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TRAINING NEEDS ASSESSMENT
FOR THE
MINISTRY OF IRRIGATION
ARAB REPUBLIC OF EGYPT

BY

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I. SUMMARY and Recommendations

In the summer of 1985, USAID Cairo, on behalf of the Ministry of Irrigation (MOI), requested the United States Department of Agriculture to provide a team for one month to make an overall training needs assessment for the MOI. The objective of the assessment was to identify training needs within the Ministry, the extent to which those needs are now being filled, the extent of additional training required; an assessment of MOI and other in country training resources; and, an assessment of the feasibility of establishing a National Irrigation Training Institute (NITI) within the MOI.

A team of three specialists worked in Egypt from October 14 through November 9, 1985 making the assessment. The training needs assessment team approach is outlined in Appendix B. Data were collected by research of past studies and reports and by interviews with key individuals knowledgeable on the subject. Thirty-nine individuals were interviewed in 10 of the 12 organizational units of the Ministry, including the heads of 9 units. In addition, 14 interviews were conducted with knowledgeable individuals outside of the Ministry, making a total of 53 interviews in all. These included individuals from the Ministry of Agriculture, the Ministry of Development New Communities and Land Reclamation, Ain Shams University, USAID Cairo, the Canadian Embassy, The Netherlands, Colorado State University, and representatives of the Food and Agricultural Organization of the United Nations. Field visits were made to Mansourya, Kafr El Sheikh, the High Dam, project development sites at Aswan, and the Center for Agricultural Management Development at the Delta Barrage.

A. Key Findings

1. Technical training in the Ministry has been largely limited to professional civil engineers, and technicians.
2. Prior to 1982, engineers were trained by their supervisors through an informal on-the-job training process. This has diminished considerably in recent years because of a shortage of engineers and the immediate demand for engineering services.
3. Top management of the Ministry recognizes the importance of training and would like to give it high priority for future planning.

4. The Ministry took a major step forward toward developing an organized training program for the Ministry when it established a Manpower Development and Training Unit (MDTU) within the Water Research Center in 1982.
5. There is unanimous support among the top management of the Ministry for establishing a National Irrigation Training Institute (NITI) to expand, provide, and coordinate a total over-all training effort for the Ministry.
6. Egypt has a well established higher education system that has the capability for training personnel to fill many of the technical staff needs of the Ministry. These institutions provide good training in general subject matter and theory. Further training is needed to equip employees with practical and management skills needed on the job.
7. The present training system in the Ministry is fragmented and extremely minimal in meeting the overall training needs. There are no long-term training or individual development plans. Good data upon which to base future training needs are not readily available. The Assessment Team was advised that only one organizational unit had a training plan for 1986, but one-year training plans were being developed for other units.
8. Training needs are broad. Over 60 major subject matter areas for professional staff were identified for needed training by the various organizations. About 50 of these could be taught in Egypt with some assistance from abroad by training local staff as trainers to teach the courses. Of the 50 areas, about 40 could best be offered in a central Ministry training facility such as the proposed National Irrigation Training Institute. The other 10 could be offered outside the training institute, but under close planning and coordination by the institute. About 20 of the 60 courses should be offered through a combination of training abroad and in Egypt.
9. Establishment of a National Irrigation Training Institute for the Ministry is feasible. Such an Institute:
 - a. Would consolidate, under one management, most of the training activities of the MOI.
 - b. Would provide a higher volume of training and thereby meet training needs of the Ministry.

- c. Would promote and facilitate coordination of irrigation training among organizational units both within and outside of the MOI.
 - d. Would reduce duplication and overlapping of training activities among organizational units.
 - e. Would make more efficient use of training staff.
 - f. Would attract higher qualified teaching staff.
 - g. Would provide higher quality instruction.
 - h. Would enable a more accurate, continuous assessment of training needs.
 - i. Would have the potential for savings in administrative costs.
 - j. Would facilitate and improve coordination of training abroad.
 - k. Would enhance interdisciplinary training.
 - l. Would give higher visibility and "clout" to the training effort.
 - m. Would assure that the necessary critical mass of highly trained professionals are developed to assure that the Ministry can meet or exceed its development objectives.
 - n. Would provide more control over organizational units in training matters.
10. Property has been obtained and preliminary design for the training facilities have been developed for a location at 6th of October City. The team found no evidence that detailed data as to the number of trainees to be trained, curriculum to be offered, equipment to be installed, laboratory space, etc. were available and used in developing the building plans. However, the team was advised that this work is now in process.
11. Managerial training provided by the MDTU has been limited almost exclusively to senior level engineers and has been used as a requirement for progressing to the Director General and Undersecretary positions. In addition, general management courses have been offered government wide by the Central Authority for Organization and Administration.
12. Egypt is well recognized in the Arab World as the center of technical expertise in virtually all professional categories. This notoriety has had an adverse impact upon the Ministry of Irrigation. A technological drain has occurred in the Ministry as Egyptians have left government service for higher paying jobs with private concerns in Egypt and with both government and private concerns abroad.

B. Recommendations

The team has determined that the proposed National Irrigation Training Institute (NITI) is essential to the future operation of the Ministry of Irrigation. MOI is in a fortunate position of having a well established Manpower Development and Training Unit (MDIU) that can continue its training effort while the NITI is being established, take the lead in developing the NITI, and be absorbed by the NITI after it become operational. This recommendations section provides a set of recommendations for the NITI and another set for the MDIU.

1. Recommendations for the NITI:

- a. Proceed with plans to build, staff, and equip a National Irrigation Training Institute (NITI) to be completed and fully operational by 1991. Responsibilities of the Institute should include:
 - Provision and/or coordination of all training for the MOI.
 - Establishment of a career development plan for each employee of the Ministry, to be developed jointly by the employee and supervisor, outlining career objectives, goals, and training needs to fulfill the established plan.
 - Development and implementation of a Ministry Management Development program to assist in the selection of junior level employees and train them for future mid-level and top management positions.
 - Development and maintainance of a 5-year Training Plan for each organizational unit of the Ministry, giving course subject matter, number of participants, location for training, etc.
- b. The NITI should be established at an organizational level in the Ministry equivalent to that of a major department or authority reporting directly to the Minister's office.

- c. Design the NITI buildings for construction in stages so as to expedite the date of first use and allow for future expansion as training needs become more clearly defined and as staff availability and development progress.
 - d. The NITI staff should include a permanent position of high rank (Vice Chairman) with primary responsibility for curricula development and staffing. This person should be trained and experienced in the education of adults (androgeny).
 - e. Construction on the NITI buildings should not be started until sound data and plans for required building size, room layout and size, curricula, and training equipment as stated in recommendation number 2b.
 - f. The NITI should embody a multi disciplinary approach to training. The following disciplines should be included in the curricula: Engineering, Agriculture, social sciences, and management. An action research focus under field conditions should also be utilized in the training activities.
 - g. An appropriate facility at the institute should be provided and equipped for permanent personal computer hands on training.
 - h. The High Committee for Training presently chaired by the Vice Minister of MOI should continue to serve in a policy advisory capacity to the new institute.
 - i. The MOI should assure that the NITI be developed with the capacity to meet the irrigation and drainage training needs of the Ministry of Development, New Communities, and Land Reclamation. As there is a direct linkage between MOI and the land reclamation activities this would assure that all key staff of both ministries receive the same training.
2. Recommendations for MDTU:
- a. Continue operation of the present Manpower Development and Training Unit (MDTU) to provide and expand training services until the new institute becomes operational. The Unit should continue to offer courses in the five main topics as they have in previous years. The responsibility of the MDTU should be expanded to include planning and general direction for establishing the new NITI.

- b. An expatriate and an Egyptian education training specialist should be added to the MDTU staff for the next two years to advise on institute building both size and layout, curricula development, and organizational structure for the NITI. The advisors should assist in developing the current MDTU staff so they can become the nucleus staff for the new NITI.
- c. Explore the possibility of entering into an agreement with the Ministry of Agriculture to provide managerial training for the Ministry of Irrigation through the Center for Agricultural Management Development (CAMD) at Delta Barrage. 75 to 100 MOI managers should receive management training in 1986 at the CAMD.
- d. A moderate effort should be continued at the MDTU in the training of technicians, not to exceed 20 to 30 percent of the total training participants.
- e. Develop expertise within the Manpower Development Training Unit to do a detailed needs assessment over the next 2 to 5 years to define the skills required by technicians and to aid in curriculum development for technicians.

II. BACKGROUND

Egypt is almost totally dependent on irrigation to support its agriculture and thus far has been blessed with adequate water supplies. However, water use projections with an annual population growth rate of 2.7 percent indicate that shortages will begin to occur in the near future. The recent drought in Africa and the current water levels in Lake Nasser indicate that the transition from water abundance to water shortage is imminent. The Government of Egypt (GOE) has some time to plan for the efficient utilization and allocation of this resource. Its future prosperity is dependent upon how well it meets this challenge.

GOE, therefore, has an urgency to plan and implement a long range program to improve the management of its limited water resources based upon needs and conditions in the Nile River watershed. This urgency stems from: (1) The apparent lack of conservation measures with regard to the use of the water reserves behind the Aswan High Dam during the recent Africa drought; and, (2) Estimates that show there will be insufficient water to sustain Egypt's population by the year 2000 unless drastic conservation and management improvements are put into place during the next few years.

Irrigation has been practiced in Egypt for many centuries. However, modern irrigation technology and practices developed in the United States and other countries of the world, particularly since about 1950, have not been widely adopted in Egypt for a variety of reasons.

The introduction during the last decade, of new technology and capital improvements by GOE and donor assisted projects has brought with it a vastly increased need for technical and practical training to update the skills of engineers and technicians. These newly acquired skills will allow them to assume and carry out new and expanded responsibilities efficiently and effectively. Budget constraints, a lack of qualified trainers, and the inability to release staff from their work for the time needed for training will be limiting factors in expanding the training program to meet future needs.

Ministry of Irrigation (MOI) engineers in the past were trained by their supervisors through an informal on-the-job training process. They were rotated from job to job during their early years of employment. This provided them with a general working knowledge of the functions of the various departments and sections of the Ministry in various parts of Egypt. In later years, due to the shortage of engineers and the immediate demand for engineering services at the district level, this informal method of training was curtailed considerably.

In 1981, MOI and USAID developed and implemented an Irrigation Management Systems Project (IMSP) with manpower development and training as one of its objectives. Under this project, responsibility for training was assigned to the Water Research Center (WRC) within the MOI. WRC established the Manpower Development and Training Unit (MDIU)¹ to carry out this responsibility.

In the summer of 1985, USAID, on behalf of the MOI, requested the United States Department of Agriculture to provide a team of specialists for one month, to make an overall training needs assessment for the ministry. The objective of the assessment was to identify the needs for trained individuals in the Ministry; the extent to which those needs are already filled, the extent of additional training necessary; an assessment of in-house and in-country training capabilities; and, an assessment of the feasibility of establishing a National Irrigation Training Institute (NITI). The purpose of this report is to present the findings and recommendations of that assessment.

^{1/} Referred to as the Training and Manpower Development Unit in the USAID Project Paper

III. MINISTRY OF IRRIGATION ORGANIZATIONAL STRUCTURE AND GENERAL RESPONSIBILITIES

A. Overall Structure

The central organizational structure of the Ministry of Irrigation has 11 organizational units reporting to the Minister of Irrigation through the Vice Minister. The organizational units are as follows:

1. Irrigation Department
2. Mechanical and Electrical Department
3. Planning Sector
4. Finance and Administration Department
5. The Egyptian Public Authority for Drainage Projects
6. High Dam and Aswan Reservoir Authority
7. Coast Protection Authority
8. Egyptian Survey Authority
9. The Water Research Center
10. Irrigation Public Authority consisting of seven public companies.
11. Minister's Office Affairs

Figure 1 provides an organization chart which shows further organizational subdivisions of the Ministry of Irrigation.

B. Responsibilities

1. The Irrigation Department is responsible for: (1) Managing the operation of the irrigation system to achieve an adequate distribution of water; (2) Designing and constructing the hydraulic structures in the irrigation system for the new land development as well as replacement structures for the old lands; (3) Maintaining the irrigation system; (4) Supplying water for industrial and potable use; and, (5) Studying the present and future sources of water from the Nile basin.
2. The Mechanical and Electrical Department designs and constructs the main pump stations for the new lands and replaces pumps serving the old lands. The system has 460 pump stations for regulating the discharge and water levels in irrigation canals, 360 pump stations for groundwater pumping, and 96 pump stations for drainage.

