available the schools should be equipped with an adequate number of tables and chairs. There is usually little storage space for slides, films, and other audio-visual materials. There are few card catalogs or other equipment for storing library files or records.

Table 4 . Five-Year Budget Requests for Equipment

<u>Educational Level</u>	<u>LE 1979-80</u>	<u>LE 1980-84</u>	<u>LE Total</u>
Primary	1,395,000	10,194,500	11,589,500
Preparatory	1,667,000	5,726,750	7,393,750
Total	3,062,000	15,921,250	18,983,250

In many schools there was little equipment for cleaning and maintaining schools, or if there was, it was not being used. However, we found some schools that were kept clean in spite of a shortage of equipment.

Although school offices are generally better equipped than classrooms, they often lack the necessary equipment for recordkeeping, safe storage, or mimeographing.

As the curriculum changes and the enrollments increase, money will be needed to equip new buildings and to replace nonexistent or obsolete and broken equipment in existing buildings. The MOE has projected funds for this purpose, as shown in Table 4 below.

However, even if adequate instructional equipment were available, the instructional materials to use with them are practically nonexistent. Furthermore, there is presently no way of producing them. Teachers are not trained to produce materials, nor do they have the equipment. On the other hand, the MOE Audio-Visual General Department is underfinanced, understaffed, and ill-equipped to do the production job.³

A major problem for schools is inadequate equipment maintenance services. The MOE Audio-Visual General Department operates only one maintenance shop in Cairo with three technicians to repair all of the school audio-visual equipment in Egypt. Many schools have equipment they cannot use because they have been unable to get them repaired. Money spent on equipment will be wasted unless a system of maintenance is developed at the local level.⁴

Even though teacher training institutes are generally better equipped than the primary and preparatory schools, they have many of the same equipment problems: inappropriate desks for independent study, shortage of storage space for instructional materials, insufficient laboratory and workshop equipment, and poor maintenance of equipment. Libraries are generally better equipped than those of the primary and preparatory schools but are still substandard, and their systems for retrieving materials make them difficult to use. The audio-visual and other teaching equipment and the A-V materials in the libraries are not adequate to ensure that future teachers will know how to use these kinds of equipment properly.

The findings of the UNICEF school mapping study in Egypt should prove helpful as the MOE and the governorates proceed with their plans for new schools. Some of the urban school buildings in present use were not designed for nor sited as schools and consequently are not as conveniently located as

³Ibid., p. 26.

⁴Ibid.

they could be. Many rural pupils also have the problem of school access, for some of the schools are located at some distance and there is no adequate public transportation system. Some of the urban schools have a particularly difficult site problem in that they have little or no expansion room on their site except for the school yard, which is the only space available for play and for physical education. They are usually situated in high-density areas, where land prices are high, and where any move to enlarge or expand will encroach on others and present complicated legal and financial problems. Despite the foregoing, however, a great deal of added capacity can be realized quickly and reasonably economically throughout Egypt by expanding or adding on to present structures. The more difficult new site and expansion problems in certain high density areas will take longer of course, and will cost more. In addition, as the Basic Education program is developed, sensible and economical means will have to be found to solve the need for school gardens if the agricultural emphasis is to continue.

Brief mention has already been made of the fact that many existing facilities can be upgraded, made safe, equipped properly, and expanded quite rapidly and economically. With regard to new construction, however, matters of design, the use of materials, contracting methods, and the possibility of the use of new construction as training opportunities require explicit and careful attention before a program is made final.

At the present time, responsibility for school building is joint, shared by the appropriate central MOE staff, governorate level MOE staff, other governorate staff, and Ministry of Housing staff. Plans for school buildings, e.g., the six- and twelve-room primary schools, are standard for all of Egypt and call for the use of the same building material nationwide. These plans, first made in 1955, can be changed or adapted if there are difficult site adjustment problems. Upon request from a governorate, the appropriate central MOE official will arrange for consultation with an architectural/engineering firm. The governorate must pay for the services of the firm, however. Predictably, local adaptation appears to be the exception and most new building is standard.

Once the governorate education and other staff has had its Section 3 budget requests approved and the money is allocated, the MOH in the governorate handles the bidding and supervision of construction. Apparently, neither the central MOE staff nor the governorate-level MOE staff have any actual control over how the buildings are constructed, over their quality, or over contractor compliance with specifications.

In general, school buildings have not been designed properly to accommodate the health and safety or to provide a full array of the basic conveniences for students and teachers. Even the new buildings have too few toilet facilities, no storage rooms, and no provision of space for feeding

students. There are inadequate facilities for housing the school nurse and social workers. The buildings tend to be uniform in design without taking into consideration the variations in climate in different sections of the country or other factors determined by such things as curriculum, environment, or community use of school buildings.

Apparently, little has been done to use low-cost, locally available materials for school construction. The Survey Team was told that concrete was being used where adobe bricks are available and are lighter, cooler, and cheaper. Skilled labor is also becoming much more expensive than before. In one industrial school visited, students were themselves building an addition to their school. However, the Team found no evidence of students being used to help construct primary or preparatory schools.

Delays in construction by building contractors often increase the cost of buildings. Also, though funds are budgeted annually for new schools, and each governorate is directed to complete the construction of incomplete buildings first, unfortunately some have not yet complied, with the result that there are buildings that remain uncompleted while more new buildings are being started. This is compounded by the fact that there is a shortage of construction workers, engineers, and technicians, and of such materials as reinforcing steel and concrete. Depending on concrete as the only building material for schools acts as a constraint itself, since each governorate receives a quota of these scarce materials that must be allocated across all the building needs in the governorate according to some established governorate priority. Often, and quite rightly from an economic point of view, one suspects, building projects that represent potential economic gain to the community take precedence over school buildings when the allocation of scarce materials is involved.

In conclusion, school plans, particularly for the new Basic Education program, ought to be based on educational specifications derived from the careful study and analysis of local needs and desires, and the program requirements of the Basic Education plan. The MOE has been experimenting with a variety of elements and subsystems of the proposed Basic Education program. This current network of Basic Education schools should be expanded systematically on a pilot program basis, making sure that the network encompasses each governorate so that the full range of educational problems would be included in the experiment. The full set of configurations of the Basic Education program and their derivative building and equipment needs should then be put under test to see how to optimize the benefits at an acceptable cost and under a variety of actual conditions, including expanded older facilities, special new buildings, the use of currently inadequate buildings, with consideration given to other community resources such as private homes, mosques, farms, shops, and businesses.

With each governorate pilot-testing a modest array of Basic Education models and their building and equipment requirements, it would be possible to develop and test a performance budgeting system, and a management information system. Field trials of alternative curriculum designs and sets of instructional materials and equipment could be conducted as part of an instructional research effort focusing on teacher education and effectiveness. New and improved assessment devices, procedures and policies, student recordkeeping systems, and promotional policies could be developed and tested within a national set of iterative developmental research efforts. Analysis and studies of the cost effectiveness of the alternative building configurations should also be undertaken as part of this national effort to improve educational quality at an affordable cost.

To begin their participation, each governorate might wish to establish a building and Basic Education plans committee composed of a suitable mix of parents, teachers, curriculum and instructional experts, regional faculty of education and engineering/architecture staff, teacher training institute staff, administrators, research experts, finance experts, MOH representatives, and local elected officials. The committee, or committees in a large governorate, should then develop its own local building and Basic Education plans and specifications from their own analyses following nationally established guidelines for pilot testing educational building code requirements and guidelines for safety, health, ventilation, lighting, space per child, sanitation, and school equipment.

The chairpersons of these committees should serve as members of a National Council on School Buildings and Equipment, chaired by an appropriate MOE official or other distinguished person, and composed of a similar array of experts as at the governorate level. This National Council should be charged with the responsibility of setting national standards for developing school building and equipment codes and regulations, and for coordinating the necessary research that must be done by the National Council for Educational Research as a base for the nation's plans, codes, regulations, guidelines, and procedures. It should have the authority to follow up and examine school buildings for quality control nationwide and the authority to call on, and the budget to pay for, appropriate personnel from within the Ministry and the governorate education staff when needed.

This kind of administrative reorganization would serve to help the decentralization effort. It would allow for appropriate national safeguards to be established, yet it would not prevent local initiative and control. Plans and specifications would be built on a foundation of research and requirements analysis which might well vary appropriately from place to place and over time.

Eventually, such a series of practical research studies should provide the situations within which to develop the procedures, techniques, and information base upon which to generalize the Basic Education movement. It would yield information of use to decision-makers and should arouse national interest. A fundamental policy shift of the magnitude of the proposed change to Basic Education deserves no less than national attention given to the appropriate kinds of settings in which the program can be carried out. Because it affects every family's children, a wide range of opinion should be elicited to ensure the best chances for success.

Educational Finance and Budget Analysis

Educational Finance and Budget Analysis

Egypt's fiscal constraints are severe. These constraints underscore the need for improved methods for the allocation of educational resources, the need for measurements to evaluate results of budget decisions, and the need for improving the system of school finance.

Any finance system, whether macro (national) or micro (local) size, can be analyzed by focusing either on the revenue or on the allocation dimension side.

Broadly defined, the "revenue dimension" deals with questions as to where the funds came from and how they were generated. The "allocation dimension," on the other hand, ranges from the appropriation (including accounting) of available funds, to monitoring and evaluating expenditures according to pre-established objectives.

When analyzing the structure of educational budgets, one often finds that the "management" component of the allocation side is not fully developed or, as in the case of the Egyptian educational budget, is confined to a subordinate role due to the outdated structure of the budget.

No attempt will be made to suggest sweeping structural changes in the budget. Nevertheless, it is clear in the context of this research that the structure of the annual education budget as it exists is not entirely adequate for management purposes.

EDUCATIONAL FINANCE

The overall program of educational quantitative development and qualitative improvement has caused considerable financial strain on the national resources. Egypt currently spends nearly 7 percent of the gross national product (GNP) on education. It is anticipated that this level of commitment to education will be continued during the 1980's. While the rate of growth of GNP was slow in the 1960's and frequently sporadic, it has recently increased to more than 8 percent per annum. In projection analysis, an 8 percent rate of growth is assumed by most educational planning authorities.

The gross domestic product (GDP) for the year 1977 amounted to LE7,341 million. Estimates for 1978 vary; it can be assumed, however, that GDP of LE8,600 million was reached. A note of caution seems to be in order when comparing the 1978 estimate with the figures of past years since the amount has not been adjusted and is based on 1977 prices.

When comparing the education budget, or more precisely, the total government expenditure on education and training, with national data, it might be advisable to turn to GNP instead of using GDP. According to recent statistics, more than 500,000 Egyptians work outside the boundaries of Egypt, approximately 30,000 of them as teachers. Adding the income portions they remit to their homeland to GDP figures, resulted for 1977 in a GNP exceeding LE7,762 million; in 1978 this figure jumped to LE9,677 million.

To a certain extent it might be futile to argue whether Egypt will spend 6 percent or 7 percent of the GNP in future years on education. Should GNP grow at a faster rate than expected, it might be quite possible that a larger share than before would be spent for educational purposes. On the other hand, any slowdown in economic activities would result in a drastically reduced education budget.

The important thing to remember is that the impact of a reduction of the size of the budget will vary from one budget component to another. Usually the capital component will be hit first. Translated into operational terms this means that qualitative educational objectives, such as lowering student-teacher ratios by providing more class space, or better maintenance of facilities, and equipment inputs, would be severely constrained.

Table 1 has been included to emphasize and illustrate the fact that Egypt during the time period 1970 to 1979 has invested heavily in education,¹ although the capital expenditure component seems not to have increased in proportion with the recurrent expenditure section of the budget (see Table 2).

¹In the use of the term "educational expenditure," the following components are considered as constituting the total direct expenditures: 1) the direct salary and allowances paid to teachers and nonteachers; 2) pension fund contributions; 3) organizational and administrative costs of the system, including textbooks and testing materials; 4) teacher education costs, both salary and nonsalary; 5) facilities, services, and maintenance costs of the school system; 6) pupil welfare costs, e.g., school meals.

Table 1. Public Capital Expenditure on Education by Educational Level,
1973, 1976, 1979

Educational Level	(LE 000's)		
	1973	1976	1979
Primary Education	7,304	2,172	6,588
Preparatory Education	2,205	2,304	3,763
Secondary Education			
General	1,463	925	1,438
Agricultural	553	330]	
Commercial	1,047	820] ---	9,953
Industrial	1,845	1,229]	
Teacher Training	885	98	548
Special for Handicapped	197	32	203
Adult Literacy	49	50	139
Administration, sports, culture	<u>61</u>	<u>40</u>	<u>1,368</u>
Total	15,609	8,000	24,000

*Source: Data provided by MOE experts, June 1979.

TABLE 2

Recurrent Expenditure by Educational Level
(in LE 1,000)

Educational Level	School Year						
	1971/72	1973	1974	1975	1976	1977	1978
Primary	50,882	61,110	67,826	71,754	93,286	97,825	116,092
Preparatory	23,058	27,721	30,765	33,492	43,779	43,210	54,609
Secondary:							
General	13,089	15,758	17,486	25,531	32,126	31,544	34,232
Industrial	6,643	8,023	8,900	10,148	12,925	16,683	21,598
Commercial	4,631	5,608	6,220	5,413	7,171	8,685	9,281
Agricultural	2,885	3,514	3,895	5,413	6,729	7,335	8,323
Teacher Training	3,218	3,913	4,338	6,880	8,787	8,535	9,728
TOTAL	104,406	125,647	139,430	158,704	204,803	213,817	253,863

Source: Education in Egypt, 1978; Arab Republic of Egypt, Ministry of Education, National Center for Education Research, p.23.

THE BUDGETARY SYSTEM

The Budget Process

This section gives a short overview of the domestic budget process. At the outset, three main observations can be made:

1. Over the past years the timing as well as the administration of disbursements of various components of the budget suffered from wide variations.
2. At the ministry level it can be observed that top officials frequently lobby for their preferred educational projects even before the budget cycle begins.
3. The delegation of authority from the central government to the local levels, already clearly indicated in the past by such laws as Public Law 52, manifested itself recently in Presidential Decree No. 5-1979, which stipulated the delegation of even more prerogatives to Governors that were formerly under the jurisdiction of the Ministry of Education.

A short summary of the various steps involved in preparing the State (Local Domestic Operating) Budget assists in understanding the nature of the problems inherent in the present system of fiscal management (see Figure 1).

Within the general framework of the education budget and following the directives and instructions of the Ministry of Finance, each local educational unit is requested to prepare the estimated cost of education services to be rendered in its area.

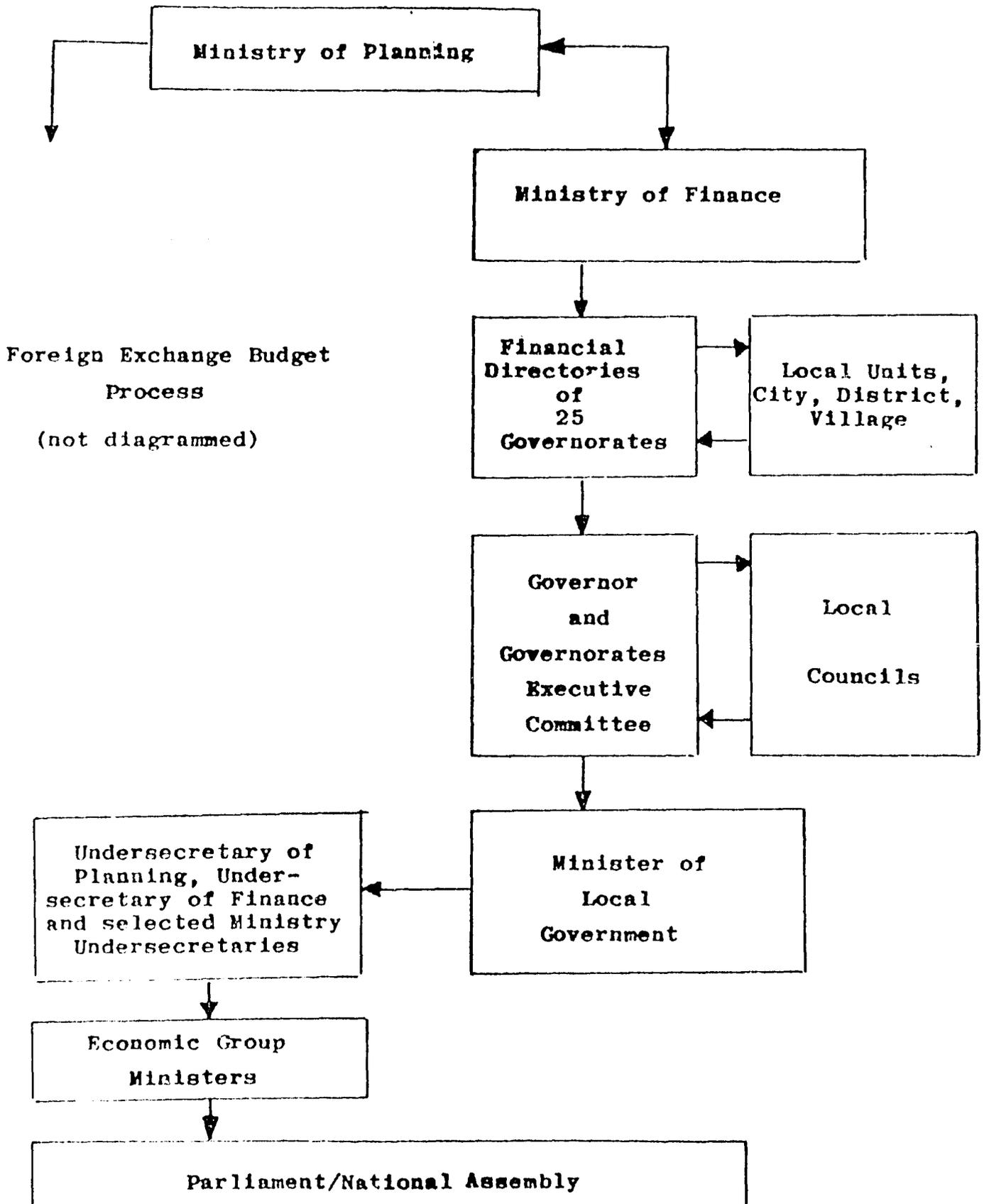
These units are acting for the Ministry at the local level. Their internal structure is similar to that of the Ministry. Their main responsibility is to plan for the development of education according to the local needs of the area. They are charged with making full use of local financial resources and encouraging the community to actively engage in educational activities. The budget requests of all local units are then forwarded to the financial directorates of the governorates, where they become part of the total governorate budget. Four months prior to the beginning of the new fiscal year, each governor presents his budget to the governorate's local education committee for ratification, after which copies of the ratified budget are sent to the Minister of Education as well as to the Minister of Finance.

The following phase involves a comprehensive analysis of the proposed local educational projects. Each category (or section) is evaluated separately

Figure 1

EGYPTIAN BUDGET PROCESS, 1978

Domestic (Local) Budget Process



as to merit and feasibility of the proposed activities and expenditures, and returned to each governorate for inclusion in the governorate's budget request.

Copies of Section 2 evaluations are sent to the education committees of local governments, while the evaluation report dealing with Section 1 is forwarded to the Agency for Planning and Administration. At the same time the Ministry of Planning evaluates the merits of the capital investments which are included in Section 3.²

Once the hierarchy of responsibility by which future expenditures are made binding is established, copies of the final total budget are submitted to the Ministry of Finance.

Thus, the budgetary cycle is as follows (although frequently with major time variations):

- March/April: Ministry of Finance: Estimates of expected revenues, development of guidelines.
- May: Ministry of Finance: Development of detailed procedures for constructing the budget. Financial directorates in each governorate develop similar procedures and contact their local zones.
- June: Draft budgets are forwarded to the governorate finance department, are incorporated into the "General Draft Budget of the Governorate," which in turn is forwarded to the governorate council for approval.
- August: Copies of the budget of each governorate are submitted to the Ministry of Education and to the Ministry of Finance, and after negotiations returned to the governorate. Capital investment requests (Section 3) are forwarded to the Ministry of Planning.
- Sept.-Oct: Negotiations take place between the Minister of Education and Minister of Finance. The latter prepares the final budget which is forwarded to the Ministerial Committee for Planning. Discussions and negotiations on fiscal matters are held in the Cabinet.
- Nov.-Dec: The National Assembly approves or disapproves.

²The education budget is divided into four sections:

- Section 1: Salaries
- Section 2: Operating (current) expenditures
- Section 3: Capital investment (new investment projects)
- Section 4: Capital transfers

During the allocation phase of financing primary and secondary level schools, the following steps are taken:

First, the Minister distributes the allocated funds to the educational zones of each governorate, which are responsible for both disbursement and administration. The education budget of the regional zone becomes part of the total budget of the governorate. The Ministry of Finance takes appropriate steps to include these "Credits" (the allocated funds) into the governorate's budget.

Second, during the fiscal year, the budget is monitored (to a very limited extent), amendments are made, transfers from the budget of one zone to another are negotiated, and an auditing phase concludes the budget cycle. Table 3 has been prepared to show the magnitude of actual expenditures by level of education, 1973-1978.³

ADDITIONAL REVENUES

Additional revenues available to the governorate include annual school fees. While education at primary and secondary levels is basically free to all eligible pupils, fees have to be paid in all public as well as in government-aided private schools for insurance coverage against accidents. Additional fees cover expenditures incurred in laboratory work and participation in student government and student activities. When the student takes his/her final general examination, an additional nominal fee is charged.

Additional revenues also accrue from contributions of parents, who share in the financing of education by paying membership fees in parent-teacher councils. Nonmonetary contributions consist of making available the use of land, providing materials for school buildings, and especially in the first and lower secondary level in rural areas, providing free labor by actually working at the construction site.

Occasionally, grants are received from international organizations such as UNESCO, UNICEF, and the World Bank.

³The term "Title" in the table refers to "Sections" or "Chapters" of the budget. See previous footnote also.

TABLE 3

Ministry Of Education

COST OF EDUCATION BY LEVEL (E.L. 000)
(ACTUAL EXPENDITURE)

description	1973					1974				
	Title 1	Title 2	Total	Title 3 Invest.'s	Gen.Tot.	Title 1	Title 2	Total	Title 3 Invest.'s	Gen.Tot.
<u>MINISTRY OF EDUCATION</u>										
Primary Education	44,560	5,242	49,802	5,079	54,881	46,823	6,019	52,842	2,978	55,820
Preparatory Education	21,513	2,054	23,560	2,205	25,772	23,273	2,499	25,772	1,970	27,742
<u>Secondary Education</u>										
- General	14,560	1,755	16,315	1,463	17,778	16,229	3,582	19,811	1,145	20,956
- Agricultural	3,257	633	3,891	553	4,444	3,502	734	4,236	522	4,758
- Commercial	3,510	414	3,924	1,047	4,971	3,802	556	4,358	879	3,237
- Industrial	6,130	1,017	7,147	1,845	8,992	6,804	1,205	8,009	1,261	9,270
Sub-Total Secondary	27,457	3,820	31,277	4,908	36,185	30,337	6,077	36,414	3,807	40,221
Teachers Training Schools	4,135	624	4,759	885	5,644	4,702	784	5,486	308	5,794
Special for Handicapped	400	80	480	197	677	426	119	542	84	629
Adult Literacy	318	152	470	40	510	372	217	589	58	647
All Education	98,383	11,972	110,355	13,323	123,678	105,937	15,715	121,640	9,205	130,853
Gen. Adm. : Sports, Cult. ... etc.	12,897	1,857	14,754	61	14,815	14,800	2,042	16,932	82	17,014
Total Min. of Education	111,280	13,829	125,109	13,384	138,493	120,927	17,757	138,580	9,297	147,867

Table 3, cont.

Ministry Of Education
Cont'd.
2

COST OF EDUCATION BY LEVEL (E .000)
(ACTUAL EXPENDITURE)

Description	1975					1976				
	Title 1	Title 2	Total	Title 3 Invest.	Gen. Tot	Title 1	Title 2	Total	Title 3 Invest.	Gen. Tot
<u>Ministry Of Education</u>										
Primary Education	56,123	7,328	63,451	4,716	68,167	71,376	9,847	81,223	3,171	84,394
Preparatory Education	27,131	3,099	30,230	2,976	33,206	34,033	3,234	37,267	3,369	40,636
<u>Secondary Education</u>										
- General	18,103	4,960	23,063	1,153	24,216	22,577	5,383	27,960	925	28,885
- Agricultural	3,802	924	4,726	652	5,378	4,966	1,093	6,059	330	6,389
- Commercial	4,602	696	5,298	1,520	6,818	5,346	1,090	6,435	820	7,255
- Industrial	7,704	1,655	9,359	1,898	11,237	9,385	2,239	11,624	1,220	12,853
Sub-Total Secondary	34,211	8,235	42,446	5,203	47,643	42,273	9,805	52,078	3,304	55,382
Teachers Training School	5,202	804	6,006	362	6,368	6,789	1,090	7,879	98	7,977
Special for Handicapped	456	144	600	225	825	607	150	757	33	790
Adult Literacy	421	267	688	58	746	570	270	840	50	890
All Education	123,544	19,877	143,421	13,540	156,961	155,648	24,296	180,044	1,002	190,069
Gen. Adm.: Sports, Cult.,... etc.	16,240	2,626	18,866	94	18,960	21,127	3,708	24,835	40	24,875
Total Min. Of Education	139,784	22,503	162,287	13,634	175,921	176,775	28,104	204,879	1,045	214,994

Table 1. CONT.
Ministry of Education
Cont'd.