3. The Planning Sector has responsibility for conducting comprehensive studies of the present and future water resources, developing water resource policies and plans, establishing computational and mathematical models to ensure efficient operations, and determines investment programs and appropriate phasing for economical and optimal development policies and programs.
4. The Finance and Administration Department has responsibility for all personnel, management and organization, and financial and administrative functions of the Ministry.
5. The Egyptian Public Authority for Drainage Projects is responsible for the operation and maintenance of all surface and subsurface drains and for the design and construction of all drainage works. A total of 5 million feddans require subsurface drains of which about one-half have been installed. Ten to 15 years will be required to complete the balance. About 6 million feddans require open surface drains of which about one-half have been completed. Five years will be required to complete the balance.
6. The High Dam and Aswan Reservoir Authority operates the High Dam and the Aswan Dam, executes the Toshka Spillway Project, studies earthquake activity, and conducts any studies and construction needed for the safety of the High Dam.
7. The Coast Protection Authority studies the degradation problems and designs and constructs protection structures for the coastal areas of Egypt.
8. The Egyptian Survey Authority has overall surveying responsibility for the government. Surveys consist of all types of land surveys including those done for land ownership and appraisal purposes, cadastral mapping, topographic mapping, and maintaining an aerial photographic and cartographic base.
9. The Water Research Center (WRC) conducts mission oriented research to solve problems related to and in support of the programmatic functions of the Ministry. The Center consists of the following research institutes:

- a. Water Distribution and Methods of Irrigation.
- b. Drainage.
- c. Water Resources Development.
- d. Side Effects of the High Aswan Dam.
- e. Hydraulic and Sediment.
- f. Weed Control and Maintenance of Waterways.
- g. Groundwater.
- h. Soil Mechanics and Foundations.
- i. Mechanical and Electrical.
- j. Survey Research.
- k. Coastal Research.

In addition, WRC has a Manpower Development and Training Unit to support the training needs of the USAID funded Irrigation Management Systems Project (IMSP) and a Department of Research Services supporting the WRC and MOI.

10. The Irrigation Public Authority includes seven public companies which have responsibility for conducting a wide variety of contract services required to carry out the mission of the Ministry. These public Companies are:
 1. Upper Egypt Dredging Company.
 2. Egyptian Dredging Company.
 3. General Irrigation Company for Mechanical Remodeling.
 4. High Dam Company for Civil Works.
 5. The Egyptian Company for Irrigation, Drainage, and Civil Construction.
 6. Egyptian General Irrigation Workshop Company.
 7. Consultant Office for Engineering Design and Irrigation Projects Company.
11. The "Minister's Office Affairs" is responsible for public relations, security, legal services, inspection, the handling of complaints, and some technical services.

C. Authorized Staffing

The Ministry has 87,901 authorized positions of which 10,751, or 12 percent are vacant. Seventy-five percent of all vacancies are in the non-professional category. Table 1 provides a summary of all authorized positions, the number currently filled, and the current vacancies. The positions shown in Table 1 are classified by professional, finance and administration, non-professional, and by rank for the total Ministry. Appendix C provides a summary of all positions by organizational unit of the Ministry.

IV. PRESENT TRAINING RESOURCES

A. Training Attitudes

General attitudes which prevail in the MOI toward training must be recognized before a proper assessment can be made of training needs. Nearly every organizational unit head interviewed expressed a strong feeling that training is one of the greatest needs of the Ministry and must be given high priority in future planning. However, many indicated the pressure of the workload has limited sending many employees to receive training in their specialty. They are too busy with their work to take time out for training. Many others feel "more is better" when it comes to training. This is not always the case, as quality of instruction as well as training applicable to the students' and organizational needs must be foremost.

There is also an attitude that employees will be reluctant to participate in a training experience unless incentives are provided to the trainee. Incentives can be in the form of increased salary or using training as a prerequisite for promotion. There is a strong tendency to provide training experience for the higher level employees as a reward for length of service. At least one chairman, during the team interviews, expressed a need for basic orientation to the MOI whether the trainees be technicians, engineers, or clerical staff. It is important that new employees recognize their place in the organizational structure early in their career.

At the present time there appears to be no career development concept for employees in the MOI at any level, hence there are no individual career development plans.

B. Established Educational System

There are a number of training resources available in Egypt. There is a well established educational system that has the capability of training personnel to fill many of the technical staff needs of the MOI. There are 13 degree granting universities and a number of training institutes and centers. Appendix D provides a listing of the universities, institutes, and training centers in Egypt.

Also, there are two survey institutes at Giza and Assuit administered by the Ministry of Higher Education but sponsored financially by the Egyptian Survey Authority of MOI. The training institutes provide technical training opportunities to secondary school graduates who do not meet the entrance requirements for the University Faculty of Engineering. They offer a two year course designed to train irrigation and drainage technicians for the MOI. Approximately 170 to 180 students graduate each year. About 50 percent of the students graduate in surveying, 33 percent in irrigation and drainage, and 17 percent in land reclamation. Thirty to forty students with exceptionally high scores normally choose to continue on to a university for further study.

C. Organized Seminars and Courses

There are limited opportunities for Ministry professional employees to keep up to date on the state of the art of modern irrigation technology through short courses and seminars within Egypt. The Ministry does not have an organized, formal program for overseas academic or non-academic training except through foreign donor assistance programs. However, a Ministry employee may apply for a paid leave of absence to pursue an advanced degree program in an Egyptian University. The Ministry through the MDIU sponsors a few organized seminars and courses and staff occasionally participate in training courses offered by universities.

D. Manpower Development and Training Unit

In 1982, the MOI established a Manpower Development and Training Unit (MDIU) within the Water Research Center. This was a major step toward developing an organized training program for the Ministry. The main objective of the unit, as originally proposed, was to provide training for MOI engineers involved in the implementation of the USAID funded Irrigation Management Systems Project. Training was to be provided to upgrade the capability of the present engineering staff, to increase the technical skills of the irrigation technicians, and to train the senior staff through special courses in management. The Unit was intended to provide coordinated training for the Ministry staff at the national level but has not been able to perform this function Ministry-wide due to limited resources.

Major functions of the Manpower Development and Training Unit, as originally conceived, were:

1. To coordinate all training activities of the Ministry.
2. To supply logistical support for all training activities.
3. To act as a clearing house for all nominations for training overseas.
4. To conduct organized classroom instruction.
5. To coordinate and supply technical support for on-the-job training throughout the Ministry.
6. To serve as a liaison office between the Ministry and donor agencies for training overseas.
7. To serve as a liaison office between the Ministry and Universities to organize efforts to get more irrigation relevant courses in the curriculum for irrigation engineers.
8. To serve as a repository or library for video tape courses and printed documents in all irrigation related fields.

Although originally conceived to perform these functions, the Manpower Development and Training Unit has not been able to respond to all of the responsibilities listed above due to insufficient staff and budgets. Currently three categories of courses are being offered: (1) short courses, (2) seminars, and (3) assistance with informal on-the-job training.

The short courses, of three to seven weeks duration, are designed to present practical and detailed technical material to all levels of working engineers and technicians. The details and duration of the specific courses are adjusted to suit the particular needs of each group of students. To the extent-possible, new courses are developed and added to respond to specific training needs as they are requested by various organizational units of the Ministry.

Five basic short courses have been developed and offered beginning with establishment of the training unit in 1982. These are: (1) Irrigation Design and Construction, (2) Administration and Management, (3) Operation and Maintenance, (4) On-farm Water Management, and (5) Construction Management, Methods, and Quality Control. In addition, seven specific subject matter courses have been offered: (1) Modern Irrigation Systems, (2) Drainage and Salinity Control, (3) Using Pipes in

Irrigation Projects, (4) Structural Replacement Projects, (5) Irrigation Improvement Projects, (6) Bridge Design, and (7) Modern Equipment For Control of Water Level and Discharge. From June 1982 through October 1985, a total of 27 courses had been offered to professional staff with 531 trainees having completed one or more courses. Table 2 provides a summary of courses offered to professionals and the number trained.

The 531 trainees, completing the courses were distributed among professional specialties as follows:

<u>Speciality</u>	<u>Number</u>
Civil Engineers	502
Mechanical Engineers	3
Agronomists	24
Chemists	1
Geologists	1
Total	<u>531</u>

Seven of the 12 organizational units of the Ministry had engineers take courses in the Manpower Development and Training Unit. Over 70 percent of all trainees, a total of 388, were from the Irrigation Department.

The following is a distribution of the 531 trainees by organizational unit of the Ministry:

<u>Organizational Unit</u>	<u>Number</u>
Irrigation Department	388
Egyptian Public Authority for Drainage Projects	84
Water Research Center	51
Planning Sector	3
Mechanical and Electrical Department	2
Coast Protection Authority	2
High Dam and Aswan Reservoir Authority	1
Total	<u>531</u>

In addition to the 531 professional trainees trained, 256 technicians were trained in 11 courses. The training of technicians began in 1984, two years after the initial training of engineers. The 256 technicians trained represent less than one percent the total nonprofessional employees of the MOI.

V. FUTURE TRAINING NEEDS

Training needs for employees of the MOI are varied and diverse due to the wide ranging responsibilities of the Ministry. Employees can be classified into three groups: Professional, Finance and Administration, and nonprofessional (Figure 2). The Ministry is a large organization with 87,901 authorized positions of which 77,150 are currently filled leaving over 10,750 vacancies. It is important that training considerations address both pre-service and in-service training needs. Figures 3 and 4 show the relationship between the three groups of employees and the positions filled and vacant. Figure 5 further demonstrates this relationship through a position profile of MOI.

This section of the report will address the perceived training needs as obtained through discussion interviews and questionnaires as well as personal knowledge of employee duties and responsibilities.

A. Professional

1. Results of Interviews: Through interviews and responses to questionnaires, professional short term training needs were identified in over 60 different technical and managerial subject matter areas by thirteen different organizational units and sub-units. Professional training needs identified and shown in Table 3, range from the more general (i.e. on-farm water management) to the highly specific (i.e. operation and maintenance of dredging equipment). The courses and numbers of participants per year are only indicative but can be used for planning purposes. It is the consensus of the Assessment Team, that in the short run, it is physically impossible to meet all the identified short term training needs either in Egypt or abroad.

Similar areas of training submitted by different organizational units within the Ministry could be grouped together and courses be designed to cover those needs. It is recommended that for the near term the existing Manpower Development and Training Unit continue to offer courses in the five main topics as they have in previous years. It is also recommended that current efforts of on-the-job training within the Ministry be continued.

For new courses identified, a curriculum development team should be established within the Ministry, with both Egyptian and expatriate assistance, to work with the MDIU to finalize training needs and develop curricula.

2. Commonly Expressed Training Needs: Several Chairmen within the Ministry expressed a need to have an orientation training course for new employees whether they be technicians, clerical, engineers, etc. It is important that the beginning employee recognize his place in the structure of the organization, early in his carrier. A one week course could be offered at the National Irrigation Training institute.

Computer training was also listed by most organizations as a high priority need. It was reported that computer science is not a standard curriculum requirement for civil engineers in Egyptian Universities at the present. However, it was noted that few organizations have computers but, where machines were available on the job, they were in constant use. The Team cautions that while the need is tremendous to build computer skills, aquisition and training should move slowly. There is no point in providing training until this issue is studied and the appropriate hardware and software are made available in the work environment. It is recommended that an appropriate facility at the proposed NITI be developed for permanent, computer hands on training.

For those courses which are specific in nature and limited in scope, such as Corrosion Engineering, it is recommended that training be obtained abroad. In each area identified, a few engineers should be sent each year to an appropriate location for varying amounts of time, until a minimum number are trained. (The need for overseas training seems to be particularly critical in the Coast Protection Authority, where in-country expertise is totally unavailable.) The personnel trained abroad would be expected to provide on-the-job training to fellow employees. Observational tours and updates in these specialized areas should occur on a regular basis. Before employees are sent abroad they should be required to pass a comprehensive English language test. Lack of adequate command of the English language was cited as a major impediment to learning.

For the courses which are applicable to many engineers, such as on-farm water management and construction management, a development team should review current course outlines and the specific skills needed. Courses which address a basic need can be taught in Egypt by highly trained trainers with field experience. If foreign experts are brought in, they should come well prepared with slides, overheads and other visual aids. Overseas travel should be included in this program to spawn new ideas, and as an incentive to participate in a formal training program.

One of the most important training needs for professional and technicians alike is "on farm" irrigation water management and the transfer of its technology to the farmer. The interdisciplinary (agronomist, economist, sociologist and engineer) team approach in getting improved irrigation water efficiency and increased production has been impressive in the pilot stage with the EWUP project. Many lessons have been learned. It is important to maintain some field training locations. El Minya, considering the initiation of the RIIP project on the Serry Canal, is perhaps one of the better locations. Project team members would make good instructors for both the NITI and for field training.