COST OF EDUCATION BY LEVEL (C .000)
(ACTUAL EXPENDITURE)

3

Description	1977					1978				
	Title 1	Title 2	Total	Title 3 Invest.	Gen. Tot.	Title 1	Title 2	Total	Title 3 Invest.	Gen. Tot.
<u>Ministry Of Education</u>										
Primary Education	80,852	13,426	94,278	3,547	97,825	93,165	16,563	109,728	6,364	116,092
Preparatory Education	38,124	5,966	44,090	5,610	43,210	43,210	6,146	49,356	5,253	54,609
<u>Secondary Education</u>										
- General	22,924	7,595	30,519	1,025	31,544	25,185	7,565	32,841	1,391	34,232
- Agricultural	5,438	1,178	6,616	719	7,335	6,205	1,299	7,504	819	8,323
- Commercial	5,950	1,151	7,101	1,584	8,685	6,535	1,374	7,909	1,372	9,281
- Industrial	10,120	2,466	12,586	4,097	16,683	12,323	2,902	15,221	6,373	21,598
Sub Total Secondary	44,432	12,390	56,822	7,425	64,247	50,248	13,231	63,479	9,955	73,434
Teachers training School	7,025	1,037	8,062	473	8,535	8,103	1,266	9,369	359	9,728
Special For Handicapped	693	128	821	265	1,086	850	162	1,012	204	1,216
Adult Literacy	614	232	846	80	926	737	315	1,052	58	1,110
All Education	171,740	33,179	204,919	17,400	222,319	196,313	37,683	235,996	22,193	256,189
Gen. Adm.: sports, Cult. ... etc.	22,170	3,073	25,243	99	25,342	23,771	2,961	26,732	75	26,807
Total Min. Of Education	193,910	36,252	230,162	17,499	247,661	220,084	40,644	260,728	22,268	282,996

CONSTRAINT ANALYSIS OF BUDGET COMPONENTS

Comparison of Recurrent and Capital Expenditures

When analyzing recurrent and capital expenditures, as percent of total government recurrent expenditures during the period 1970 through 1978, it can be seen that these expenditures have fluctuated between a low of 12.8 percent and a high of 17.8 percent.⁴ It is the opinion of experts in the Ministry of Education that during the next 5 years this percentage might stabilize around the 16 percent mark.

Also, capital expenditure percentages have had a tendency to fluctuate within a wide range. Expressed in percent of total government capital expenditures, the Egyptian educational capital investments ranged from a low of 1.8 percent (in 1976) to a high of 5.7 percent (in 1973). As the Egyptian government is committed to increasing the quality of education, it seems to be of the utmost importance that efforts should be undertaken by the Ministry of Education to increase the share of capital investment on the total budget in future years.

Looking at the MOE budget from another angle, the allocation structure of the past 4 years reveals the following picture:

LE162.3 million were allocated in 1975.

LE213.9 million were allocated in 1976.

LE228.6 million were allocated in 1977.

LE271.5 million were allocated in 1978.

In other words, in 1976 more than LE47.9 million were spent above the funding level of 1975.

In the following year (1977) allocations exceeded those of 1976 by approximately LE14.7 million. The additional increments were again substantial in 1978, when the education budget reached a new height and topped the previous year's budget by more than LE42.9 million.

⁴ See Annex C.

Constraints in Budget-Section 1. Salaries

Table 4 following is included to permit an overview of the distribution of resources "across the board" between 1976 and 1978.⁵ One conclusion that can be drawn from analyzing this table is that operating expenses (Section 2) are surprisingly low.

Of similar importance is the fact that during this 3-year period, only minor portions of available funds have been used for the expansion of facilities in primary and secondary education. According to statistical data furnished by the National Educational Research Center, not more than LE2.46 per student⁶ were "invested" in the form of new school facilities such as classrooms or libraries.

A third observation deals with a significant aspect of unit costs. In 1978, 81.9 percent of total cost was essentially the salary component. This in itself may indicate a desirable feature, as educational qualitative improvement is dependent on the recruitment of highly qualified staff. However, a closer look at teacher salaries (Table 5) reveals that the new height in 1978 is mainly due to a single direct salary increase. The increase during only 1 year (1977-78) for instance is equal to the total salary increase during the 3-year period of 1974-77.

It should also be noted that this "horizontal" increase in salaries is not accompanied by a comparative "vertical" component, that is, the hiring of additional teachers. Thus, it can be stated that this particular expenditure⁷ might not have had a measurable impact on the quality of education services. Due to the absence of sufficient longitudinal data, it is not possible to compare all past annual salary increases with more recent times. And although it seems very desirable, the lack of data does not permit one to review and analyze teacher salaries in relation to the Consumer Price Index.

Future changes of a structural character undoubtedly will affect the trend of unit costs at the primary and preparatory levels. The upgrading of courses and especially the sharp reduction in the number of classrooms used currently by two different pupil groups (double shifting) in primary and secondary schools are examples of the changes that will increase unit costs. Also, non-pedagogical factors, such as variations in the salary structure, will affect the upward trend of unit costs in the lower grades (see Table 6).

⁵National Education Research Center.

⁶The number of students enrolled in primary and secondary schools during this period totalled 19.46 million.

⁷Not considered are intangible education benefits (e.g., better teaching) which accrue from a higher level of satisfaction on the part of the teacher due to salary increases.

TABLE 4

Breakdown of Educational Funds by Sections

	(in million Pounds)			Total 1976-78	% of Total	Cost per student (in L.E.)
	1976	1977	1978			
Section 1:						
Salaries	177	187.4	220.1	584.5	81.9	30.04
Section 2:						
Operating Expenses	28	22.6	28.8	79.4	11.1	4.08
Section 3:						
Capital Investments	8	17.7	22.2	47.9	6.7	2.46
Section 4:						
Capital Transfers	.9	.9	.4	2.2	.3	.11
TOTAL (Million L.E.)	213.9	228.5	271.5	714.0	100.0	36.69

Source: National Center for Educational Research

Table 5
Teacher Salaries, 1974-1978

Year	Allocation (in L.E. millions)	Number of Teachers (prim. & sec.)	Annual Salary (L.E.)	Monthly Salary (L.E.)
1974-1976	126.0	346,828	364.2	30.3
1977	187.4	442,328	424.0	35.3
1978	220.1	449,858	490.2	40.9

Source: National Center for Educational Research

Table 6

Projections of Enrollments and Unit Cost
(1974/75 - 1980/81)

Educational Level	Enrollments			Unit Cost (LE)		
	1974/75	1975/76	1980/81	74/75	75/76	80/81
Primary Education	4,075,000	4,105,000	5,029,000	15	20	24
Preparatory Education	1,202,000	1,340,000	1,874,000	24	29	35
Secondary-general	340,000	360,000	395,000	66	78	90
-agricultural	38,400	39,500	78,100	123	149	172
-commercial	213,200	236,200	230,000	23	27	33
-industrial (3 yr)	95,800	98,500	201,300	93	111	130
-industrial (5 yr)	900	3,500	13,500	n.a.	130	150
Teacher Training	33,300	33,100	45,400	180	232	270

Source: The World Bank. Report Nr. 2112-EGT, November 1978.

It should be noted, however, that the effect of salary increases will vary between different levels of education, as such costs in the Egyptian school system range from approximately 55 to 60 percent (of total cost) in agricultural, industrial, and commercial secondary education, to 80 to 90 percent in primary and preparatory schools. Perhaps more than two-thirds of the future increase in unit costs can be estimated to result from changes in the teacher salary system, while the remaining one-third will correspond to the improvement of pedagogical conditions, the increase in the number of lessons per week, in purchases of equipment and supplies, etc.

This upward trend of expenditure will be accelerated further by a number of sometimes contradictory factors, the most important of which will be the changing total enrollment and age patterns of pupils. Unit costs, especially when compared with the performance of the education system, are neither the best nor the most reliable indicators of effectiveness and efficiency. After all, a decrease in unit costs does not necessarily signal increased efficiency. And, a spiraling upward trend of such costs must not be immediately equated with internal inefficiency of the system, as the real course might have been the introduction of costly educational innovations.

In any case, the "costs per graduate" would have been a much better index for measuring performance and efficiency. The absence of this indicator in statistical school data for primary and preparatory education, however, puts a heavy constraint on any attempts to measure outcomes in relation to invested resources.

Analysis of Section 2, Operating Expenses

The operating budget under Section 2 is logically subdivided into three components:

The "commodities" group. This includes but is not limited to books, food, fuel, oil, spare parts, water and electricity, permanent installations such as light fixtures, and new furniture for classes already in operation.

The "services" group. Under this classification transportation costs are accounted for; fees are paid for rental equipment; also, postage and telephone charges belong in this group.

Recurring expenses and transfers. Basically three types of accounts fall within this category: taxes, rent, and subsidies.

It can be expected that inflation will have its greatest impact on Group 1, commodities. However, the second group, services, will also need to receive a higher funding plateau, as transportation and communication services are vital to the educational institution.

In order to appraise the current level of funding, and to develop an "economic yardstick" for judging the adequacy of proposed future funding, the following analysis is presented (see next page).

The choice of 1974 as base year for the analysis was dictated by the fact that Egypt at that time was recovering from the 1973 war. Educational budgets were reduced to an absolute minimum; educational materials were in short supply, and capital investments in education had sunk to a low.

The analysis shows that appropriations for Section 2 of the educational budget in the past have been seriously deficient. There was a deficiency in 1977 of more than LE11.4 million, and LE5.9 million in 1978 in the amounts required to adequately guarantee the proper functioning of the various educational processes.

Visible signs and indicators of inadequate funding at the building level are that today's replacement items without exception are of lower quality than the items they replace. Blackboards, desks and other furniture, small hand tools, differ from original specifications and usually have an (estimated) shorter lifetime than specified. Also, maintenance has been grossly neglected.

To take advantage of low import prices, equipment frequently is being purchased from low-cost countries without adequate regard to technical specifications.

In discussion with officials from the MOE, frequently the complaint was heard that most of the fiscal procedures (and not necessarily limited to those directly related to Section 2) were accompanied by an ever-increasing amount of "red tape," which, in turn, undoubtedly has been responsible for a frustrating slowdown of disbursements.

	(in LE million)			
	<u>1974</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
<u>Step One</u>				
Commodities	11	18	13	16
Services	5	7	7.1	10.3
Transfers	<u>2</u>	<u>3</u>	<u>2.5</u>	<u>2.5</u>
Section 2, Total	18	28	22.6	28.8
Increase over Base Year 1974		10	4.6	10.8
Percent Increase		55.6%	25.6%	60.0%
<u>Step Two</u>				
Price Index for Gold Sovereign shows following development	17	27	32.5	39.7
Increase over base year 1974		10	15.5	22.7
Percentage increase		58.8%	91.2%	133.5%
<u>Step Three</u>				
Subtracting results of Step One from Step Two "differential" calculated		2.3%	75.6%	73.5%
"Differential" x base year		0.4	13.6	13.6
Plus base year	<u>18</u>	<u>18</u>	<u>18</u>	<u>18</u>
Total	18	18.4	31.6	31.2

This is the theoretical funding level for Section 2 in the MOE budget for the time period 1974 through 1978. The calculation includes a price escalation indicator, though student enrollment has been held constant.

As student enrollment did increase substantially during this time period, Step Four is taken to adjust the funding level:

	<u>1974</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
<u>Step Four</u>				
Enrollment (in millions)	6.03	6.28	6.48	6.70
Estimated expenditures considering increased student enrollment (in LE millions)	--	19.2 ====	34.0 ====	34.7 ====

	<u>1974</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
<u>Step Five</u>		(in LE million)		
Difference between funding level and estimated level of funding needed		8.8 ===	11.4 ====	5.9 === ^{1/}

Capital Investment, Section 3:
Analysis of a School Building Program
Proposed by MOE

According to a draft paper, drawn up by the General Administration for Planning and Followup in the MOE, the following school building program has been tentatively planned for the years 1980 through 1984.

Facility planners in the MOE plan to build a total of 1,172 new schools: 910 school buildings will house primary education programs and 262 schools will be used for preparatory education.

In addition, the planners hope to replace a number of old schools that cannot be repaired or remodeled. Within the next 5 years, a total of 690 replacement schools have been planned (500 primary schools and 190 preparatory schools).

Discussions with staff members of the General Administration for Planning and Followup regarding the statistical data base for the projections centered on questions such as:

- What kind of population projections were used?
- Has an increased enrollment been considered?
- Will there be enough class spaces once survival rates increase and the dropout rates decrease?

From the answers to these and other questions the impression has been gained that considerable effort went into calculating and tabulating this data.

Part One of the planning effort can be summarized as follows:

Time Frame: 1980-1984

- Effort:
- a) Construction of 1,172 new schools (910 primary and 262 preparatory schools)
 - b) Construction of 690 replacement schools (500 primary and 190 preparatory schools)

Geographical distribution:

Approximately one-third of all schools to be built in urban and two-thirds in rural areas.

Classroom distribution:

Approximately 50 percent of all new classrooms will be in new buildings; the remaining 50 percent will be added to already existing buildings.

Total cost of the proposed building program: LE140 million

Part Two of the proposed plan deals with efforts to reduce the incidence of double shifts, that is, to reduce the number of classrooms that are currently being used for two pupil groups. This plan envisions the construction of 3,700 new primary schools and 400 new preparatory schools. At the primary level, 1,500 schools would have 12 classes, and 2,200 schools would house 6 classes. Altogether this construction would add a total of approximately 31,000 new classrooms.