In the past, field training has lasted as long as two months. We propose that this training be given to more people in a shorter time frame (2 weeks). Training on team building needs to be given to the district and field engineers early. Experience thus far has shown that when a project terminates, as it did with EWUP in Kafr El Sheikh, there is a strong tendency for farmers to go back to the old ways of doing things. The idea has been promoted to retain irrigation advisory service specialists once the project team has moved on in order to perpetuate the work started by the project. Also suitable equipment to maintain and the installed practices must be available to the farmer at a reasonable cost.

To be able to retain hard working effective personnel working on "On-Farm" technology transfer, the idea of incentive bonuses, based on increased production, needs to be explored in greater depth.

3. Number of Professionals To Be Trained: The number of professional engineers to be trained in each specific area is extremely difficult to establish. However, if one assumes that Directors, Assistant Directors, and District Engineers all need similar type of technical training, one can surmise a maximum training requirement. Currently there are 378 Directors, 869 Assistant Director and 1,591 District Engineers, for a total of 2,838 employees (see Table 1). We recognize that many of these professionals could benefit from more than one technical course. However, for calculation purposes it is assumed that the Ministry could best benefit by providing one course to each employee every three years. In addition, the Ministry has a vacancy rate of some 40 percent within the professional staff (2056 employees) in these positions and plans to fill these vacancies as qualified candidates become available, thus creating an additional training burden.

Taking the above into consideration, plus a one percent miscellaneous turnover, we can arrive at an overall training need of approximately 242-251 new hires per year (107/year from vacancy reduction, 100/year from normal retirements, 35-50/year from miscellaneous turnovers). Add to this in-service training of on board employees 1,100/year for a total of 1,350 employees to be trained each year.

This translates into an average training need of 4,050 person-weeks each year in technical fields. Assuming each course would average three weeks in length, the total training need for professional employees is approximately 70 courses per year. In addition to these needs, all organizational chairmen interviewed indicated a management training need for all employees in the areas of planning, decision making, leadership, time management, communication, motivation, delegation, work scheduling, stress management, and project management. The management needs would add an additional 10 courses per year.

B. Nonprofessional

Currently training for technicians is provided through the MDTU, Technical Institutes in the Survey Authority (ESA), and on-the-job training by fellow technicians and supervising engineers. However, nearly all interviewees indicated that technician training was currently inadequate both in scope and

number of persons trained. Currently there have been only two types of courses held at the MDTU for technicians: (1) water measurement, including repairing gates, and maintenance; and, (2) construction supervision. These began in January 1984 as two week courses which were later expanded to three weeks.

Since the greatest number of employees (92%) are nonprofessional, the largest number to be trained lies within this group.

Training needs identified for technicians generally followed the same subject areas as for professional engineers but in a much less intensive mode. They emphasized operational aspects instead of theory of operations. Particularly mentioned needs were in the area of operation and maintenance, repair, data collection, and construction supervision. A detailed listing of the main areas of concern is as follows:

1. Operation and maintenance of delivery and on-farm structures;
2. On-farm water management;
3. Repair of structures;
4. Repair of pumps;
5. Data collection;
6. Construction supervision; and,
7. Survey techniques.

Although no priority is implied by the above listing it is the feeling of the Assessment Team that future training should focus on training technicians in the area of on-farm water management, operation and maintenance of delivery systems, and on-farm structures.

Since the current training capacity of the MDTU unit is limited, it is recommended that a moderate effort be continued in the training of technicians. At this time it should not exceed 20-30 percent of the total course participants.

Expanding technician training is recommended as follows:

1. Continue current ratio of 20-30 percent of course participants as technicians;
2. Develop expertise within the MDTU to do a detailed needs assessment over the next 2-5 years to define the skills required by technicians and to aid in curriculum development;

3. Identify a cadre of instructors from engineers and technicians (teams of 2-3);
4. Provide theory and practical background information to this potential group of trainers in Egypt; some may also be sent abroad for a two month course in Training Of Trainers (TOT); and,
5. After training, have the trainers present courses to technicians in the field (on-site) using action initiated teaching techniques.

Additional analysis of the specific jobs performed by the technicians needs to be done in order to develop a clear training strategy and plan of operation.

Another key aspect of training for technicians is for the newly trained technicians to become part of the training team. Specific courses for TOT should be developed and attended by the technician. After completion of technical and TOT training, a portion of his work time would be allocated to the training activity.

C. Finance, Administration, and Clerical

Although past training has focused on the technical needs of engineers and technicians it is a concern of all that operational units must run smoothly and efficiently. By and large this responsibility lies within the realm of the finance, administration, and clerical staffs.

Within the Ministry staffing, there are 2,775 authorized administrative positions with 2,119 currently filled and 656 vacant. Total clerical positions have not been separated from other nonprofessional positions but, would also total a significant portion of the 80,002 positions authorized in the Nonprofessional category, Appendix C.

There are a number of reoccurring administrative issues that generally surface. The concerns are usually organizational in nature and require long-term solutions. However, training of individuals will slowly help make these changes and help individuals cope within the system. One issue brought to the forefront is failure of the administrative system to support the overall program objectives. Much of this stems from lack of communication and sharing of overall unit goals among staff. A second major issue is that clear administrative

directives are lacking. Policy directives should come from the top down and be shared with all personnel. The administrative system should be integrated into the total program and should support the overall objectives of the MOI. This problem could at least be partially overcome by the establishment of an orientation course shortly after the employee enters on duty. This could be handled by the MDIU or the proposed NITI.

Specific examples of training needs would be to clarify and to organize paper flow within the organization. A common filing system would also facilitate recovery of important documents and assist in maintaining an institutional memory. In addition, eight areas were identified in which training should be addressed within the administrative framework. They are: finance, contracting, inventory control, legal basis of authority, computer applications, personnel policies, procurement, and management.

It is recommended that training in these areas be performed in Egypt with trained experienced personnel. Experienced staff should be selected for training and provided the opportunity to acquire additional expertise and training techniques both locally and overseas. A logical coordinating unit for this type training could be the proposed NITI. It is further recommended that this type of training proceed at a slow pace building upon experience. It is particularly important in the area of computers that training does not out pace the procurement of hardware and software.

D. Management

Practically every organization within the Ministry of Irrigation expressed a strong need during the interview for management training for their supervisory personnel at all levels. Lower level supervisors as well as senior level employees were frequently mentioned as those in need of training. Two weeks of required management training given at the senior engineer level was expressed to the assessment team as being inadequate to meet the needs in the Undersecretary and Director General positions.

Scientific research indicates that good management can account for sixty percent of increased productivity (Appendix A). Experience has also shown that the traditional textbook class

room approach to management is ineffective. To be effective, management training must be carried out by objective setting, information sharing and experiential learning.

The Ministry of Agriculture (MOA) has developed what appears to be a highly successful management development center at the Delta Barrage. This center began in 1977 and has been funded since its inception with a grant from USAID as well as the MOA. The Center for Agricultural Management Development (CAMD) at this time has developed a cadre of instructors who have become very successful in their work. Almost all physical plant facilities (dormitories, classrooms, etc.) have been constructed except for a combination cafeteria, restaurant and laundry. These facilities will be completed within the next two months. It is recommended that the Ministry of Irrigation look carefully at the MOA management training facilities at the Delta Barrage and ascertain the impact of program design on architectural design before proceeding with detailed plans for the NITI. It is further recommended that MOI enter into an agreement with MOA to provide management training for MOI. Use of MOA developed expertise on management training would save considerable time and expense and perhaps open doors for new avenues of needed and recognized cooperation. We recommend that 75-100 MOI managers receive management training in calendar year 1986.

The above should not be interpreted that the National Irrigation Training Institute (NITI) would not have a need for management experts. Staff will be required to be added to the NITI with specific skills in management development. This staff would become part of the action research team in developing appropriate training for MOI staff. Their research and consulting skills would be a key element of success in the overall management development program of the ministry. Course design, monitoring during delivery and trainee follow up would also be included under their purview.

It is quite probable that the demands of MOI for managerial training may outstrip the capacity of MOA to provide it. In that event, MOI should also consider other sources. A listing of sources for training within Egypt that includes management training in Appendix D.

Regardless of where management training is conducted (MOA or other Egyptian institutions), three levels of management must be addressed using the action research experiential approach; (1) Executive Level Managers, (2) Middle Level Managers, and (3) Supervisory Staff.

These three levels of management are represented both vertically and horizontally within the central Ministry (its functional units and authorities) as well as the Governorates and Public Sector companies. This integration across geographic boundaries is essential for proper execution within the Ministry. The programs for each of the target groups will emphasize a combination of skills building and learning by doing. Illustrative topics to be included for each level and number requiring training during the next five years follow:

Executive Level Managers - 363 to be trained

- Planning
- Leadership
- Decision Making
- Motivation
- Communication
- Delegation

Middle Level Managers - 5,938 to be trained

Basic Course in Management

- Planning
- Team Building
- Time Management
- Communication
- Feedback
- Listening Skills
- Motivation

Advanced Course in Management

- Interpersonal Skills
- Group Dynamics
- Leadership
- Manager as a Change Agent
- Organization Development

Supervisory Level -1,603 to be trained

- ✓ Motivating the Average Worker
- Assigning Tasks and Setting Goals
- Improving Work Habits
- Teaching Job Skills
- Becoming a Trainer

Special topic courses as well as seminars, workshops and conferences would also be prepared to meet specific training needs.

VI. PROPOSED NATIONAL IRRIGATION TRAINING INSTITUTE

A. Background

In March 1985, the Ministry of Irrigation presented a list of proposed projects to USAID and IBRD for possible funding. Among that list was a request for a "Regional Irrigation and Drainage Training Center with a total cost of LE 13 million (LE 4 million in foreign exchange). The Irrigation Training Needs Assessment team was asked, among other things, to assess the need for a Ministry wide training center.

A mid-term evaluation report of the Irrigation Management System Project completed in September 1985 by a three man team on contract to AID and two Egyptian counterparts, recommended that to satisfy the short-term and long-term training needs, a National Irrigation Training Institute (NITI) be given serious consideration. That report fully supported AID's efforts to bring in an assessment team to examine closely the need and feasibility for AID to support such an institute.

The idea of a training institute serving all organizational units within the Ministry is not new. Concepts concerning the site have been altered over time. The proposal the Ministry submitted to AID in March 1985, refers to a training site at Delta Barrage, roughly 30 kilometers from the Ministry of Irrigation main office in downtown Cairo. A new site was later chosen in 6th October City, which has the advantage of being somewhat more convenient.

On October 21, 1985, a preliminary conception of the overall building layout was presented to the assessment team by Engineer Fahmy Fouad Mikhail, Undersecretary for Design, and two members of his staff. (Appendices E and F).

The NITI, as presently conceived, could accommodate roughly 2,500 students per year when operating at or near full capacity. Approximately 100 courses could be taught each year using this facility if each would average about 3 weeks in length. There would ideally be about 20 students per course. This compares with 23 courses and seminars and 450 students that will be trained in 1985 by the existing Manpower Development and Training Unit.

The proposed institute scenario would allow for two months per year when no students would be using the facility. Course development for the ensuing year could take place during the two months break as well as refurbishing the facilities. In certain areas of 6th October City , zoning laws constrain construction of buildings to no more than eight meters high. The preliminary plan suggested that two feddans be devoted to outside laboratory work. Due to the nature of the soil (desert sand) and with limited space, field laboratory testing at this location would be some what limited. Field sites on old lands in close proximity to the 6th October City location and at Fayoum should be identified for outdoor training aspects.

The NITI should embody a multi diciplinary approach to training. The following disciplines should be included in the curricula: (1) engineering; (2) Agriculture; (3) social sciences; and (4) management sciences. An action research focus under field conditions should also be utilized in the training activities.

B. Advantages and Disadvantages

The assessment team found unanimous, strong support among the top management of the Ministry for establishing a National Irrigation Training Institute to expand, provide, and coordinate a total, over-all training program for the Ministry. The advantages of such an institute far exceed the disadvantages. Major advantages include:

1. Would consolidate, under one management, most of the training activities of the Ministry;
2. Would provide a higher volume of training and thereby meet more of the Ministry training needs;
3. Would promote and facilitate coordination of training among organizational units of the Ministry;
4. Would reduce duplication and overlaping of training activities among organizational units;
5. Would make more efficient use of training staff;

6. Would attract higher qualified teaching staff;
7. Would provide higher quality instruction;
8. Would enable a more accurate, continuous assessment of training needs;
9. Would have the potential for savings in administrative costs;
10. Would enable improved coordination of training among ministries;
11. Would facilitate and improve coordination of training abroad;
12. Would enhance interdisciplinary training;
13. Would give higher visibility and importance to the training effort;
14. Would enhance the possibilities for donor funding;
15. Would assure that the necessary critical mass of highly trained professionals are developed to assure that the Ministry can meet or exceed its development objectives; and,
16. Would provide more control over organizational units in training matters.