At the preparatory level the additional 400 schools would add 7,800 classes to the system.⁸ To summarize:

Time Frame: 1980-1984

Objective: To eliminate the incidence of double shifts in 38,800 classes

Planned effort:

- a) Construction of 3,700 new primary schools (1,500 schools with 12 classes; 2,200 schools with 6 classes)
- b) Construction of 400 preparatory schools

Number of classes:

Approximately 31,000 classes would be added to the primary level

7,800 classes would be added to preparatory school system

⁸This building program does not contribute any capacity toward expanding enrollment.

Proposed Budget

Part One

Total new school buildings (primary and preparatory) 1,862 at LE75,000	LE139,650,000
Land	<u>3,500,000</u>
TOTAL	LE143,150,000

Part Two

New primary schools:	
1,500 schools with 12 classes, @ LE75,000	LE112,500,000
2,200 schools with 6 classes, at LE50,000	110,000,000
Land	<u>7,000,000</u>
TOTAL	LE229,500,000
 New preparatory schools	
400 schools at LE80,000	LE32,000,000
Land (at LE 20,000)	<u>8,000,000</u>
TOTAL	LE40,000,000
 <u>Grand Total</u>	 LE412,650,000

Analysis

An analysis of the proposed school construction in depth would require a detailed examination of the contribution of architectural, technical, economic, and administration factors. Although it is impossible to separate these factors completely, an attempt has been made to analyze the investment program in as detailed a manner as possible.

Primary and preparatory schools are owned and maintained by governmental agencies, mostly by the Ministry of Education. In principle one should take into consideration some appropriate estimates of interest and depreciation on the capital to be invested. This has not been done.

The cost estimates seem to be based on the assumption that ratios between different types of expenditure, for example between labor and building materials, would remain constant.

Also, the number of schools to be constructed and their subsequent costs seem to be based on the assumption of a 9 percent annual rate of growth of GNP. It is important to note, however, that the growth rate of Egypt's GNP during 1966-74 was less than 6 percent annually. If the increase does not materialize in future years, then this will clearly affect the supply of resources through the budget of the Ministry of Education. It would have been useful had the MOE prepared alternative projections of available resources, in order to test the feasibility of the plan in the event of lower growth rates of GNP.

An attempt to analyze the estimates of capital cost suffers principally from the shortage of data on actual expenditure patterns. The estimates are based on very inadequate data on costs of school buildings at various levels of education, without giving due consideration to the fact that between building costs in rural areas and construction costs in cities there is an enormous cost differential.

Another criticism of the proposed school building program is that costs seem not to have been considered at all when the estimates were drawn up. The targets were set on the basis of "social demand" (that is, elimination of second shifts in schools) and a 4 percent annual increase in the number of pupils in primary grades.

In other words, cost data did not play any role in the setting up of the targets and the calculating of construction funds between different levels. Thus it is difficult, if not impossible, to judge the scale of priorities in the educational plan, since they are not based on explicit consideration of the relative costs and benefits to be expected from eliminating double shifts in different levels of education.

Table 7 is a projection of government expenditure for education and training during 1978-1985. As can be seen, governmental capital expenditures will reach a level of almost LE94 million in 1984. This figure includes capital investments by all ministries and governmental agencies in the education sector.

In past years MOE has had capital expenditures ranging from 35 percent to 47 percent of total educational capital expenditure. In case this trend continues in 1984, for example, the MOE should be able to invest up to LE50 million in capital projects.

Table 7. Projection of Government Expenditure on Education and Training, 1978-1985*

(In LE million's)

1978	1979	1980	1981	1982	1983	1984	1985
<u>Recurrent Expenditure</u>							
360.9	389.1	420.2	453.1	490.1	529.5	571.2	608.0
<u>Capital Expenditure</u>							
45.1	50.9	57.6	65.0	73.5	83.1	93.9	107.0
<u>Total Expenditures</u>							
406.0	440.0	477.8	518.1	563.6	612.6	665.1	715.0

*Estimates by Joint Egyptian-U.S. Educational Survey Team, June, 1979.

Summary of Financial and Budgetary Constraints

Allocation Constraints

Egypt currently spends nearly 7 percent of the gross national product (GNP) on education (all levels). While the rate of growth of GNP was slow in the 1960's and frequently sporadic, it has recently increased to about 8 percent per annum. Should GNP not grow as fast as expected in future years, a reduced rate of growth for the education budget may result.

In 1978, out of a total of LE361 million government recurrent expenditures on education and training, more than LE91 million went to universities, while LE259 million went into the MOE budget. In the same year universities received LE12.5 million for capital expenditures, while MOE's capital expenditure was raised to LE21.5 million. Total capital expenditures for this year amounted to LE42.5 million. It is not expected that this allocation pattern will be subject to dramatic change in the near future.

The major portion of the MOE budget is fixed: 81.9 percent of educational expenditures were used for salaries in 1976 through 1978.

During the same time period only LE2.46 were invested per pupil in the form of new school facilities, etc.

Appropriations for budget Section 2 in the past have been seriously deficient.

Requested funds in Section 3 (investment capital) are frequently cut back to such a degree that the amount finally allocated does not allow the completion of capital projects.

Structural Constraints

The budget and accounting system has been designed primarily to satisfy the needs for 1) accountability, and 2) administrative control of funds.

A major obstacle to introducing elements of performance budgeting in order to broaden the range of budgetary functions is the fact that educational planning and educational financing are the responsibilities of separate ministries.

The current centralized system in general has served to increase the complexity, burden, and economic inefficiency of the educational system.

The network of budgetary rules and regulations, as well as procedures and controls, causes bureaucratic bottlenecks and hinders, rather than encourages, decentralization of decisionmaking at the local level. It should not be overlooked that the net impact of decentralization measures at the local level pertaining to education has been relatively small so far.

Rigid procedures (especially in Section 3, investment of capital) of disbursement are enforced while the evaluation of needs for long-term investments frequently is neglected.

Personnel in charge of financial affairs in the central MOE and at the governorate level are generally not trained in managerial functions such as planning, monitoring and evaluation.

There is a clear conflict between local educational administrators and the Ministry of Finance, as the latter does have the authority to act independently of educational plans or budget requests, and regardless of expressed local needs.

Also, the fact that the Ministry of Planning exercises considerable influence over the preparation of Section 3 (capital investment) while the Ministry of Finance (together with MOE) controls Sections 1 and 2, leads frequently to an incongruity in the proportions of expenditures for operating purposes and those for long-term capital investments.

Technical Constraints

(a) Macro:

The current budget structure does not provide the type of financial data that are important for the purposes of decisionmaking, educational policy determination, and financial management.

Over the past years the timing as well as the administration of disbursements suffered from wide variations.

(b) Micro:

The budget does not clearly distinguish genuine expenditure and revenue transactions from financing and intra-governmental transactions.

This in turn leads to a multiplicity of accounts and funds, and contributes to doublecounting of receipts and outlays.

The budget structure curtails the function of measuring and evaluating economic efficiency. As the input-side is strictly controlled, and the output-side not quantitatively assessed, it is difficult if not impossible to determine currently whether a school or a school system is being administered efficiently or not.

CONCLUSIONS AND RECOMMENDATIONS

Education as Investment

Financial policies should be dependent on output concepts and their measurement. A variety of economic tools have been developed to evaluate budget and program decisions, and to maximize investment in human resources to increase productivity and economic growth.

Most approaches dealing with economic output measurements are based on input-output methodology. Education is viewed as an "investment," not as a "service," and consequently the question, "Does education pay off?" has to be answered.

The best developed methodologies for providing an answer to this question are cost-benefit and rate-of-return studies.

Cost-benefit analysis, for example, is a method that can be used to assist the educational decisionmaker in answering the question of whether his system performs the allocation function efficiently or not. Direct (recurrent) and capital costs usually constitute the input side, while tangible and intangible private and public (or social) benefits are measured at the output side. Benefits that can be quantified include, but are not limited to, increased earnings, improved job opportunities, increases in skill level of manpower for economic growth, and increased productivity.

Internal rate of return calculations and the discounted-value approach go one step further than conventional cost-benefit analyses in measuring economic outcomes of the education process. Both approaches are similar in that they are based on cost-benefit calculations. However, as educational costs and benefits accrue over different time periods, the discounted value approach attempts to solve this problem by discounting costs and benefits in present value terms.

Rate of return calculations, on the other hand, measure investment effects by comparing private outcomes with public benefits, and educational investment outcomes with the return on physical capital formation.

However, before any of these approaches can be used for the measurement of outcomes of the Egyptian education system, the existing data and data handling systems should be strengthened, broadened and in some cases, changed.

Improving the Allocation Process: Recommendations

Short and Medium Term Perspectives

It is recommended that for the near term, a good first step in Egypt would be for the MOE to develop a performance budgeting system which can be used to measure the effectiveness and efficiency of ongoing programs.

Performance budgeting can be described as a process (or a system) which allows one to achieve management by objectives, which states program costs in relation to program objectives, which searches for more effective (and efficient) program alternatives, and which analyzes program costs in accord with specified program-related criteria as a basis for making resource allocation decisions.

As the current Egyptian budget structure does not lend itself to management functions such as monitoring and evaluation, it is recommended that the MOE start developing a basic form of performance budgeting. Such a system would ideally consist of three components: structural, analytical, and evaluative. Tools to be developed over a 5-year period would include a multiyear program and financial plan, annual program analysis studies, cost-effectiveness analyses of selected programs, and annual program evaluation studies.

The processes required to evaluate all or parts of the basic education system are: formulating criteria of measurement; assigning expenditures to program categories, projecting program costs, collecting cost data relevant to criteria of effectiveness; collecting data on program performance, and carrying out cost analyses.

The next step would be to conduct a Production Function Analysis for the purpose of studying the behavior of the two major factors of "production" in education, labor and capital, under varying economic conditions. Such an input-output study (with variable two-factor input) will show how educational outcomes may change as the mix of labor and capital varies in the system.

Long-Term Perspectives

There is general agreement that by changing the income profile, education contributes greatly to income redistribution. As deficiencies in opportunities for employment are detrimental to both the economic and social mobility of the individual, it makes good sense that at the primary education level, for instance, the poorest families should be the prime beneficiaries of the school system. In order to equalize the educational opportunities for Egypt's pupils, it is recommended that efforts be undertaken to develop a nationwide school finance plan, based on a scientific equalization formula, incorporating program weights and compensating for regional cost differentials. This finance plan should include provisions for local taxes to be used to finance local education programs.

Eventually, the MOE should develop and use a Management Information System (MIS) which would facilitate the monitoring processes with regard to budget implementation, and test the efficiency of the total finance program by measuring and analyzing costs and benefits within the framework of annual cost-benefit analyses.

SECTION THREE:

Annexes

Annex A

**Scope of Work
Ministerial Decree**

OBJECTIVES OF THE SURVEY

The purpose of this joint Egyptian-American survey is to describe the goals and objectives of basic education and to determine the appropriateness of those goals and objectives given Egypt's current and future state of development needs. The survey also is to determine the problems and constraints in meeting the appropriate goals and objectives. The focus of the survey is on the basic education sector in Egypt, but includes necessary analysis for the various elements of primary, preparatory, secondary and higher education systems as they interrelate with and influence programs in basic education.

It is important to note that the survey team will be working from secondary data and that we do not expect the team to initiate or generate new data with respect to the educational systems in Egypt. The survey is not an in-depth study but will use the available background materials presently in the U.S. and Egypt. It is from this survey that we will expect programmatic ideas to emerge that can be used by the MOE and USAID.

The Mission assumes that there is a relatively high positive economic internal rate of return from basic education in Egypt. Several studies carried out in other developing countries indicate this to be a valid assumption. Therefore we believe that the focus of the survey on basic education is appropriate, not only for being responsive to the GOE's request and priority, but also for providing the Mission and the GOE with specific guidance as to what major constraints exist which limit the maximum effectiveness of this system and consequently what and how external resources could be programmed for maximum effect.

CONTRACTOR PERFORMANCE

It is anticipated that the joint Egyptian-American team will conduct a survey that will take approximately eight to ten weeks. The American team members will consist of approximately eight specialists. In addition to work in Egypt, they will also undertake some work in the U.S. Approximately 16 Egyptian educational specialists will participate in the joint effort. Considerable data concerning the Egyptian educational system already exists and will be made available for the team's use and analysis. USAID/Cairo and the MOE will compile relevant data and studies in advance of the contract team's arrival. The joint team will make selective visits, conduct interviews, and have discussions with educational leaders, teachers and other personnel and community leaders in selected urban and rural areas of Egypt to obtain specific data and views on the actual operation of the schools, on performance of the personnel in the system, and on the perceptions of the users and communities.