Major disadvantages include:

1. Would require higher management skills;
2. Would require more sophisticated planning and coordination;
3. Would decrease the independence of individual organizational units in training matters; and
4. Would create major recurrent operation and maintenance requirements for physical plant and staff.

Upon weighing all the advantages and disadvantages of a National Irrigation Training Institute, it is the judgement of the Assessment Team that such an institute is fully justified and recommends that the Ministry proceed promptly to establish it. The team further recommends that the Ministry obtain the technical assistance of an expatriate and an Egyptian professional educator experienced in adult continuing education, to advise on physical plant size and layout, curricula, and organizational structure in establishing the institute.

C. Faculty and Staffing

The present faculty of the Manpower Development and Training Unit consists of Eng. Abdel Hamid Fahim, Unit Director and course coordinator for the "On Farm Water Management course", Dr. Eng. M. Wafaie Abdel Salam, Ain Shams University who coordinates courses devoted to Design of Irrigation Structures, Eng. Sayed Fawzy Heida, who develops courses for construction management and quality control and Eng. Jean Kamel who is in charge of coordinating courses for Operation and Maintenance. The National Planning Institute which provides courses in administration and planning is also utilized by the MOI. There are also specifically requested courses by units within the ministry which are facilitated by Eng. Fahim. In all there are a total of 60-70 people who are providing some services to the Manpower Development and Training Unit. In addition, coordinators supplement these courses of instruction by using professors from Egyptian universities in their specific fields of expertise. All Ministry course coordinators at present and those utilized in the past are civil engineers by education, except for those courses devoted to Administration and Planning.

Because of the increased emphasis and associated workload in training, additional staff will be necessary for the institute. We recommended that a professional educator in adult continuing education be added to the staff with joint appointment as Director of Curricula and Vice Chairman of NITI. It is essential that an individual with strong teaching, management, and organizational background, and who is fully knowledgeable and experienced in course and curricula development, be included on the staff.

Many organizational heads of the Ministry expressed an interest in NITI acting in a facilitating role for courses not conducted at the institute. The addition of a trained educator to the staff would assist in rounding out the staff for the challenges to come.

D. Organizational Structure

To adequately reflect the growing importance placed on training by all Ministry organizations, and consequently the perceived multifold increase in technical courses, we recommend elevating the status of the training effort to full Authority or Institute status with its own funding and allocated staff and that it be known as the National Irrigation Training Institute (NITI). The existing Manpower Development and Training Unit should be phased into the NITI.

Figure 6 provides a proposed Organization Chart for the NITI. It is proposed that each of the units be headed by an Undersecretary. One would be in charge of all training activities to be carried out at NITI or field sites; one under secretary in charge of monitoring of the training effectiveness, and researching additional training needs; another under secretary would be charged with development and maintenance of a library, video productions, publication of all instructional material and the computer center; and the fourth undersecretary would be in charge of administration, providing financial control, security, and logistics support. The Vice Chairman would also be responsible for curricula development, with an advisory committee, deciding which courses are more appropriately carried out overseas, and will provide liaison with other ministries.

As a minimum the Vice Chairman and Under secretary for administration should be non engineering professionals.

The High Committee for Training presently chaired by the Vice Minister of MOI should continue to serve in a policy advisory capacity to the NITI.

E. Facilitating and Coordinating Role

The main charge of the NITI would be not only to provide training for the Ministry but to identify training needs, plan, facilitate and coordinate other training that cannot be conducted in facilities operated by the NITI. This would assist in maximizing the utilization and efficiency of training resources.

Organizations of the Ministry have listed a host of sophisticated and specialized training needs for their employees, i.e., corrosion of irrigation pumps in the Electrical and Mechanical Department and seepage and settlement associated with the High Dam. Assistance in conducting these types of courses could be provided by the NITI by providing facilities, arranging for outside speakers (in close association with the respective organization) and providing coordination among organizations. This role by the NITI was strongly supported in the interviews.

We recommend that the NITI coordinate the development of a five year plan of training for each Ministry organization, listing courses, number of participants, location, etc. This should begin immediately for 1986 by the present MDTU. After analyzing these data, the MDTU could determine what course work it could provide with its own facilities and what training would need to be secured elsewhere or best left with the requesting organization within the Ministry. It is recognized that the MDTU cannot satisfy all the training needed but it can assist by facilitating and coordinating. As an example, training in groundwater management, including hydrologic modeling, which is being taught by Dutch specialists working with the Groundwater Institute of the Water Research Center. The groundwater management course currently has an average of less than four trainees per course makes the cost per trainee extremely high. Other organizations within the Ministry have a need for similar groundwater training but have been unable to obtain it. Under such circumstances the NITI could match training availability with need if it could act as a clearing house, a coordinator, and a communicator as well. The NITI could provide the course schedule to all organizations within the Ministry, submit a combined training budget to the Ministry, and solicit donor support as well.

F. Cost Effectiveness: The NITI as currently conceived at a capacity of 2,500 students per year would cost approximately L.E. 24.23 million over a six year period with a US\$ 15.95 million foreign exchange component. This cost is based on current MOI estimates, the costs of the recently constructed MOA management training facility, the assumption that outside expertise will be required during the first few years of operation, contingencies of 15 percent, and an annual inflation rate of 20 percent. Table 4 provides a detailed cost analysis (all costs shown in US dollars using LE 0.83 per dollar) by year of the various elements required to plan, design, construct and operate the NITI through 1991. It has been assumed

that the NITI could benefit from the services of an experienced consultant during the planning, design and initial operation phases of the project. That service would begin mid 1987 and end in 1991. The recurrent costs of the NITI would be approximately LE 820,000 per year after 1991.

Determining the cost effectiveness of training as it relates to improved production in irrigated agriculture is difficult. Experienced and knowledgeable Egyptian and international officials and specialists in irrigated agriculture are unanimous in agreement that poor irrigation management is a major constraint to increased agricultural production on irrigated farms. Experts also agree that the best, possibly the only, effective way to improve irrigation management is through massive training of responsible officials, specialists and farmers. There is also agreement that this training needs to be reinforced with intensive, long term adaptive research on functioning irrigation systems if it is to be applicable to actual conditions.

While there is little available economic research on irrigation management training and action research, considerable research has been done on rates of return for agricultural research generally and for education. Extending the argument of scarcity of irrigation management expertise and water as a production input, the rates of return also should be higher than for education and general agricultural research.

Theodore Schultz¹ has documented economic returns to education, skills training, and research for several countries including India and the USA. In India which has many similar agricultural problems to that of Egypt, Evenson and Jha², Bal and Kahlon³ and others have documented the high rates of return to investments for agricultural research both before and after the high yielding varieties programs were implemented. Their figures are summarized below:

- 1/ Schultz, T.W.: Investing in People: The Economics of Population Quality. University of California Press, Berkeley, 1981.
- 2/ Evenson, R. and Jha, D: The Contribution of Agricultural Research System to Agricultural Production in India. India Journal of Agricultural Economics. Volume XVIII No. 4, 1973.
- 3/ Bal, H.K. and Kahlon, A.S.: Returns from Investment in Agricultural Research. Indian Journal of Agricultural Economics. Volume XXI No. 3, 1975.

Research and Extension

Study	Activity	Period	Time lag (yrs.)	Internal Rate of Return %
Evenson-Jha	Research	1953-71	8	50.0
Evenson-Jha	Extension	1953-75	1	17.5
Kahlon et la	Research	1960-73	5	63.5
Bal Kahlon	Research	1967-73	5	71.7
Bal Kahlon	Research	1960-65	5	14.0

Mark Blough, quoted by Kluck⁴, estimates the social and private rates of return shown below for various levels of formal education for India in 1960.

Types of Returns		Level of Returns %
1. <u>Primary:</u>	- Social	20.2
	- Private	24.7
2. <u>Secondary:</u>	- Social	16.8
	- Private	19.2
3. <u>Higher:</u>	- Social	12.7
	- Private	14.3

Assuming similarity between Egypt and India in this work and considering the mix of research and training and the argument for relatively high marginal returns, one would expect IRK for this project to not be less than for education generally, i.e., at least 20-25 percent.

G. Implementation Schedule: Figure 7 provides the Assessment Team's tentative thinking on the timing of twenty-seven key activities required to have the NITI developed and operational. The activities have as an objective the improvement of the existing MDIU which will be absorbed into the NITI while at the same time initiating activities required to plan, design construct and make the NITI operational. It is expected that it will require approximately three years before NITI is operational in its own right and another two years before it is up to full capacity.

^{4/} Kluck, John, "AID and Human Resources" Draft paper for AID, August 26, 1982.

The following section give a brief explanation of the activities listed in Figure 7 - milestone chart for the NITI Implementation Activities.

<u>Activity</u>	<u>Description</u>
1. Maintain and Improve MDIU Activities	Current training activities by MDIU should be continued and improved in order to make a smooth transition into an Institute.
2. On-Site Review of Training Centers in Egypt	<p>To help formulate and solidify ideas on what an Institute should look like it is recommended that a team consisting of current MDIU staff visit Training Institutes in Egypt. As a minimum the following should be visited.</p> <ol style="list-style-type: none">1. Sakkara Center for Local Governmental Development2. Bus Authority Mechanics Training Center3. Georgia Tech Industrial Productivity Center4. Arab Contractors Training Center5. Center for Agricultural Management Development
3. Institutional Commitment by MOI	To bring prominence to training and the ability of the Institute to function MOI wide, it is important that the organizational unit report directly to the Minister's office. A Ministerial Decree required.
4. Define Role and Scope	It is important early on to publish a statement of intent as to the role and scope of the institute. This report could act as a basis for such a statement.

5. Appoint Egyptian and Expatriate Consultants

To aid in construction plans and curricula development it is important to name an Adult Educator to a high position within the organizational unit (preferably no less than vice chairman). In addition the assistance of a full time outside consultant is needed to assist the MDTU and in establishing the NITI. In the interest of time these two consultants could be funded out of the Irrigation Management System Project until organizational and financial arrangements are completed.
6. Clarify program design

Facility cannot be constructed without a clear program.
7. Identify initial Trainees/Trainers

It is important early-on to identify types of trainees. Trainers should be identified by name.
8. Send Trainers to TOT

In order for trainers to become excellent Adult Educators, they need the knowledge/skills for action oriented learning. Overseas special course of Training of Trainers is required.
9. Determine Equipment and Develop Procurement plans

All equipment needs for the institute should be outlined within a procurement plan in order to develop a budget. Initial and reoccurring needs should be specified.
10. Determine Administrative support staff requirements

All personnel requirements should be specified.
11. Stage Staffing Plan

Staffing on a planned schedule is important to meet changing needs and the evolution of NITI

12. Identify Field Sites for Training Prior to construction at the new site it is important to identify all field training needs.
13. Develop Incentive/ Allowance Plan Incentives and allowances are needed by both trainees and instructors.
14. Determine Transportation Requirements Knowledge of transportation needs for faculty and for field work is essential
15. Design Facility for Incremental Construction Prioritize construction so that some facilities can be used early in the development phase.
16. Prepare Budget and Financial Plan For early years of operation and estimate for annual costs once NITI is fully operational.
17. Prepare detail Operational Plan Early plan for the phasing of MDIU into the NITI by 1988.
18. Determine Sources of Funding IBRD, USAID, CEDA, Others.
19. Develop Specifications Specifications should include those required for construction, commodities supplies and vehicles.
20. Develop Invitation for Bids Process is lengthy and must be started on schedule to meet deadlines.
21. Award Contract for Construction
22. Prepare RFTP and Evaluate Consultant Determine the need for and amounts of technical assistance needs. Process should begin over one year in advance of the main instructional effort.
23. Award Consultant Contract Negotiate and award contract.

24. Construction of NITFI Construction will be staged so that some of the facilities are operational by January 1989.
25. Supervise Construction
26. Develop Record System It is important to develop a record system early in order to facilitate evaluations and form the basis for adjustments in programs and training. System should include facts on staff, training, evaluations and financial.
27. Begin Operation January 1989. In the interim the MITU would be expanding at its current location.
28. Program Evaluation Program evaluation is necessary to make progress reviews and to make changes as needed.

Table 1. Summary of Authorized Positions, Number Filled and Number of Vacancies,
Ministry of Irrigation, October 1985

List of Staff (Department and Rank)	Authorized Positions	Percentage of Total Positions	Number Currently Employed		Current Vacancies	
			Number	Percent	Number	Percent
TOTAL MINISTRY						
Professional						
Senior Under Secretary	30	.034%	25	.032%	5	.047%
Under Secretary	73	.083%	69	.089%	4	.037%
Director General	186	.212%	136	.176%	50	.465%
Director	549	.625%	378	.498%	171	1.591%
Assistant Director	1269	1.444%	869	1.126%	400	3.721%
District Engineer	3817	3.432%	1591	2.062%	1426	13.264%
Total	5124	5.829%	3068	3.977%	2056	19.124%
Finance and Administration						
Senior Under Secretary	3	.003%	1	.001%	2	.019%
Under Secretary	17	.019%	13	.017%	4	.037%
Director General	49	.056%	31	.040%	18	.167%
Director	263	.299%	203	.263%	60	.559%
Assistant Director	840	.956%	610	.791%	230	2.139%
Professional	1683	1.824%	1261	1.634%	342	3.181%
Total	2775	3.157%	2119	2.747%	656	6.182%
Non-Professional						
Director General	5	.006%	2	.003%	3	.028%
First Degree	328	.373%	269	.349%	59	.549%
Second Degree	7736	9.678%	7202	9.439%	454	4.233%
Third Degree	21806	24.807%	20332	26.354%	1474	13.718%
Fourth Degree	24043	27.352%	21483	27.846%	2560	23.812%
Fifth Degree	14023	15.953%	12336	15.998%	1687	15.692%
Sixth Degree	12061	13.721%	10259	13.297%	1802	16.761%
Total	82202	91.814%	71963	93.277%	8839	74.774%
TOTAL MINISTRY	87981	100.000%	77158	100.000%	10751	100.000%
Total by Rank						
Senior Under Secretary	33	.038%	26	.034%	7	.065%
Under Secretary	90	.102%	82	.106%	8	.074%
Director General	240	.273%	169	.219%	71	.668%
Director	812	.924%	501	.753%	231	2.149%
Assistant Director	2109	2.399%	1479	1.917%	630	5.858%
District Engineer	3817	3.432%	1591	2.062%	1426	13.264%
F & A Professional	1683	1.824%	1261	1.634%	342	3.181%
First Degree	328	.373%	269	.349%	59	.549%
Second Degree	7736	8.801%	7202	9.439%	454	4.223%
Third Degree	21806	24.807%	20332	26.354%	1474	13.718%
Fourth Degree	24043	27.352%	21483	27.846%	2560	23.812%
Fifth Degree	14023	15.953%	12336	15.998%	1687	15.692%
Sixth Degree	12061	13.721%	10259	13.297%	1802	16.761%
TOTAL MINISTRY	87981	100.000%	77158	87.769%	10751	12.231%

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Table 2 - Summary of Short Courses Offered and Number Trained, Manpower Development and Training Unit, 1982-1985.

Course	Number of Courses	Number Trained
<u>Common Courses</u>		
1. Irrigation Design and Construction	4	86
2. Administration and Management	4	78
3. Operation and Maintenance	4	73
4. On-Farm Water Management	3	66
5. Construction Management and Quality Control	5	86
Subtotal	20	389
<u>Specific Courses</u>		
1. Modern Irrigation Systems	1	21
2. Drainage and Salinity Control	1	20
3. Using Pipes In Irrigation Projects	1	20
4. Structural Replacement Projects	1	15
5. Irrigation Improvement Projects	1	19
6. Bridge Design	1	38
7. Modern Equipment for Control of Water Level and Discharge	1	38
Subtotal	7	142
Grand Total	27	531

Table 3- Future Short and Medium Term Professional Staff Training Needs

Course Subject Matter	Requested by 1/	Needed by 2/	No. of Part.. Per. Yr.	Length Course Weeks	Loca- tion 3/	Type of Inst.
1. Training of Trainers	1,9	P,E	6	36	A	Special
2. Replacement and O&M of Irrigation Structures, and Canals	1,9	P,T	20	3	E,A	NITI
3. Replacement and O&M of Pumping Plants	2	T	20	3	E,A	NITI
Operation of pumps in series	2	P	2	4	A	Hungary
4. Replacement and O&M of Project Drains	5	P,T	20	3	E,A	NITI
5. O&M of Drainage Equipment	5	P,T	20	3	E,A	NITI
6. O&M of Heavy Equipment	6,11	P,T	20	4	E,A	at site & USA
7. O&M of Survey Equipment	8	T	40	3	E	NITI
8. English Language Training	2,3	P,T	Varied	8	E	AUC
9. Farm Technology Transfer	1	Farmers	Numerous	1/2	E	Field
10. Planning and Monitoring of Drainage Projects	5	P	2	8	A	U.S.A. or Europe
11. Structural Design Drafting for Technicians	9	T	15	2	E	NITI
12. Advanced Design of Pumping Stations & Large Bridges	5	P	5	1	A	U.S.A or Europe
13. Machine Dredging	11	T	20	3	E,A	On site
14. Small Ship Maintenance	6	T	2	4	E	Special

Table 3
Page 2 of 6

Course Subject Matter	Requested by 1/	Needed by 2/	No. of Part. Per. Yr.	Length Course Weeks	Loca- tion 3/	Type of Inst.
15. On-Farm Irrigation Water Management,	3 1,9	P P,T	20 40	2+4 4	E,A E	NITI Field
16 Automating Irrigation Systems	3,9	P,T	10	2	A.E	SRP
17. Introductory Engineering Skills	2	P	10	2	E	NITI
18. Pipeline Design and Operation	1,2	P	20	2	E,A	NITI
19. Corrosion Engineering	2	P	10	1	A	Special
20. Basic Engineering Design	1,3, 8,13	P	20	3	E	NITI
21. Drainage Design (surface-subsurface)	5	P	20	3	E,A	NITI
22. Design and Operation of Floating Pumps	6	P,T	4	2	E	special
23. Construction Management	3,7,9	P	30	3	E	NITI
24. Structure Design	1	P	20	2	E	NITI
25. Inventory Control and Foreign Purchasing	2,10	P,T	20	2	E	NITI
26. Contract Negotiations and Administration	2	P	10	2	E	NITI
27. Quality Control	1,9,12	P	30/yr	3	E	NITI
28. Coastal Engineering	7	P	10	8	E	NITI
29. Ground Water Data Collection	9	T	10	2	E	NITI

Course Subject Matter	Requested by 1/	Needed by 2/	No. of Part. Per. Yr.	Length Course Weeks	Location 3/	Type of Inst.
30. Basic Hydraulics	1,3,9	P	20	2	E	NITI
31. Soil Mechanics and Seepage Management	6	P	4	2	E	Special
32. Cadastral Survey Techniques	8	P	5	2	E	Special
33. Dam Safety and Stability	6	P	4	3	E,A	Special
34. Aerial Photography and Photogrammetry	8	P	10	2	E	Special
35. Prestressed and Precast Concrete	9	P	5	3	E	NITI
36. Dewatering Systems Design	13	P	4	3	E	NITI
37. Water Hammer and Pipeline Design	13	P	4	3	E	NITI
38. Pile Driving and Bearing Capacities	13	P	4	3	E	NITI
39. Water Measurements and Management	1	T	40	3	E	NITI
40. Soil and Bearing Capacities	13	P	4	3	E	NITI
41. Floating Barrages and Pontons	13	P	4	3	E,A	Special
42. Metallic Forms and Shuttering Design	13	P	4	3	E	NITI
43. Basin-wide Water Resources Planning Concepts	3	P	5	2	E	NITI

Course Subject Matter	Requested by 1/	Needed by 2/	No. of Part. Per. Yr.	Length Course Weeks	Loca- tion 3/	Type of Inst.
44. Agricultural Economic Analyses	3	P	10	3	E	NITI
45. Project Economic and Financial Analyses	3,7	P	10	3	E	NITI
46. Development and Use of Mathematical and Physical Models	7	P,T	10	3	E	NITI
			4	4	A	USA
47. Water Operation Studies	3	P,T	4	8	E	NITI
48. Development and Management of Data base Systems	3,4	P,T	3	2	E	Univ.
49. General Planning and Follow-up Techniques	1,5,8 10,12	P,T	20	2	E	NITI
50. Systems Analysis	1	P	10	2	E	NITI
51. Data Communications and Telemetry	3	P,T	10	4	A	Special
52. Introduction to Computers	3,4,5, 6,8,10		50	4	E	NITI
53. Computer Assisted Plotters and Analytical Plotters	8	P,T	10	4	E	Special
54. Land Data Bank Development and Management	8	P,T	10	4	E	NITI
55. Marketing	12	P	5	2	E	Special
56. Monitoring Coastal Engineering Projects	7	P	4	3	A	USA

Course Subject Matter	Requested by 1/	Needed by 2/	No. of Part. Per. Yr.	Length Course Weeks	Loca- tion 3/	Type of Inst.
57. Team Approach and Technology Transfer	1	P	20	2	E	NITI
58. Maintenance and use of Equipment in Coastal Monitoring	7	P	13	3	E	NITI
59. Coastal Zone Policy and Management Planning	7	P	8	2	E,A	Special
50. Management:						
Introductory	10,2,3	P	30	2	E	MOA
Mid-Level	2,3,10,12	P	30	2	E	MOA
Upper Level	2,10	P,E	20	2	E	MOA
61. Work Scheduling	3	P	20	2	E	NITI
62. Stress Management	12	P,T,A	20	2 wk	E	NITI
63. Project Management	5	P	3	4	E,A	NITI

<u>1/</u> Organizational Unit Codes	
Irrigation Department	1
Mechanical and Electrical Department	2
Planning Sector	3
Finance and Administrative Department	4
Egyptian Public Authority for Drainage Projects	5
High Dam and Aswan Reservoir Authority	6
Coast Protection Authority	7
Egyptian Survey Authority	8
Water Research Center	9
Irrigation Public Authority	10
Egyptian Dredging Company	11
Egyptian General Irrigation Workshop Company	12
Consultant Office for Irrigation Design and Irrigation Projects	13
<u>2/</u> P - Professionals	
T - Technicians	
E - Executives	
A - Administrative Clerical	
<u>3/</u> E - Egypt	
A - Abroad	