SCOPE OF WORK

The task of the survey should be divided into component parts to facilitate the gathering of information and analysis of data. We would suggest the following categories:

1. Ministry of Education

Because education is a centrally controlled and managed system in Egypt, the Ministry plays a key role in all aspects of education in Egypt. Therefore it is important to understand this role and all aspects with respect to how the Ministry is organized and functions. The joint team should look at the following to the extent feasible:

- a. the structure and organization of the Ministry with an emphasis on the budgetary process;
- b. the personnel system, numbers of people, kinds of jobs, academic preparation and experience of staff;
- c. the decision making process within the Ministry including basic goals and objectives in basic education;
- d. the policies and regulations which govern the function of the Ministry;
- e. legislation which controls the function of the Ministry;
- f. the nature of the planning function within the Ministry and its relation to national planning;
- g. the research capability governed by the Ministry;
- h. the relationship between the Ministry and the governorates, districts and local organizations in the field of education as well as the overall political influences as they effect the educational system;
- i. labor organizations within the Ministry and their relationships with the operation of the MOE.

2. Basic Education

The term "basic education" is a new one as it applies to the system within Egypt. Its broader interpretation extends beyond the primary schools to include two or three years of preparatory programming. For our basis in this survey, we are talking primarily about the grades one through nine. In Egypt it is generally understood that basic education aims at providing students with the necessary amounts of values, codes of behavior, knowledge, skills and vocational experience appropriate to the different environments whether urban, rural, desert or industrial. It should be possible for students in this system to continue with additional education but also for

those who terminate their schooling at the end of their basic education program to perform a useful and productive life.

The following areas should be included in the survey:

- a. curriculum information;
- b. student flow;
- c. dropout and repetition data and attendance information;
- d. policies and regulations which control the functions of schools in this category;
- e. information on facilities and their use;
- f. instructional and other learning materials available for the classroom, teachers and students;
- g. data with respect to urban/rural disparities;
- h. data with respect to boy/girl disparities;
- i. information concerning the evaluation system and procedures;
- j. level of teacher training, salaries and relationship teachers have in the community;
- k. analysis of the appropriateness of basic education in the Egyptian context.

3. Secondary, Technical and Higher Education

The focus of this survey is on basic education. However, it is important to understand the interrelationships between primary, secondary, technical and higher education with that of the basic system. The survey team will need to consider the following:

- a. the policies and regulations that govern the flow of students to each level;
- b. program requirements and program testing requirements;

- c. types of programs available for students as they leave the basic area;
- d. academic weaknesses with respect to students going to further levels;
- e. how basic education provides the background for further education and what are the essential elements needed.

4. Teachers

It is anticipated that the teacher category will be crucial to any changes or improvements that will be made in basic education. The team should consider the following:

- a. the policies and regulations which govern how teachers are trained, how they teach in the classrooms and are assigned to schools;
- b. the kinds of teacher training programs available for the basic program including in-service/pre-service programs;
- c. classroom and teaching methodologies prevalent throughout Egypt;
- d. salary and promotion structure;
- e. kinds of training provided for administrators, supervisors, inspectors, librarians and other support personnel;
- f. effect of trained teacher emigration;
- g. teachers unions, their organization and influence on education policy and performance.

5. Social Analysis

The survey would be expected to determine the social and cultural influences on basic education in Egypt. Based on the knowledge available and material that has been researched and published in Egypt, the analysis will include the following:

- a. data on student expectations within a realistic context in Egypt;
- b. parent expectations from schools;
- c. learning difficulties as experienced in the present system;

- d. attitude toward schools and programs by the population;
- e. cultural preferences that direct students to seek one kind of education over another;
- f. community involvement in education, analyzed to include the present cost of education for parents.

6. Education Finance

This section should include information on total national resources devoted to education from a historical perspective. Allocation of total national resources to education should be analyzed in detail to bring out the emphasis that the GOE places in different areas, such as formal and informal education; basic, secondary and higher education; and urban and rural-centered education. The analysis should include:

- a. detailed aspects of education expenditure allocation within the basic education system;
- b. an examination of data on education expenses (or budget) per student, budget allocation by recurrent and capital expenses, budget allocation by teacher salary, curriculum development, and education learning resources and facilities;
- c. estimation of the extended GOE budget required for basic education if the GOE's basic objectives are to be met and maintained on a continuing basis.

7. Education Economics

This section of the survey should analyze cost effectiveness of resource allocation in education. Allocation of resources to basic education as against secondary and higher education should be carefully analyzed. To do this, depending on availability of data, rates of return to education

in different levels of education should be computed and implied resource allocation should be compared with the actual current allocation. The analysis should be extended to budget allocations within the basic education system and indicate the most efficient allocation of basic education resources to achieve its objectives.

8. Decentralization

A process has been initiated by the Government of Egypt that is studying ways to decentralize the functions of the Government of Egypt and the services rendered by the central ministries. The survey team should consider this process of decentralization and the implications that it has for educational policy.

COORDINATION WITH OTHER DONORS

The survey team should be knowledgeable about the activities of other donors with respect to their programs and projects in the field of education. The major donor in the area of education in Egypt is the World Bank. Their first loan was for \$25 million and concentrated on the vocational technical sector. Their second loan for approximately \$50 million lists the following purposes:

- a. expand, diversify and upgrade the training of technicians and skilled and semi-skilled workers to meet urgent manpower needs;
- b. assist in improving the relevance and quality of lower and upper secondary education through provision of diversified practical training to all students;
- c. increase and upgrade the training of primary, secondary and technical teachers and instructors;

- d. improve educational and manpower research and planning;
- e. increase and upgrade management training in the industrial and construction sectors;
- f. expand and improve population education in the public schools;
- g. expand education and training opportunities for the urban poor.

Coordination with the Bank in this sector is crucial to USAID involvement with the basic education sector. Several of the American members of the survey team will need to spend two to three days in the U.S. gathering World Bank data related to their education loans and having discussions with the Bank personnel with respect to their planning and expectations in this education sector.

CONSTRAINTS AND RECOMMENDATIONS

Following the data gathering and analysis indicated in the preceding sections, the joint team will describe what they would propose should be the appropriate purposes and objectives of the basic education system. This statement of purposes and objectives must take into account Egypt's existing and anticipated social and economic needs and be realistic in terms of the economic and financial situation of the nation as forecast over a period of 20 years. Further, the team should describe and analyze the major constraints and limitations which currently exist which inhibit the basic educational system in serving the purposes and objectives proposed. Finally, the team should describe and analyze the types of actions which can be undertaken in the short, medium and long term to help overcome these constraints and limitations. In recommending actions which can be undertaken, the team should distinguish between those actions which are

essentially ones which only the Egyptian Government can undertake itself and where external assistance would not be an important factor, and those actions where external assistance in the form of technical assistance, commodities or construction would be a major factor in permitting the Egyptian Government to overcome the limitations and constraints described.

METHOD OF PROCEEDING

The Egyptian members of the joint team will be designated in advance of the arrival of the American members of the team and will begin the task of collection of data and background materials as soon as possible. As indicated above, a portion of the American side of the team should meet with IBRD officials in advance of arrival in Egypt to obtain the maximum amount of information available from IBRD, both in terms of study and analytic materials available and in terms of IBRD program plans in Egypt.

During the first four weeks of operation of the joint team in Egypt, work will concentrate on development of background work and on initial definition of major constraints and limitations as well as initial identification of potential program areas.

After approximately four weeks of activity, there will be a joint review of team activities by the Ministry of Education and AID. As a result of that review, consideration will be given to any need for change in the team's approach, grouping, direction, emphasis, etc., and any such changes will be approved jointly by the Ministry and the Mission.

The remaining four to six weeks will be devoted to further and more specific elaboration of constraints and limitations and program recommendations based on guidance from the above-mentioned review. During this period the joint team will prepare a draft final report. The draft final report will also be subject to a joint review by the Ministry and the Mission prior to departure of the American team members of the joint team. The final report should be completed no later than 30 days after comments are received from the GOE and the Mission. Twenty copies of the final report will be prepared and made available to each of the Ministry, the USAID, and AID/W.

In addition to describing the background material upon which its conclusions are based, and the constraints and limitations which face the Egyptian basic educational system, the report will recommend and describe priority areas to which external assistance, including assistance from AID, should be addressed that would improve the system of basic education. The report should include recommendations for short, medium and long term action programs for external assistance, and the actions which the Egyptian Government must undertake to assure efficient use of total resources.

STAFFING

Experience resumé's and biographies of each professional staff member to be assigned to the team should include: nationality; education; professional qualifications; chronological experience record indicating years, job title and description; employer; level of responsibility; overseas experience by years and country.

The background experience and competence of the consultant team must be directly related to the survey requirements as stated in the scope of work. Specific requirements are that the team must include people who have work experience in or with the following:

- a. ministries of education in one (or more) developing country;
- b. primary school systems in developing countries;
- c. educational planning and organization in developing countries;
- d. an education generalist who has worked with programming in a broad field of education that would include secondary and higher education in a developing country.

We would expect the team to include specific technical skills in the areas of:

- a. Educational Finance
- b. Educational Economics
- c. Education Administration and Supervision
- d. Testing and Evaluation
- e. Educational Planning and Programs
- f. Education Curriculum and Design
- g. Teaching, classroom and student learning resource materials
- h. School buildings and related facilities
- i. Social and demographic analysis

Finally, we would expect every member to have a high level of academic credentials and to be able to work as a team member and to be able to cooperate fully with his Egyptian counterparts.

The team will have a designated leader who will be responsible for the coordination of the work assignments in consultation with the USAID

Mission Education Officer and his counterpart from the MOE. It is emphasized that the survey is to be a joint Egyptian-U.S. effort and that the final report will be a coordinated and agreed-upon document.

Ministry of Education
The Minister's Office

(Translated from original
Arabic document)

MINISTERIAL DECREE NO. 71

April 4, 1979

Formation of the Egyptian Team
in the
Fundamental Education Curriculum Project

The Minister of Education, Culture and Scientific Research,
Noting Law No. 68 of 1968 on General Education and its Executive
Decisions;

And Law No. 75 of 1970 on Technical Education and its Executive
Decisions;

And Presidential Decree No. 70 of 1962, concerning responsibilities
and functions of the MOE;

And observing arrangements with the American side (USAID) as to
the conduct of a study on the present conditions of education in the
A.R.E.;

And the decision of the Council of Undersecretaries of MOE, at
its session of April 3, 1979;

And based on the Deputy Minister's presentation,

IT IS DECIDED:

Article One:

A group of specialists is to be formed in the MOE to assess the
researches and studies previously submitted in the various areas of
pedagogy and education and to review all the relevant statistics,

administrative and technical organizations in order to come up with a comprehensive and complementary study that explains the standing pedagogical and educational situations indicating their strengths and weaknesses, their difficulties and impediments, the areas of troubles that confront its constituents, then submit recommendations to rectify the existing conditions with a definition of the time span needed. This would be an introductory study in preparation to the work of the members of the American group expected in Egypt in mid-April 1979.

Article Two:

The Egyptian Working Groups are to be formed as follows:

1. Mr. Salah El Arab Abdel Gawad
Director General of the Male and Female Teachers Institutes
2. Dr. Nadia Macary
Head of Statistics Department, Faculty of Economics and Political Sciences
3. Engineer Ezz El Din Mustafa
Consultant in Vocational Training
4. Mr. Anis Saleh Nassr Allah
Director General of Directorates Affairs
5. Mr. Mustafa Kamal Omar
National Center for Pedagogical Research
6. Mr. Hamed Soliman
Planning and Follow-Up General Directorate
7. Mr. Adham Ahmed El Sarraf
National Center for Pedagogical Research
8. Mr. Guirgis Rizk Asaad
General Directorate for Educational Methods
9. Mr. Abdel Moneim El Badry
Financial Affairs Directorate

10. Mr. Abdel Fattah El Mourshidy
General Directorate for Planning and Follow-Up
11. Mr. Mamdouh Farid
General Directorate for Planning and Follow-Up
12. Mr. El Prince Ahmed Radwan
General Directorate for Preparatory Education
13. Mr. Osama El Soukary
General Directorate for Male and Female Teachers Institutes
14. Mr. Gamal El Din Rashed Nowair
The National Center for Pedagogical Research
15. Mr. Mohamed El Sayed Gameel
Office of Population Education
16. Mrs. Bothaina El Kafrawy
General Directorate for Primary Education

Specialized working groups are to be formed out of the team members for each similar research topic.

Article Three:

A team to supervise the specialized areas of study and research is to be formed of:

1. Mr. Ibrahim Sayed Shafie
Director General of Cairo West Education Directorate
2. Dr. Mohamed Seif El Deen Fahmy
Dean of the Faculty of Education, Al Azhar University
3. Dr. Rashdy Iabeed Killeeny
Professor, Faculty of Education, Ain Shams University
4. Dr. Mohamed Sayed Abdel Maksoud
Professor, Faculty of Education, Ain Shams University

Article Four:

The work groups are to supervised by an organizational office composed of:

1. Mrs. Magida Khalifa
Ministry Consultant for the Subjects Consultants' Sector (Reporter)
2. Mr. Abdel Tawab El Saadany
Ministry Consultant for Private Education Affairs
3. Mr. Salah El Din Hassan
Ministry Consultant for Fundamental Education
4. Mr. Raafat Allam Ahmad
Director General of the General Directorate for the Office of the
Deputy Minister (Secretary General)

Article Five:

All studies and researches shall be completed before the date of arrival of the American team with sufficient time to permit study and discussions in the Undersecretaries Council prior to submission to the American group.