Cost Element	Unit	1985	1986	1987	1988	1989	1990	1991	Total Estimated Costs							
		Base Rate	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total	Foreign Ex				
I. Technical Assistance																
1. Expatriate Advisors																
a. Long Term	Person/Mo	\$16,000	8	\$2	10	\$198,400	48	\$996,557	48	\$1,244,575	36	\$584,327	24	\$699,561	\$1,843,448	\$3,943,442
b. Short Term	Person/Mo	\$14,000	8	\$8	5	\$56,000	12	\$217,997	24	\$445,752	12	\$257,929	12	\$226,267	\$1,334,544	\$1,334,544
2. Egyptian Experts																
a. Long Term	Person/Mo	\$2,500	8	\$8	10	\$31,000	48	\$155,712	48	\$166,340	36	\$138,176	24	\$129,229	\$630,557	\$602,557
b. Short Term	Person/Mo	\$2,500	8	\$2	5	\$15,500	12	\$30,928	24	\$50,172	12	\$44,259	10	\$45,546	\$229,222	\$229,222
3. BRE Employees																
	Person/Mo	\$900	72	\$69,120	84	\$33,328	84	\$27,199	96	\$126,450	84	\$103,171	84	\$122,427	\$571,782	
Sub Total				\$69,120		\$415,028		\$1,496,092		\$1,826,294		\$1,429,652		\$1,282,929	\$6,579,426	\$6,837,723
II. Training Equipment																
1. Laboratory Instruments	Unit	\$52,000	8	\$8	1	\$62,000	1	\$64,000	2	\$128,017	1	\$76,764	1	\$91,291	\$400,352	\$433,252
2. Center Facilities	Each	\$50,000	2	\$2	8	\$8	8	\$8	1	\$69,300	1	\$76,764	1	\$91,091	\$207,164	\$59,291
3. Library Facilities	Each	\$35,000	8	\$8	8	\$8	.75	\$34,862	.25	\$12,129		\$8		\$8	\$16,191	\$46,191
4. Language Laboratory	Each	\$42,000	8	\$8	8	\$8	1	\$51,984	2	\$8		\$8		\$8	\$51,984	\$51,984
5. Audio Visual	Unit	\$25,000	8	\$8	.25	\$7,750	.25	\$9,110	.5	\$17,327		\$2		\$8	\$8,167	\$38,167
6. Mini Computers	Each	\$5,000	8	\$8	8	\$8	6	\$30,928	6	\$41,595		\$8		\$8	\$22,513	\$22,513
7. Video Production	Unit	\$220,000	8	\$2	8	\$8	.25	\$64,000	.5	\$130,617	.25	\$76,764		\$8	\$220,261	\$220,261
Sub Total				\$8		\$69,750		\$262,764		\$417,562		\$238,293		\$182,182	\$1,162,572	\$984,699
III. Training Materials																
1. Models	Each	\$1,500	2	\$3,000	2	\$3,720	4	\$7,786	2	\$4,150	1	\$2,393	1	\$2,733	\$24,300	\$24,300
2. Publications	Each	\$50	25	\$1,500	50	\$3,100	150	\$9,732	150	\$10,396	150	\$11,515	150	\$12,664	\$49,907	\$37,430
3. Books and Manuals	Each	\$35	250	\$10,500	500	\$21,700	1500	\$68,124	1500	\$72,774	500	\$26,859	500	\$31,892	\$231,247	\$173,895
4. Video Tapes	Each	\$450	12	\$6,400	24	\$13,392	48	\$29,828	36	\$22,456	24	\$16,591	24	\$19,676	\$108,613	\$108,613
5. Computer Simulations	Each	\$1,500	2	\$3,000	10	\$18,000	10	\$19,464	6	\$12,475	6	\$13,810	6	\$16,096	\$24,354	\$24,354
6. Translations	Each	\$200	25	\$6,000	24	\$5,952	24	\$6,228	24	\$6,654	12	\$3,655	12	\$4,372	\$72,691	\$8,223
7. Consumable Supplies	Unit	\$75	150	\$11,500	250	\$23,250	320	\$29,196	350	\$36,397	400	\$46,059	400	\$54,855	\$202,245	\$121,523
Sub Total				\$45,100		\$89,714		\$168,558		\$165,302		\$122,827		\$143,378	\$702,957	\$536,327
IV. Training in Egypt and USA																
1. Mgt Training in ARE	Course	\$2,000	3	\$7,200	4	\$9,920	6	\$15,571	4	\$11,009	4	\$12,292	4	\$14,575	\$72,577	
2. Language Training in ARE	Course	\$1,500	9	\$14,400	12	\$22,320	12	\$23,357	12	\$24,951	10	\$27,029	10	\$27,327	\$105,395	
3. Technician Short Courses	Course	\$4,500	6	\$32,400	6	\$33,400	6	\$35,235	6	\$37,426	6	\$41,455	6	\$45,189	\$229,694	\$229,694
4. Professional Short Course	Course	\$5,000	6	\$36,000	12	\$74,400	12	\$77,956	12	\$83,178	12	\$89,117	12	\$109,229	\$472,853	\$472,853
5. Professional Long Term	Course	\$25,000	4	\$100,000	6	\$156,000	8	\$209,528	8	\$277,203	6	\$282,095	6	\$270,274	\$1,346,222	\$1,346,222
6. Travel to USA	R Trip	\$2,500	13	\$39,222	19	\$59,922	22	\$71,268	22	\$76,279	21	\$80,607	21	\$75,446	\$401,756	\$401,756
7. Per Diem in USA	Day	\$75	1000	\$97,200	1154	\$107,322	2160	\$218,211	2500	\$261,995	1760	\$156,600	1260	\$186,226	\$1,018,144	\$1,018,144
8. Honoraria	Day	\$150	84	\$15,120	84	\$15,624	96	\$18,695	84	\$17,466	82	\$13,218	82	\$16,296	\$97,129	\$24,277
Sub Total				\$761,200		\$527,966		\$711,634		\$789,563		\$552,195		\$771,543	\$7,792,169	\$7,792,169

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Cost Element	Unit	1985	1986	1987	1988	1989	1990	1991	Total Estimated Costs						
		Base Rate	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total	Foreign Ex			
V. Studies and Conferences															
1. Applied Research	Activity	\$35,000	1	\$42,000	1	\$45,400	1	\$48,500	1	\$50,700	1	\$67,700	\$288,000	\$143,400	
2. Adaptive Research	Activity	\$25,000	2	\$84,000	4	\$170,000	4	\$181,000	4	\$187,000	2	\$227,000	\$660,000	\$409,000	
3. Curricula Development	Activity	\$50,000	4	\$240,000	4	\$240,000	6	\$389,000	6	\$415,000	2	\$180,000	\$1,811,000	\$1,389,000	
4. Conferences	Activity	\$75,000	0	\$2	1	\$93,000	0	\$2	0	\$15,000	1	\$18,000	\$204,000	\$170,000	
5. Special Topic Studies	Activity	\$50,000	1	\$60,000	1	\$62,000	2	\$129,000	2	\$130,000	4	\$307,000	\$1,251,000	\$255,000	
Sub Total				\$426,000		\$628,000		\$746,120		\$797,000		\$716,000	\$1,256,000	\$4,382,700	
VI. Logistics/Support															
1. Office Space	Sq Meters	\$10	0	\$0	1200	\$12,400	1200	\$12,976	1200	\$13,062	500	\$7,676	500	\$9,100	\$54,000
2. Library and Train Center	Sq Meters	\$10	0	\$2	500	\$6,200	500	\$6,400	500	\$6,931	250	\$3,000	250	\$4,500	\$29,000
3. Office Equipment	Unit	\$400	0	\$2	12	\$5,000	12	\$6,200	6	\$3,000	12	\$7,000	12	\$2,000	\$21,000
4. Spare Parts	Unit	\$1,000	0	\$0	12	\$14,000	12	\$15,571	10	\$24,000	12	\$18,000	12	\$21,000	\$75,000
5. Repairs and Renovations	Activity	\$50,000	1	\$60,000	1	\$62,000	0	\$0	0	\$0	1	\$76,000	1	\$91,000	\$389,000
6. Printing and Reproduction	Unit	\$30,000	0	\$0	.5	\$10,000	0	\$0	0	\$0	0	\$0	0	\$0	\$10,000
7. Vehicles	Each	\$25,000	0	\$240,000	4	\$124,000	0	\$0	0	\$0	0	\$0	0	\$0	\$124,000
8. Computer - Administration	Each	\$50,000	1	\$60,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	\$60,000
Sub Total				\$360,000		\$244,000		\$41,264		\$49,000		\$114,000		\$135,000	\$940,000
VII. Construction															
1. Training Building	Sq Meter	\$600	0	\$0	0	\$0	1200	\$724,272	0	\$0	0	\$0	0	\$0	\$724,272
2. Cafeteria	Sq Meter	\$500	0	\$0	0	\$0	900	\$720,000	0	\$0	0	\$0	0	\$0	\$720,000
3. Accommodation	Sq Meter	\$600	0	\$0	0	\$0	1500	\$1,167,000	0	\$0	0	\$0	0	\$0	\$1,167,000
4. Infrastructure	Unit	\$125,000	1	\$150,000	0	\$0	.5	\$51,000	0	\$0	0	\$0	0	\$0	\$231,000
5. Grounds and Facility	Unit	\$100,000	0	\$0	0	\$0	.5	\$54,000	.5	\$69,000	0	\$0	0	\$0	\$134,000
6. Field Lab Sites	Unit	\$125,000	1	\$150,000	.5	\$77,500	1.5	\$243,000	0	\$0	1	\$191,000	1	\$227,000	\$690,000
Sub Total				\$300,000		\$77,500		\$3,192,000		\$69,000		\$191,000		\$227,000	\$4,255,500
VIII. Recurrent Costs															
1. Salaries	Person/Mo	\$700	300	\$252,000	300	\$260,000	330	\$299,700	400	\$465,750	600	\$644,000	600	\$765,000	\$2,687,000
2. Honoraria	Days	\$150	60	\$10,000	60	\$11,000	60	\$11,000	60	\$12,000	60	\$13,000	60	\$16,000	\$76,000
3. Maintenance and Repairs	Unit	\$1,000	2	\$2,000	12	\$14,000	12	\$15,571	12	\$16,000	12	\$18,000	12	\$21,000	\$89,000
4. Operations	Unit	\$5,000	12	\$72,000	12	\$74,000	12	\$77,000	12	\$83,000	12	\$92,000	12	\$109,000	\$520,000
5. Travel and Per Diem	Trip	\$1,000	24	\$29,000	24	\$29,000	24	\$31,000	24	\$33,000	12	\$18,000	12	\$21,000	\$160,000
6. Miscellaneous Expenses	Unit	\$2,000	12	\$28,000	12	\$29,000	12	\$31,000	12	\$33,000	12	\$36,000	12	\$43,000	\$200,000
Sub Total				\$354,000		\$422,000		\$467,136		\$544,000		\$624,000		\$778,000	\$3,729,000
Sub Total I-VIII				\$1,956,000		\$2,444,350		\$7,055,934		\$4,010,720		\$4,292,000		\$4,778,000	\$25,381,000
Contingency		15.00%		\$293,400		\$366,650		\$1,062,000		\$722,000		\$644,000		\$716,000	\$3,827,000
TOTAL ESTIMATED PROJECT COST				\$2,249,000		\$2,811,000		\$8,118,000		\$4,734,000		\$4,938,000		\$5,494,000	\$29,208,000

Includes inflation at 2%, compounded each year.
2/23/1996

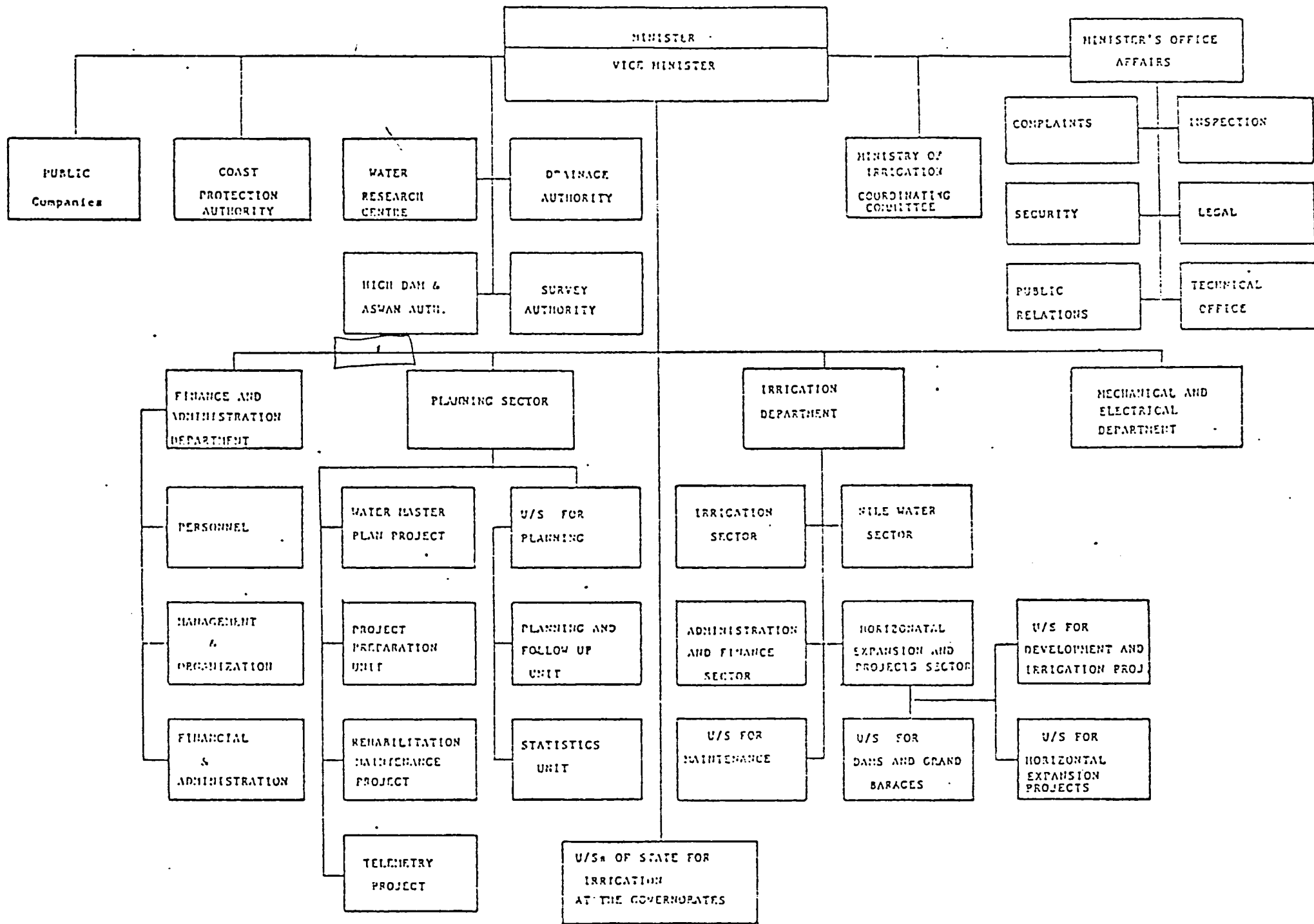
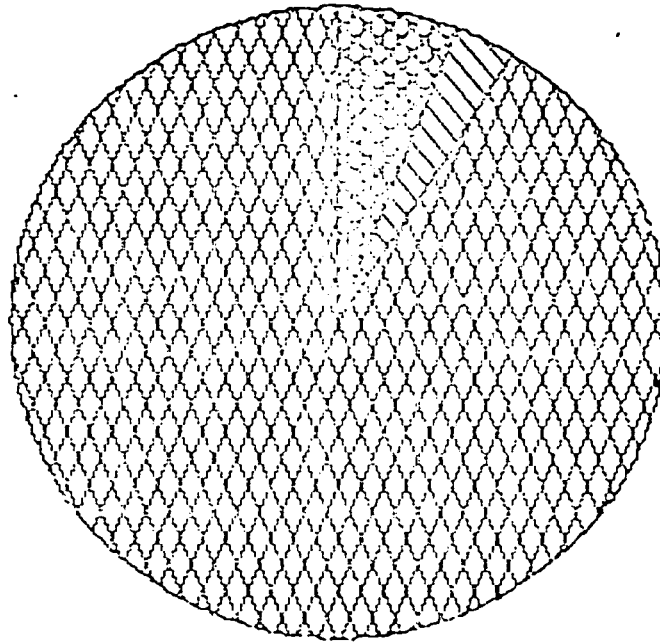





Figure 1

87

MOI AUTHORIZED POSITIONS

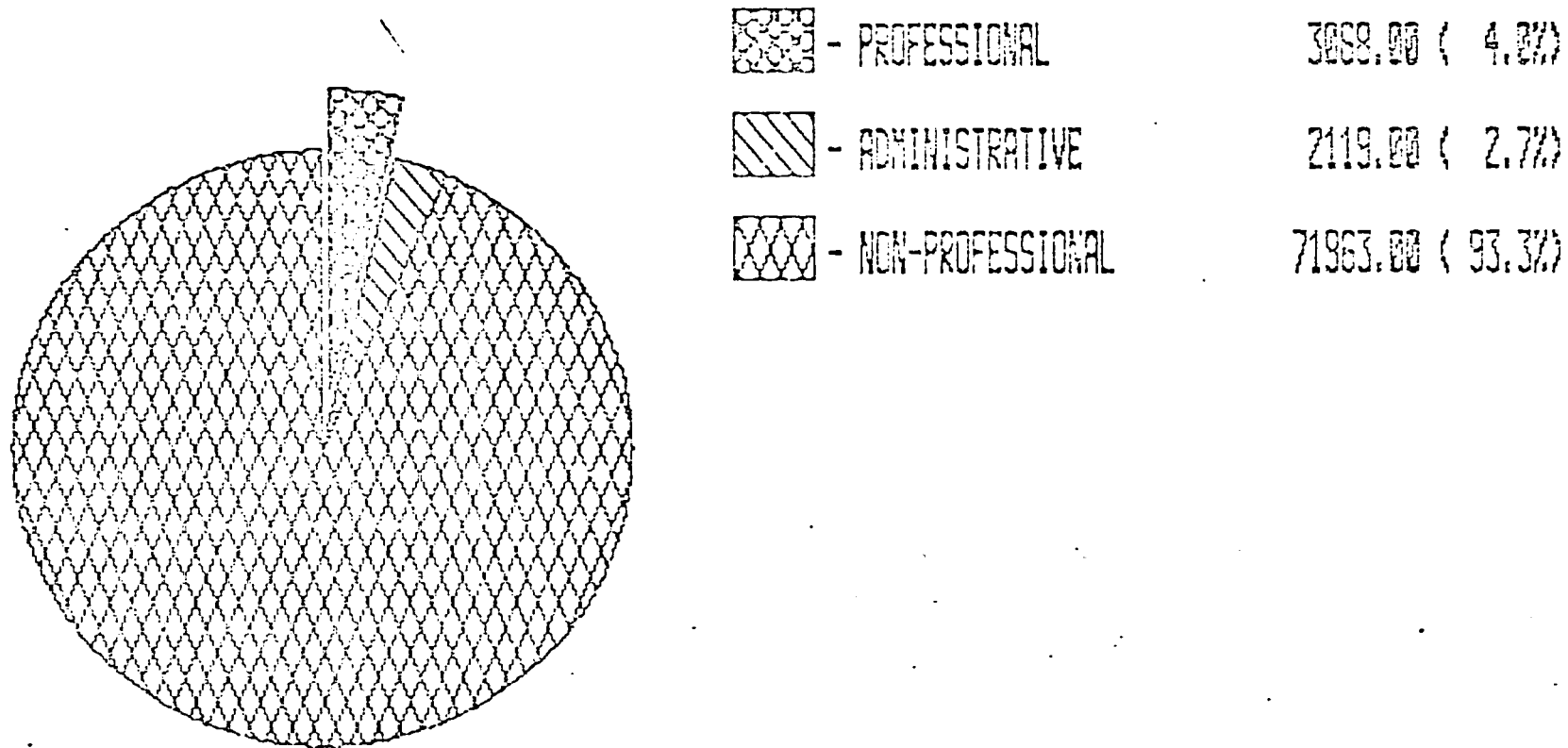


	- PROFESSIONAL	5124.00 (5.8%)
	- ADMINISTRATIVE	2775.00 (3.2%)
	- NON-PROFESSIONAL	80002.00 (91.0%)

TOTAL: 87901.00 (100%)

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MOI FILLED POSITIONS

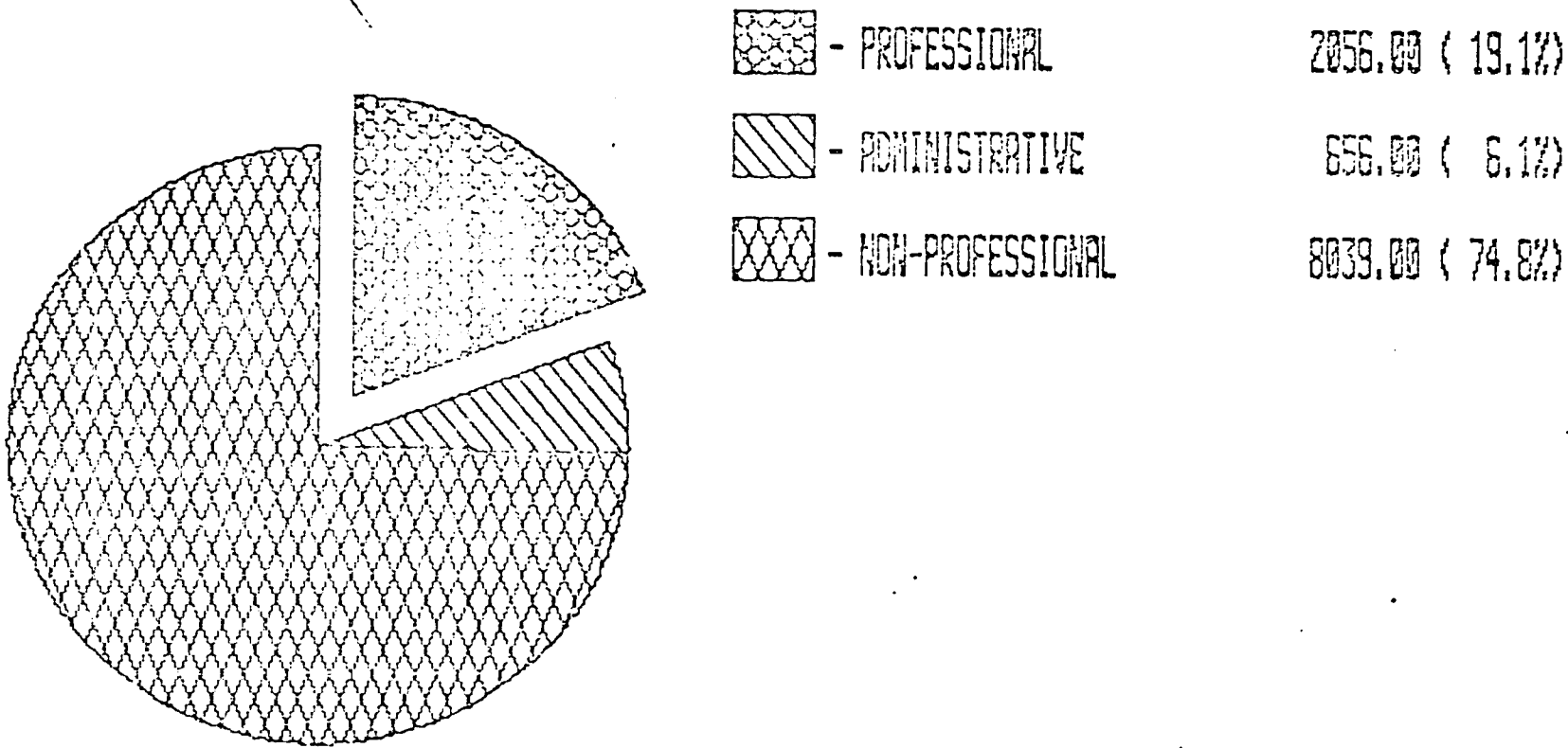


TOTAL: 77150.00 (100%)

Figure 3

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MOI VACANT POSITIONS



TOTAL: 10751.00 (100%)

Figure 4

Ministry of Irrigation Position Profile

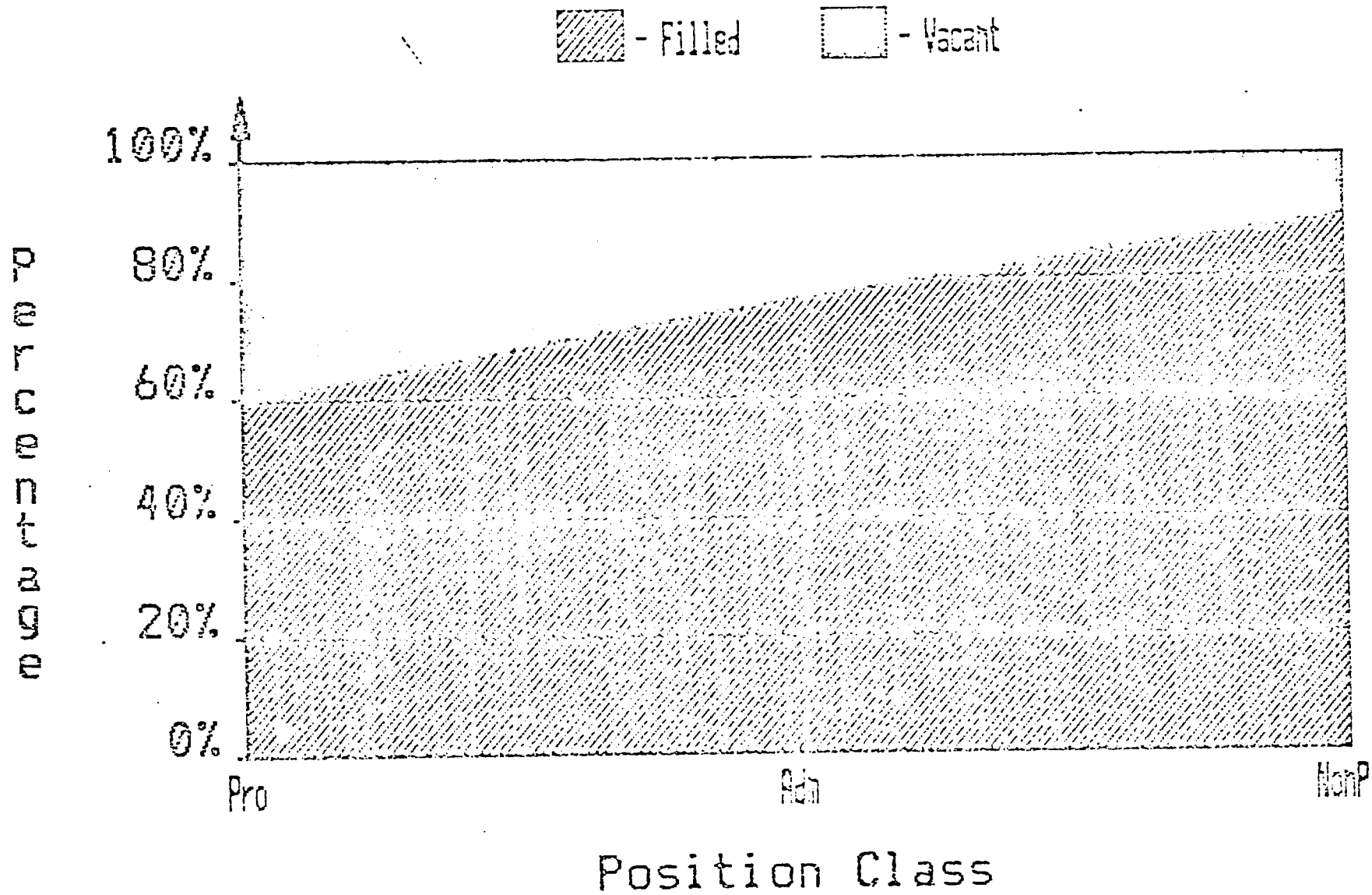


Figure 5

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National Irrigation Training Institute
Proposed Organizational Chart