Article Six:

All Ministry Offices are requested to cooperate with the team members to present all data, studies and statistics requested. This is considered to be of special importance.

Minister of Education, Culture and
Scientific Research

(signed)

Dr. Hassan Mohamed Ismail

Annex B

Mother and Child Care and School Health

"3. Health Environment at School

This is similar to the health environment at home. In 1975 a study was conducted on a random sample chosen from 47 primary schools including 222 classes in Alexandria. The results of the study were as follows:

a. School architecture:

More than 50 percent of the schools were constructed according to the conventional architectural type of a learning institution. That is, the principles of lighting, ventilation and system of acoustics were properly distributed. However, in about 46 percent of the schools, these principles were disregarded.

b. Maintenance:

10 percent of the classes needed urgent maintenance of walls, ceiling and floor.

c. Ventilation

The ventilation of about 42 percent of classes was unsatisfactory. This is due to the following reasons:

- i. The rate of open subsurface (for doors and windows) in 50 percent of the classes is less than 20 percent of the floor surface which is the minimum requirement for healthy ventilation.
- ii. More often the windows were situated at one side of about 37 percent of the class rooms, which prevents proper ventilation.
- iii. Crowded classrooms. The average number of children per one class-room is 50-60 students. The recommendation is that the ideal subsurface per one child should not be less than 1.3 to 1.5 square meter. Any reduction of this surface will affect the proper lighting, ventilation and system of acoustics necessary for each student. Studies showed that 65.6 percent of the schools do not meet this requirement.

"4. Lighting

In principle, school classes should depend mainly on natural lighting. However, only 11.8 percent of the sample schools depend on natural lighting. While 18.9 percent depend on natural lighting and electricity the rest of the school sample were evening schools which totally depend on electricity.

from the age of 3.5 to 18 years old, while in 1968 the Dutch INstitute for Public Health set up 7 measurements for school desks. Furthermore, studies by Hobenfield (1967), Namir (1970) and Nelson (1959) proved that inappropriate measurements of school desks is among the main reasons for bodily disfigurement, and the different twists of the vertebral column. In addition the sharing of the same desk by 3 or 4 children leads the children to sit in the wrong position, which leads to twists in the vertebral column. On the other hand, studies showed that in most cases school classes are over crowded at an average rate of 10-12 children more than their normal capacity, while in 18.2 percent of the schoolrooms, children sit on backless chairs using the front edge of the desk of the back row to lean on.

"7. School Health Utilities

a. Source and distribution of water

Potable water in the cities is provided from public water utilities. However, in rural areas, potable water is usually provided from subterranean sources of underground water storage. In the latter case, it is necessary to ensure its potability, proper distribution through taps, as well as the continuous maintenance of these taps. This depends on the school administration and its proper supervision with a view to preventing the spread of contagious diseases.

b. Waste disposal

There is no specific or regular system for waste disposal. This also depends on the school administration

c. Disposal of excreta

In the cities, schools are usually connected to the public sewage system. However, in some cases, an overflow of sewage occurs as a result of some obstruction. However, this is considered to be a minor problem in contrast to the greater problem of cities which do not have a sewage system and in which sewage is directed to underground storage. In this case it falls on the school administration to organize regular disposal of the accumulation or overflow of excreta to prevent a serious source of disease and infection. Though the distribution of water closets in the different schools is basically sound, the increase in the number of students is greater than the normal rate which leads to a greater pressure on the water closets, It also puts a greater demand on the

need for their maintenance and cleanliness to prevent the spread of disease among school children.

"8. Snack Services

This also depends upon the school administration. Snack service is necessary to prevent the children from buying food from the peddlars. It also facilitates the necessary supervision over the food served to school children."

SOURCE: This report provided to the Educational Survey Team by the MOE, May, 1979.

Annex C

Statistical Materials

ANNEX C

THE BUDGETING AND ACCOUNTING SYSTEM *

"The budget structure is highly fragmented and complex, being composed of many budgets and special funds. The state budget comprises separate budgets for the central administration, local governments, Service Public Authorities, and Economic Public Authorities. Each of these budgets is further divided into current and capital components.

"The basis for recording receipts and payments is a mixture of cash and accrual. In broad terms, the central administration, the local government and the central government funds are largely on a cash basis, while many public authorities and the public sector companies are on an accrual basis, as is all investment expenditure.

"The Egyptian budget and accounting system has been designed primarily to satisfy the needs of accountability and administrative control of funds. The system does not provide the various types of financial data that are important for purposes of decision making, public policy determination, and financial management. For example, the system does not clearly distinguish genuine expenditure and revenue transactions from financing and intragovernmental transactions. The lack of identification of intragovernmental transactions is particularly important in view of their scale; this results in turn in the multiplicity of accounts and funds, and contributes to double-counting of receipts and outlays. The key consolidating aggregates can be derived only by substantial rearrangement of budget data. The mixture of cash and accrual bases, ... and differing government debt instrument valuation practices create considerable difficulties for the coordination of fiscal and monetary data and policy. A budget reform bill that would rectify many of these problems was introduced into the People's Assembly during 1978, but is not expected to be passed before the middle of 1979."

* International Monetary Fund, "Arab Republic of Egypt -- Recent Economic Developments." February 14, 1979. pp. 25-26.

Table 1
Total Enrollments in Primary Education by Governorate

Governorate	1969/70			1978/79			Change in % of Female Enrollment 69/70-78/79
	Female	Total	Female % of Total	Female	Total	Female % of Total	
Cairo	318,084	686,968	46.3	316,292	667,478	47.0	0.7
Alexandria	131,416	286,487	45.9	147,993	317,325	46.6	0.7
Bcheira	62,973	194,851	32.3	91,190	260,815	34.9	2.6
Gharbia	88,150	238,060	37.0	108,933	266,964	40.8	3.8
Kafr Shaykh	36,992	113,133	32.7	54,420	147,551	36.8	4.1
Menofia	63,276	183,069	34.6	90,324	226,100	39.9	5.3
Qulubia	57,881	165,232	35.0	90,523	226,839	39.9	4.9
Daqahlia	112,385	298,918	37.6	142,060	338,389	41.9	4.3
Demiatt	34,488	76,592	45.0	39,419	83,126	47.4	2.4
Sharqia	91,934	262,828	35.0	111,813	293,256	38.1	3.1
Port Said	--	--	--	16,600	34,583	48.0	--
Ismailia	2,890	8,879	32.5	21,966	51,287	42.8	10.3
Suez	--	--	--	14,392	31,644	45.5	--
Giza	80,230	211,677	37.9	115,066	290,930	39.5	1.6
Fayoum	36,935	97,144	38.0	33,894	104,361	32.5	-5.5
Beni Suef	44,837	110,648	40.5	36,337	113,287	32.0	-8.5

Table 1 (Continued)

Governorate	1969/70			1978/79			Change in % of Female Enrollment 69/70-78/79
	Female	Total	Female % of Total	Female	Total	Female % of Total	
Minya	52,104	157,381	33.1	56,911	188,875	30.1	-3.0
Assuit	43,070	141,270	30.5	53,790	171,266	31.4	0.9
Sohag	43,530	157,876	27.6	51,485	181,795	28.3	0.7
Qena	41,275	136,899	30.1	52,908	167,138	31.6	1.5
Aswan	24,522	65,747	37.3	36,998	87,770	42.1	4.8
Matrouh	2,361	7,514	31.4	3,619	12,267	29.5	-1.9
New Valley	4,839	11,135	43.4	6,526	14,879	43.8	0.4
Red Sea	2,820	6,442	43.8	3,599	7,692	46.8	3.0
Sanai	--	--	--	451	1,507	29.9	--
TOTAL	1,376,992	3,618,750	38.1	1,697,509	4,287,124	39.6	1.5

Source: From translations of materials submitted to the Education Survey Team by the MOE, May, 1979.

Table 2

% of Primary School Enrollment to Total Population of 6 - 12-year Olds
by Governorate
1977-1978

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Cairo	439.2	358,040	81.5	430.2	320,081	74.4	869.4	678,121	78.0
Alexandria	210.2	169,147	80.5	201.8	147,520	73.1	412.0	316,667	76.5
Boheira	240.4	166,389	69.2	218.2	87,109	29.9	458.6	253,498	55.3
Gharbia	212.9	158,873	74.6	190.9	107,282	56.2	403.8	266,155	65.9
Kafr Shaykh	136.6	91,478	67.0	123.7	51,318	41.5	260.3	142,796	54.9
Menofia	151.9	134,397	88.5	132.1	86,400	65.4	284.0	220,797	77.3
Qulubia	155.9	133,926	85.9	135.5	85,950	63.4	291.4	219,876	75.5
Daqahlia	262.0	194,274	74.2	236.4	136,492	57.7	498.4	330,766	66.4
Demiatt	52.8	44,095	83.5	50.0	38,735	77.5	102.8	82,830	80.6
Sharqia	245.2	180,389	73.6	215.5	106,785	49.6	460.7	287,174	62.3
Port Said	16.9	17,068	101.0	15.9	15,772	99.2	32.8	32,841	100.1
Ismailia	27.2	27,965	102.8	26.5	20,497	77.3	53.7	48,462	90.2
Suez	14.8	16,497	111.5	14.0	13,837	98.8	28.8	30,334	105.3
Giza	217.3	169,118	77.8	195.0	109,095	55.9	412.3	278,213	67.5
Fayoum	99.8	68,621	68.8	85.3	32,995	38.7	185.1	101,616	54.9
Beni Suef	91.6	74,955	81.8	79.8	35,575	44.6	171.4	110,530	64.5
Minya	173.7	128,734	74.1	146.9	55,709	37.9	320.6	184,443	57.5

Table 2 (Continued)

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Assuit	149.2	114,243	76.6	129.4	51,163	39.5	278.6	165,406	59.4
Sohag	167.0	128,828	77.1	149.6	49,926	33.4	316.6	178,754	56.5
Qena	143.9	112,010	77.8	129.2	49,147	38.4	273.1	161,657	59.2
Aswan	53.7	51,183	93.5	48.1	35,834	74.5	101.8	86,017	84.5
Matrouh	11.9	7,925	66.6	11.1	3,430	30.9	23.5	11,355	49.4
New Valley	8.3	8,169	98.4	6.8	6,282	92.4	15.1	14,451	95.7
Red Sea	4.4	3,898	88.6	5.1	3,469	68.1	9.5	7,367	77.5
Sanai	9.5	908	9.6	12.7	311	2.4	22.2	1,219	5.5
TOTAL	3,296.3	2,561,130	77.7	2,989.7	1,651,215	55.2	6,286.0	4,211,345	67.0

Note: There are some unexplainable anomalies in the figures of this table, as for example, in Suez, where 111.5% of the boys are enrolled. The totals of enrollment also do not exactly coincide with figures found in other materials provided by the MOE. Here the girl's ratio of enrollment is 39.2% while in other materials it is 39.6%.

*Population figures are in thousands.

Source: From translations of materials submitted to the Education Survey Team by the MOE, May, 1979.

Table 3

% of Preparatory School Enrollment to Total Population of 12- to 15-Year Olds
by Governorate
1977-1978

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Cairo	179.7	158,881	88.4	182.8	138,210	75.6	362.5	297,091	82.0
Alexandria	87.3	62,439	71.5	87.5	56,706	64.8	174.8	119,145	68.2
Boheira	101.2	57,698	57.1	89.8	24,807	27.6	191.9	82,505	43.2
Gharbia	86.3	68,095	78.9	74.8	36,834	49.2	161.1	104,929	65.1
Kafr Shaykh	57.3	32,541	56.8	52.2	12,853	26.5	109.5	36,394	42.4
Menofia	62.8	53,420	85.1	55.0	24,961	45.4	117.8	78,381	66.5
Qulubia	62.2	48,251	77.6	52.6	22,933	43.6	114.8	71,188	62.1
Daqahlia	106.8	84,675	79.3	96.9	47,825	49.4	203.7	132,500	65.0
Demiatt	22.2	14,059	63.3	21.6	13,434	62.2	43.8	27,493	62.8
Sharqia	99.4	72,499	72.9	85.7	33,886	39.5	185.1	106,385	57.5
Port Said	11.7	8,670	74.1	11.0	7,746	70.4	22.7	16,416	72.3
Ismailia	17.0	12,113	71.3	15.6	7,589	48.6	32.6	19,702	60.4
Suez	9.6	7,863	81.9	8.9	5,506	61.9	98.5	13,369	72.3
Giza	87.0	57,645	66.3	78.4	33,434	42.6	165.4	91,079	55.1
Fayoum	40.8	19,962	48.9	33.9	8,748	25.8	74.7	28,710	38.4
Beni Suef	38.0	20,555	54.1	32.5	8,040	24.7	70.5	28,595	40.6

Table 3 (Continued)

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Minya	70.2	40,441	57.6	56.7	14,272	25.2	126.9	54,713	43.1
Assuit	60.6	37,538	61.9	51.0	13,886	28.2	111.6	51,425	46.1
Sohag	67.2	42,198	62.8	59.3	12,016	20.3	126.5	54,214	42.9
Qena	57.2	40,643	71.1	46.2	10,474	22.7	103.4	51,117	49.4
Aswan	20.9	21,913	102.9	17.7	9,922	56.1	38.6	31,835	82.4
Matrouh	5.0	1,573	31.5	4.6	660	14.3	9.6	2,233	23.3
New Valley	3.2	3,403	106.3	2.5	2,181	87.2	5.7	5,584	98.0
Red Sea	1.6	2,140	122.8	1.7	1,505	88.5	3.3	3,645	110.5
Sanai	4.4	198	4.5	6.7	35	0.5	11.1	233	2.1
TOTAL	1,359.6	969,413	71.3	1,225.6	549,467	44.8	2,585.2	1,518,880	58.7

*Population figures in thousands.

Source: From translations of materials submitted to the Education Survey Team by the MOE, May, 1979.

Table 4

% of General Secondary Enrollment to Total Population of 15- to 18-year Olds
by Governorate, 1977-1978

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Cairo	149.1	67,345	45.2	154.9	49,340	31.9	304.0	116,685	38.4
Alexandria	69.9	25,075	36.2	72.4	19,695	27.2	142.3	44,770	31.5
Boheira	80.6	11,376	14.1	73.7	4,760	6.5	154.3	16,136	10.5
Gharbia	69.4	13,578	19.6	63.7	6,922	10.9	133.1	20,500	10.4
Kafr Shaykh	46.4	9,205	19.8	44.5	3,027	6.8	90.9	12,232	13.5
Mefofia	50.7	12,925	26.5	45.0	4,802	10.7	95.7	17,727	18.5
Qulubia	49.8	10,827	21.7	42.0	4,656	11.1	91.8	15,483	16.9
Daqahlia	85.6	21,535	25.1	79.1	10,252	13.0	164.7	31,787	19.3
Demiatt	18.3	4,501	24.6	18.1	2,745	15.2	36.4	7,246	19.9
Sharqia	80.8	16,253	20.1	69.7	6,783	9.7	150.5	23,036	15.3
Port Said	11.1	3,921	35.3	10.0	2,830	28.3	21.1	6,751	32.0
Ismailia	14.6	3,066	21.0	12.9	1,404	10.9	27.5	4,470	16.3
Suez	8.5	2,048	24.1	7.6	1,123	14.8	16.1	3,171	19.7
Giza	72.1	17,518	24.3	67.4	10,656	15.8	139.5	28,174	20.2
Fayoum	32.9	4,758	14.5	28.4	2,185	7.7	61.3	6,943	11.3

Table 4 (Continued)

Governorate	Boys			Girls			Total		
	Pop.*	Enroll.	%	Pop.*	Enroll.	%	Pop.*	Enroll.	%
Beni Suef	31.2	4,262	13.7	28.0	1,821	6.5	59.2	6,083	10.3
Minya	57.7	7,428	12.9	47.0	3,245	6.9	104.7	10,673	10.2
Assuit	50.2	8,722	17.4	43.9	3,235	7.4	94.1	11,957	12.7
Sohag	54.5	8,760	16.1	51.1	2,850	5.1	105.6	11,610	11.0
Qena	45.7	8,839	19.3	39.2	2,321	5.9	84.9	11,160	13.1
Aswan	15.1	4,523	30.0	15.3	1,688	11.3	30.4	6,211	20.4
Matrouh	3.8	604	15.9	3.9	257	6.6	7.7	861	11.2
New Valley	2.4	1,062	44.3	2.5	343	13.7	4.9	1,405	28.7
Red Sea	1.2	622	51.8	1.2	397	33.1	2.4	1,019	42.5
Sanai	5.8	109	1.9	4.4	9	0.1	10.2	118	1.2
TOTAL	1,107.4	268,862	24.3	1,025.9	147,346	14.4	2,133.3	416,208	19.5

*Population figures in thousands.

Source: From translations of materials submitted to the Education Survey Team by the MOE, May, 1979.

TABLE 5
SECONDARY, TECHNICAL, AND TEACHER TRAINING
15-18 Yr.-Olds, 1977-78

GOVERNORATE	POP. 100's (M,F)	INDUS. ED.	INDUS. 5-YR	AGRIC. ED.	COMMERC. ED.	TOTAL IN SEC. TECH.	%	TEACHER TRAINING	%	TOTAL TECH. & TEACH. TRAIN'G ENROLL.	%
CAIRO	149.1	11,703	3,335	--	19,346	34,384	23.1	859	0.6	35,243	23.6
	154.9*	2,147	110	--	40,827	43,089	27.8	1,533	1.0	44,622	28.8
ALEXANDRIA	69.9	4,630	1,078	1,059	5,992	12,759	18.3	355	0.5	13,114	18.8
	72.4	1,730	--	--	14,100	15,830	21.9	871	1.2	16,701	23.1
BEHEIRA	80.6	5,437	--	3,210	8,569	17,216	21.4	1,139	1.4	18,355	22.8
	73.7	511	--	--	5,668	6,179	8.4	862	1.2	7,041	9.6
GHARBIA	69.4	8,816	--	2,069	10,095	20,980	30.2	523	0.8	21,503	30.0
	63.7	526	--	328	9,806	10,660	16.7	693	1.1	11,353	17.8
KAFR EL SHEIKH	46.4	3,071	--	1,641	6,974	11,686	25.2	1,361	2.9	13,047	28.1
	44.5	--	--	346	3,226	3,572	8.02	1,070	2.4	4,642	10.4
MENUFIA	50.7	6,475	--	3,556	6,836	16,867	33.3	817	1.6	17,684	34.9
	45.0	640	--	336	5,187	6,163	13.7	735	1.6	6,898	15.3
QALIUB	49.8	4,712	--	3,837	7,528	16,077	32.3	801	1.6	16,878	33.9
	42.0	546	--	232	5,957	6,163	16.03	855	2.03	7,590	18.1
DAKAHLIA	85.6	6,321	--	4,023	12,845	23,189	27.1	1,135	2.3	24,324	29.4
	79.1	489	--	650	11,092	12,231	15.5	1,752	2.2	13,983	17.7

* Figures for Boys are in this typeface

* Figures for Girls are in this typeface

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TABLE 5
SECONDARY, TECHNICAL, AND TEACHER TRAINING, 1977/78, cont.

GOVERNORATE	POP. 000's (M, F)	INDUS. ED.	INDUS. 5-Yr.	AGRIC. ED.	COMMERC. ED.	TOTAL IN SEC. TECH.	%	TEACHER TRAINING	%	TOTAL TECH. & TEACH. TRAIN'G ENROLL.	%
DAMIETTA	18.3	1,851	--	947	1,283	4,081	22.3	519	2.8	4,600	25.1
	18.1	533	--	171	2,946	3,650	20.5	510	2.8	4,160	23.3
SHARKIA	80.8	6,131	--	2,872	10,430	19,433	24.1	1,342	1.7	20,775	25.8
	69.7	696	--	545	7,611	8,852	12.7	1,154	1.7	10,006	14.4
PORT SAID	11.1	1,695	--	--	1,188	2,883	26.0	292	2.6	3,175	28.6
	10.0	549	--	--	3,594	4,143	41.4	329	3.3	4,472	44.7
ISMAILIA	14.6	1,254	--	1,171	1,789	4,214	28.9	509	3.5	4,723	32.4
	12.9	254	--	100	2,084	2,438	18.9	515	4.0	2,953	22.9
SUEZ	8.5	1,036	--	--	1,329	2,365	27.8	160	1.9	2,525	29.7
	7.6	170	--	--	1,863	2,033	26.8	356	4.7	2,389	31.5
GIZA	72.1	4,503	--	1,089	10,154	15,746	21.8	1,077	1.5	16,823	23.3
	67.4	402	--	90	8,807	9,299	13.8	1,040	1.5	10,339	15.3
FAYOUM	32.9	2,776	--	1,188	3,471	7,435	22.6	659	2.0	8,094	24.6
	28.4	535	--	7	2,034	2,576	9.1	505	1.8	3,078	10.9
BENI SUEF	31.2	4,021	--	2,559	2,319	8,899	28.5	441	1.4	9,340	29.9
	28.4	421	--	71	2,184	2,676	9.6	368	1.3	3,044	10.9
MINIA	57.7	6,182	--	2,646	5,167	13,995	24.3	615	1.1	14,610	25.4
	47.0	444	--	--	3,682	4,126	8.8	512	1.1	4,638	9.9

TABLE 5
SECONDARY, TECHNICAL AND TEACHER TRAINING, 1977/78, cont.,

GOVERNORATE	POP. 000's (M,F)	INDUS. ED.	INDUS 5-Yr.	AGRIC. ED.	COMMERC. ED.	TOTAL IN SEC. TECH.	%	TEACHER TRAINING	%	TOTAL TECH. & TEACH. TRAIN'G ENR	%
ASYUT	50.2	4,091	--	2,981	4,906	11,978	23.9	1,404	2.8	13,382	26.7
	43.9	408	--	--	3,541	3,949	9.0	508	1.2	4,457	10.2
SOHAG	54.5	5,329	--	2,816	5,490	13,635	25.0	2,095	3.8	15,730	28.8
	51.1	420	--	31	2,348	2,799	5.5	693	1.4	3,492	6.9
QENA	45.7	5,247	--	2,479	5,890	13,616	29.8	2,376	5.2	15,992	35.0
	39.2	--	--	--	2,224	2,224	5.7	726	1.9	2,950	7.6
ASWAN	15.1	3,993	--	1,386	1,961	7,340	48.6	706	4.7	8,046	53.3
	15.3	492	--	74	1,521	2,087	13.6	559	3.7	2,646	17.3
MATRUH	3.8	--	--	--	60	60	1.6	224	5.9	284	7.5
	3.9	--	--	--	24	24	0.5	128	3.3	152	3.8
NEW VALLEY	2.4	501	--	194	354	1,049	43.7	340	14.2	1,389	9.9
	2.5	--	--	178	397	575	23.0	261	10.5	836	33.5
RED SEA	1.2	338	--	--	236	574	47.8	150	12.5	724	60.3
	1.2	--	--	--	266	266	22.2	88	7.3	354	29.5
SINAI	5.8	--	--	--	--	--	--	--	--	--	--
	4.4	--	--	--	--	--	--	--	--	--	--
TOTAL	1,107.4	100,113	4,413	41,723	134,212	280,461	25.3	19,899	1.8	300,360	27.1
	1,025.9	11,913	110	3,159	140,989	156,176	15.2	16,623	1.6	172,799	16.8

TABLE 6
 EDUCATION PLAN
 FOR ONE SHIFT & TWO SHIFTS SCHOOLS IN
 THE PRIMARY STAGE

S U B J E C T	1st Grade	2nd. Grade	3rd. Grade	4th Grade	5th Grade	6th Grade
Religion	3	3	3	3	4	3
Arabic Language	10	10	10	10	9	9
Arithmetic & Geometry	6	6	6	6	6	6
Science & Health Education	-	2	2	3	4	4
<u>SOCIAL STUDIES</u>						
History	-	-	1	1	1	1
Geography	-	-	1	1	1	1
National Educ..	-	-	1	1	1	1
Physical Educat.	3	3	3	2	2	2
<u>PRACTICAL STUDIES</u>						
Drawing & Art works	2	2	2	2	2	2
Nature & Environ- mental observation)	1	1	-	-	-	-
Agric. & Indust.) works for boys?) Home Economics) for Girls)	-	-	1	1	2	2
Music	1	1	1	1	1	1
T O T A L	26	28	31	31	32	32

... Cont'd.

TABLE 7

Educational Plan/Preparatory Stage
(Basic Education Schools)
School Year 1978-1979

Subjects of Study	Number of Lessons Per Week			Remarks
	First year	Second year	Third year	
Religion	2	2	2	
Arabic Lang (in- cluding Caligraphy)	6	6	6	
English Lang (in- cluding Caligraphy) (or)	5	5	5	
French Lang. (in- cluding Caligraphy)	6	6	6	
Social Sciences; (
History, Geography and National Education	3	3	3	
Mathematics;				
Mat. Algebra, Geometry	4	4	4	
Health and General Science	4	4	4	
Technical Education	2	2	2	(also entitled drawing)
Music and Songs	1	1	1	
Physical Education	2	2	2	
Practical Studies	4	4	5	This includes Agri- cultre, Technical & Practical work, commerc. & home economics
TOTAL	23	33	34	Students of English Language
	34	34	35	Students of French Lang

Table 8

Total Number of Students Enrolled
In Teacher Training Institutes

GRADES	NUMBER OF STUDENTS(BOYS AND GIRLS)
First Grade	10536
Second Grade	8629
Third Grade	7629
Fourth Grade	7639
Fifth Grade	6164
TOTAL	40665

Table 9

Number of Students Enrolled in Sections of Specialization at the Fourth and Fifth Grade Level.

	ARABIC AND RELIGIN AND SOCIAL STUDIES SECTION		SCIENCE, MATH. AND HOME ECON. AGRICULTURE SECTION		PHYSICL. ED. SECTION		ART-EDUCATION SECTION		MUSIC EDUCATION SECTION		PRE-EDU. SECTION	
	Grade 4	Grade 5	Grade 4	Grade 5	Grade 4	Grade 5	Grade 4	Grade 5	Grade 4	Grade 5	Grade 4	Grade 5
Girls	1379	1049	1977	984	308	220	183	206	217	180	52	15
Boys	1518	1194	1737	1558	590	528	108	104	170	126	--	--
TOTAL	8140		5656		1646		601		693		67	

Table 10

Required Course of Study for the First
Three Grades in Teacher Training Institutes

S U B J E C T S	No. of Hours a Week		
	Grade 1	Grade 2	Grade 3
Religious Education	3	3	3
Arabic Language	7	7	7
Social Studies (History and Geograpy)	4	4	4
Mathematics (Arithmetic, Algebra, Geometry)	5	5	5
Science (Physics, Chemistry, Natural and Health Education)	5	5	t
Civics	1	1	1
Foreign Language	2	2	2
Drawing and Practical Work	3	3	3
Agricultural Work for boys and Home Economics for girls	2	2	2
Physical Education and Natural Defense	3	3	3
Music Education	3	3	3
Teaching Practice	-	-	1
TOTAL	38	38	39

Table 11

Specialization Section of Religious
Education Arabic and Social Studies

S U B J E C T S	No. of Hours a Week		
	Grade 4	Grade 5	
Religious Education	3	3	
Arabic Language	8	8	
Social Studies	5	5	
Mathematics	2	2	
Science	2	2	
Health Education	1	1	
Education and Psychology	4	4	
Teaching Practice	4	4	
Civics	1	1	
Drawing and Practical work	2	2	
Agricultural Work for boys and Home Economics for girls			
Physical Education	2	2	
Music Education	2	2	
TOTAL	38	38	

Table 12

Specialization Section of Mathematics, ScienceAgriculture or Home Economics

S U B J E C T S	No. of Hours a Week		
	Grade 4	Grade 5	
Religious Education	2	2	
Arabic Language	4	4	
Mathematics	5	5	
Science	5	5	
Home Economics (for girls) or Agricultural work (for boys)	4	4	
School Health	1	1	
Education and Psychology	4	4	
Teaching Practices	4	4	
Civics	1	1	
Social Studies	2	2	
Drawing Practical Work	2	2	
Music Education	2	2	
Physical Education			
TOTAL	38	38	

Table 13

Specialization Section of Physical Education

S U B J E C T S	No. of Hours a Week		
	Grade 4	Grade 5	
Religious Education	2	2	
Arabic Language	4	4	
Mathematics	2	2	
Science	2	2	
Physical Education	10	10	
School Education Health	1	1	
Education of Psychology	4	4	
Teaching Practice	4	4	
Civics	1	1	
Social Studies	2	2	
Drawing and Practical Work	2	2	
Music Education			
Agricultural Work for boys or Home Economics for girls	2	2	
TOTAL	38	38	

Table 14

SPECIALIZATION SECTION OF MUSIC

S U B J E C T S	No. of Hours a Week		
	Grade 4	Grade 5	
RELIGIOUS EDUCATION	2	2	
ARABIC LANGUAGE	4	4	
MATHEMATICS	2	2	
SCIENCE	2	2	
MUSIC EDUCATION	10	10	
SCHOOL HEALTH	1	1	
EDUCATION AND PSYCHOLOGY	4	4	
TEACHING PRACTICE	4	4	
CIVICS	1	1	
SOCIAL STUDIES	2	2	
DRAWING AND PRACTICAL WORK	2	2	
AGRICULTURAL WORK FOR BOYS OR HOME ECONOMICS FOR GIRLS	2	2	
PHYSICAL EDUCATION	2	2	
TOTAL	38	38	

Table 15

SPECIALIZATION SECTION OF ART EDUCATION

S U B J E C T S	No. of Hours a Week		
	Grade 4	Grade 5	
RELIGIOUS EDUCATION	2	2	
ARABIC LANGUAGE	4	4	
MATHEMATICS	2	2	
SCIENCE	2	2	
ART EDUCATION AND PRACTICAL WORK	10	10	
SCHOOL HEALTH	1	1	
EDUCATION & PSYCHOLOGY	4	4	
TEACHING PRACTICE	4	4	
CIVICS	1	1	
SOCIAL STUDIES	2	2	
AGRICULTURAL WORK FOR BOYS OR HOME ECONOMICS FOR GIRLS	2	2	
PHYSICAL EDUCATION	2	2	
MUSIC EDUCATION	2	2	
TOTAL	38	38	

Table 16

SPECIALIZATION SECTION OF PRE-SCHOOL OR NURSERY EDUCATION

S U B J E C T	No. of hours a week	
	Grade 4	Grade 5
RELIGIOUS EDUCATION	2	2
ARABIC LANGUAGE	4	4
MATHEMATICS	2	2
SCIENCE	2	2
SOCIAL STUDIES	2	2
CIVICS	1	1
ART EDUCATION	3	3
HOME ECONOMICS & NUTRITION	2	2
MUSIC EDUCATION	3	3
PHYSICAL EDUCATION	3	3
EDUCATION AND PSYCHOLOGY	4	4
TEACHING PRACTICE	4	4
SCHOOL HEALTH	1	1
MOTHERHOOD & CHILD CARE	2	2
CHILD LITERATURE	2	2
EDUCATIONAL ACTIVITIES (CHILD LIBRARY AND THEATRE)	1	1
TOTAL	38	38

Table 17 ARAB REPUBLIC OF EGYPT. GOVERNMENT EXPENDITURE ON EDUCATION AND TRAINING, 1970-1978 (in LE 000)^{1/}

I. Recurrent Expenditure	1970/71	1971/72	1973	1974	1975	1976	1977	1978 ^{3/}
MOE	97,905	109,996	125,109	138,580	162,287 ^{2/}	210,230	230,162	258,902
MOHE	5,764	6,232	7,174	7,864	10,359 ^{2/}	4,786 ^{3/}	4,805	5,189 ^{4/}
UNIVERSITY	21,335	24,122	31,457	36,387	49,688	66,489 ^{3/}	79,787	91,683 ^{4/}
MOIMR	958	1,080	1,267	1,304	1,194	1,362	1,471	1,863
MORNC	-	-	245	476	2,000	995	1,512	2,198
MOMVT	-	-	-	-	-	-	142	1,130
Total	125,962	141,430	165,252	184,611	225,528	283,862	317,879	360,965
As % of Total Govt. Recurrent Expenditure ^{5/}	17.8	17.5	17.3	13.4	12.8	14.2	13.9	13.9
II. Capital Expenditure								
MOE	5,434	5,782	15,609	6,603	18,923	9,999	16,901	21,500
MOHE	1,429	1,556	2,757	3,759	4,778	4,380	11,546 ^{4/}	4,430 ^{4/}
UNIVERSITY	2,702	8,907	7,066	7,272	10,072	6,391 ^{3/}	8,308 ^{4/}	12,502 ^{4/}
MOIMR	300	205	98	90	300	399	291	694
MORNC	-	-	18	23	22	1,005	1,488	6,000
MOMVT	-	-	-	-	-	-	-	-
Total	9,865	16,450	25,548	17,747	34,095	22,174	38,534	45,126

Source: World Bank, Document No. 2112-EGT, November, 1978.

1/ Excluding Ministries of Health, Agriculture, Interior and Social Affairs

2/ Before separation of Higher Technical Institutes, which were converted into Helwan University

3/ Budget estimates

4/ Mission estimates

5/ Including subsidies and deficit grants from Central Government to public sector institutions; excluding defense expenditure

Annex D

NCER Project Directory

PROJECT DIRECTORY

NATIONAL COUNCIL FOR EDUCATIONAL RESEARCH

1978/1979 *

LIST OF PLANNED PROJECTS AND STUDIES (For 1978-79)

First: Field of Applied Studies

1. Field study concerning the retention of basic skills by those who drop out of primary education (in cooperation with the World Bank)
2. Nutrition projects for rural primary school students in certain governorates: the evaluation of the relationship between nutrition and the retention of knowledge (in cooperation with the World Nutrition Program, and Catholic Relief Services)

Second: Field of Curricula, Teaching Methods, Textbooks and Libraries

3. Study concerning teaching of reading and writing in the primary level
4. Modern math curricula versus traditional math in public schools
5. The subject of including "mechanics" in general secondary education either under "mathematics" or under "physics"
6. Placing math in the "literature" section of the general secondary school
7. Project to review and modernize science curricula
8. Study of the possibilities of integrating science courses to stimulate greater learning and science creativity in students
9. Study of the results of the conductors and insulators unit with the new physics
10. Study of some new trends in teaching science
11. Project to prepare a directory of information for science teachers
12. Development of home economics curricula for preparatory education

*Source: N.C.E.R. Project Directory, 1978/79, pp. 3-6

13. Testing and evaluation of English language textbook series at preparatory level for developing tests for the 3rd year preparatory level
14. Selection of a text for English for the 3rd year literature curriculum (general secondary school)
15. Development of English language curriculum for teacher training centers
 - a) Evaluation of the text in teacher training centers in the framework of curriculum development in the centers beginning in academic year 1978-79
 - b) Preparation of a book for testing understanding and translation to accompany the new book in the centers for teachers of 5th and 6th grade levels

FUTURE PROGRAMS IN THE ENGLISH LANGUAGE

16. Implementation of an English language education in primary schools in communities in which there is a need for graduates to understand and use English
17. Establishment of publicly supported English language schools
18. Evaluation studies of English language textbooks
19. First year of project for development of tests for English language learning
20. Project to develop and produce English language textbooks in Egypt

TESTING OF NEW BOOKS

21. Testing of books in French language
22. Testing of books in German language
23. Analysis and evaluation of textbooks in:
 - Arabic language (primary level)
 - Philosophy (secondary level)
 - Mathematics (all levels)
24. Analytical and critical study of physics test in 3rd year secondary (1977-78)
25. Analysis and evaluation of financial aspects of producing textbooks and children's books (6-12)

26. Project to develop the complete school library at the United Experimental School in Medinet Nasr
27. Preparation of a plan for modernizing education in Egypt
28. Research and field study: revised methods of teaching geography and history in the new curricula, with emphasis on their use in preparatory schools

Third: Field of Developing Evaluation Procedures and Testing

29. Project for improving evaluation and testing (by British specialist Kill Cross)
30. Preparation of objective tests for:
 - Arabic language (primary level)
 - Science courses (6th grade)
 (in cooperation with the Center for Developing Science and Mathematics Education)
31. Preparation of sampel general secondary exams in:
 - Languages (Arabic, English, French, German)
 - Mathematics
 - Sciences
 - Social Studies
 - Philosophy
32. Evaluation of tests for geography and history in general secondary

Annex E

Members of Joint Egyptian-American Survey Team and
Contributors to the Report on Basic Education

ANNEX E

MEMBERS OF JOINT EGYPTIAN AMERICAN SURVEY TEAM

AND

CONTRIBUTORS TO THE REPORT ON BASIC EDUCATION

The Egyptian-American Survey Team expresses deep appreciation for the help they received in conducting the survey and writing the report on Basic Education in Egypt. Assistance and information was provided by officials of the Egyptian Government at the national, governorate, district and village levels. Many people gave generously of their knowledge and time in discussing the status of education in Egypt. The Team also appreciates the assistance provided by the U.S. Agency for International Development officials.

We are particularly grateful for the assistance of the senior officials of the Ministry of Education and of the universities:

- His Excellency, the Minister of Education
Mustafa Kamal Helmi
- His Excellency, the Ex-Minister of Education
Dr. Hassan Mohamed Ismail
- Mr. Mansour Hussein, Deputy Minister
- Dr. Mohammed Mahmoud Radwan, Senior Undersecretary for Primary
Education and Teachers' Institutions
- Dr. Mohammed Nabeeh Mohssen, Senior Undersecretary for Technical
Education
- Mr. Halim Grace, Undersecretary for Preparatory and Secondary
Education
- Dr. Youssef Khaleel, Undersecretary and Director of NCER
- Dr. Abdel Aziz Al-Koussi, Former Dean of the College of Pedagogy
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- Dr. Youssef Salah El-Din Kotb, Former Rector of Ain Shams University
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The Egyptian members of the Team were:

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- Mr. Annis Saleh, Director General of Directorates Affairs
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- Mr. Salah el-Diin Ahmed Hassan, Ministry Consultant for Fundamental Education
- Mr. Raafat Alaam, Director General of the General Directorate for the Office of the Deputy Minister (Secretary General)

Also providing much assistance were:

- Mr. Sayed Raady, Director, Public Relations Department
- Mr. Abd el-Sattar Hammam, Head of the Translation Section, Public Relations Department
- Engineer Mohammed Fahmi Osman, Dokki, Giza
- Mr. Rezk Amr Bahaa el-Diin, Ministry of Education, Head of Protocol Department
- Mr. Farouk Labib, Ministry of Education, Protocol Department

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- Dr. Stanley J. Applegate
- Dr. Al Bisset
- Mr. Carl Schwartz

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