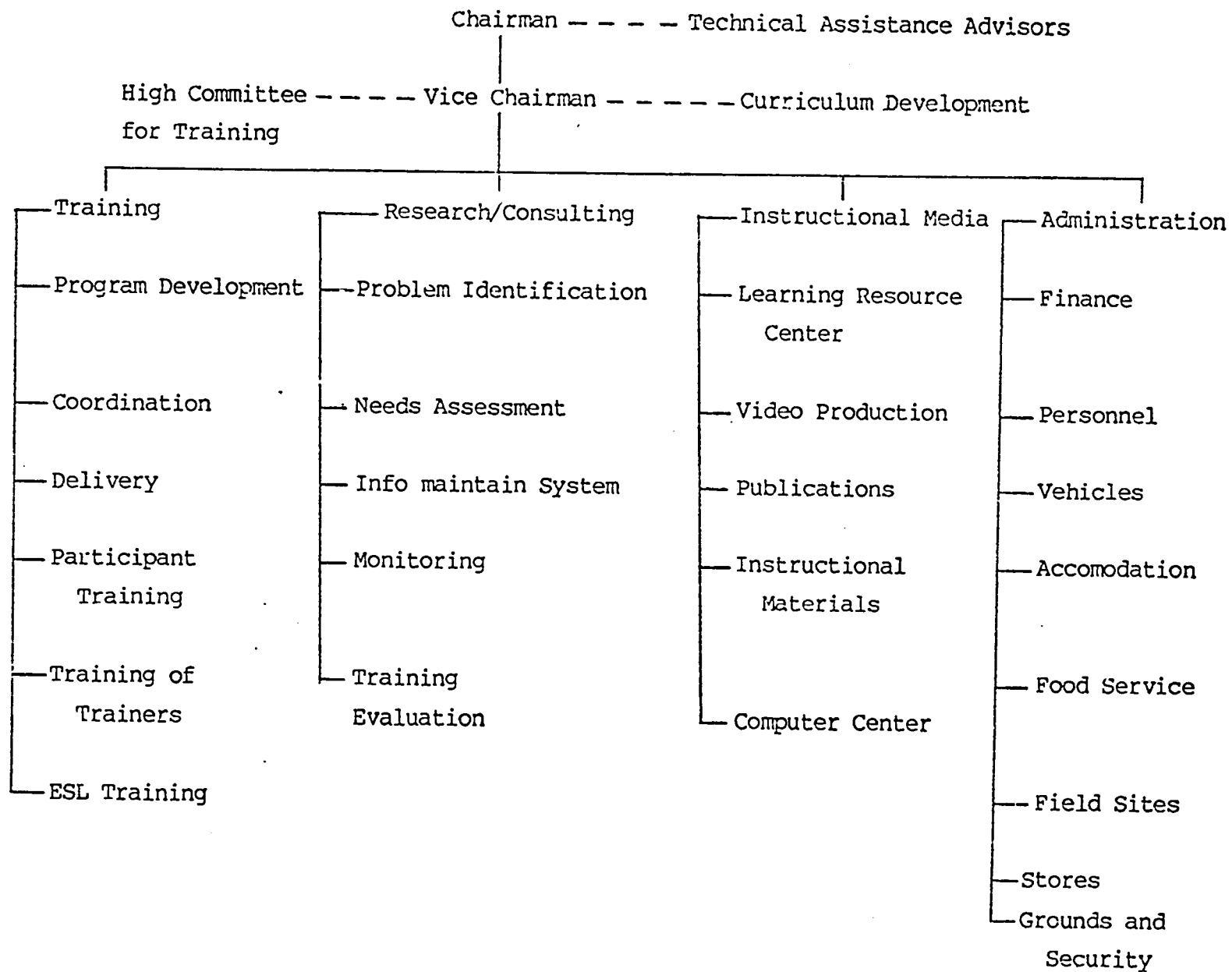


Figure 6

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MILESTONE CHART FOR NITI IMPLEMENTATION ACTIVITIES

Activity	1986				1987				1988				1989				1990				1	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
1. Maintain and Improve MDTU Activities	X	X	X	X	X	X	X	X	X	X	X	X										
2. On-Site Rev. of Train. Center in Egypt	X	X	X																			
3. Institutional Commitment by MOI		X	X																			
4. Define Role and Scope		X	X																			
5. Appoint Egyptians and Expat. Consultant		X	X																			
6. Clarify Program Design			X																			
7. Identify Trainees/Trainers		X	X																			
8. Send Trainers to T.O.T.			X	X	X	X																
9. Determine Equipment/Develop Procurement		X	X																			
10. Determine Administrative/Support Staff Requirement				X																		
11. Staffing Plan		X	X		X	X	X	X	X	X	X	X										
12. Identify Field Sites for Training		X	X																			
13. Develop Incentive/Allowance Plan		X	X																			
14. Determine Transportation Requirement				X	X																	
15. Design Facility for Incremental Constr.		X	X																			

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MILESTONE CHART FOR NITI IMPLEMENTATION ACTIVITIES

Activity	1986				1987				1988				1989				1990				1991		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
16. Prepare Budget and Financial Plan			X	X																			
17. Prepare Detail Operational Plan	X	X																					
18. Determine Source of Funding			X	X																			
19. Develop Specifications			X	X																			
20. Develop Invitation for Bid						X																	
21. Award Contract for Construction								X															
22. RFP Preparation and consultant evalua.	X	X	X																				
23. Award Contract for Consultant						X	X																
24. Begin Construction										X	X	X	X	X	X	X	X						
25. Supervise Construction										X	X	X	X	X	X	X	X						
26. Develop Record System			X	X																			
27. Begin Operation in New Facility														X									
28. Program Evaluation and Adjustment as necessary			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			

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MANAGEMENT TRAINING NEEDS REPORT
TO THE
UNITED STATES DEPARTMENT OF AGRICULTURE
AND THE
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

By

Odis G. Kendrick

Pursuant to Purchase Order 40-39R-6-00117
United States Department of Agriculture
Office of International Cooperation and Development

November 9, 1985

- M-6 Financial Analysis by Program
- M-7 Expenditure Category
- M-8 Income Sources
- M-9 Expenditure and Income Analysis by Department
- M-10 Generating Revenue
- M-11 Financial Possibilities
- M-12 Individual Assessment of Facilities

Climate Indicators

- C-13 Organizational Analysis
- C-14 Organizational Analysis Summary Form
- C-15 Training Concepts
- C-16 Training Concepts Summary Form

Performance Indicators

- P-17 Individual Course Analysis
- P-18 Summary of Training Courses
- P-19 Individual Research Project Assessment
- P-20 Summary of Research Project Assessments
- P-21 Individual Consultancy Report
- P-22 Summary of Consultancy Project Reports
- P-23 Publications

Environmental Indicators

- E-24 Client Survey
- E-25 Training Needs Assessment Checklist

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M-5 Budget Process	

BACKGROUND

The Consultant was engaged to assist the Irrigation Training Needs Assessment Team in performing a training needs assessment for the Ministry of Irrigation in the Arab Republic of Egypt. The specific Scope of Work for the Consultant is as follows:

Work in Egypt, and points therein as necessary, to advise a three person team of United States irrigation technicians and Egyptian Ministry of Irrigation (MOI) counterparts assessing and prioritizing the training needs of the MOI and to derive a training plan to address those needs.

- While the Seller will not serve as a full team member of this team, he will be expected to serve as a "resource person" assisting the group to collect relevant information. During the period of performance, he will be reporting information and discussing recommendations with the team leader and members as appropriate.

The assessment team began its work on 14 October 1985 with a briefing by USAID/CAI staff from the Irrigation Office in the Agricultural Directorate.

KEY ACTIVITIES BY CONSULTANT

Pursuant to the Scope of Work outlined in the Purchase Order and specific work assignments made by the Team Leader the following major task items were completed.

1. Expectations of the Team

Members of the team discussed their expectations of the Consultant and the role expected of him. Elements included: assistance in logistics, identification of sources of information, sounding board, facilitate contacts with the Ministry of Agriculture, local resident perspective, assistance in identifying local training resources, perspective on Egyptian management, and explanation of local Egyptian customs.

2. Overview of Egyptian Management

Background discussions were held with team members to review management styles and perceptions in an Egyptian context. Behavioral as well as administrative characteristics were discussed along with their implications for the work of the Team. Practical housekeeping items were also discussed and how a short-term visitor could cope with them.

3. Review of Egyptian Training Activities

A limited review was made to determine other major training activities in Egypt similar to the task for MOI. These activities include the Center for Agricultural Management Development in the Ministry of Agriculture, the Sakkara Training Center in the Ministry of Local Government, the Water and Waste Water Training Center currently under development, and the Development Training Project with the Ministry of Central Organization and Administration. Discussions were held with the Team to review the findings of this review.

4. Logistic Arrangements

Assistance was provided to arrange field trips, schedule appointments and prepare site visits.

5. Paper on Management Development with the MOI

At the request of the Team a paper was prepared on management development within the MOI. It was prepared from personal knowledge as well as review of previous course materials used in MOI and discussions with key managers within the Ministry.

6. Preparation of Charts and Graphs

Various charts and graphs were produced on the computer for use of the Team. Some are included in the Appendices of this report.

7. Training Assessment

An extensive set of questionnaires and reports was prepared to gather information about training, organizational climate and attitudes. These followed the design of *Sherwood* and others to assess the overall training function of an organization. Time constraints for the Team did not allow for full utilization of the series with the Ministry.

8. Editorial Assistance

Portions of the final report were suggested by the Consultant and incorporated into the document. Final review of the document for consistency was done by the Consultant.

MANAGEMENT DEVELOPMENT

The agricultural sector (including the Ministry of Irrigation), and its growing dependency upon technology and sophisticated farming and water management systems, is becoming more reliant than ever upon its managers for increased production. Internationally known experts in management science are building the case for strengthening the role of executives and managers in order to help nations realize important social development and technical goals. This increasing complexity for production and its concomitant requirement for skilled managers is forcing most countries to develop ways and methods for dealing with this change. The Ministry of Irrigation is in a unique position to influence both agricultural production and the development of managers within the agricultural sector in Egypt.

People are not born with managerial knowledge and skills. Managerial practice is based on a combination of specific knowledge and learned behavior. In Egypt, as in many countries of the world, senior managers are often "senior" due to age rather than any other requirements. This system of promotion by age seniority most often results in significant shortfalls in management knowledge and practice, as well as diminished institutional performance. Irrespective of a person's ability or desire to learn modern management skills, the present training and reward system does not foster a learning environment. As a result of this unstructured on-the-job education, production lags. Managers are frustrated in their efforts to change the status quo.

TRAINING NEEDS

As the senior executives of the Ministry have reported to the team, the traditional emphasis upon lecture orientated training as a social event does not foster the inquisitive environment that is necessary for an organization and its managers to grow. More often than not emphasis in training has been placed on content and form rather than analyzing the requirements for organizational change and management development needs based on honest discovery about deficiencies and problems.

Interviews by the team and other data furnished by the Ministry indicate a traditional approach to training. It focused on theory and relied on lectures and discussion methods of instruction: the process essentially ended on the last day of the training course. The executives perceived a need for more practical, learning-by-doing approaches to training, coupled with a strong follow-up program on the job to continue the training process and make it responsive to work needs.

Every organization needs to be able to perform four fundamental functions:

1. Pattern Maintenance: The rules and roles that are the most observable part of the organization. The organization must be able to develop and maintain basic day-to-day procedures and patterns for action.
2. Goal Attainment: The product or service of the organization. The organization must be able to set goals and objectives and develop strategies for achieving these objectives.
3. Integration: The ultimate purpose and meaning of the organization. The organization must be able to develop dominant values that are shared throughout the organization.
4. Adaptation: The ability of the organization to meet new challenges from outside the organization. The organization must develop a sensitivity to change outside the organization and be able to change its patterns when necessary.

Bureaucracy, like other organizations, developed to meet these needs. But, it has been obvious that classic bureaucracy has been most successful with the first two of these functions: pattern maintenance and goal attainment. Consequently, attention of management researchers is now focusing on how large and complex organizations can better meet the integration and adaptation functions.

The expressed need for additional management development training in the priority areas of planning, leadership, decision making and time management all support the need for development of managers who can perform the integrative and adaptive functions. These are frequently face-to-face types of interactions between managers and subordinates. These are normally psychologically close areas in which all managers seem to have difficulty. Managers in the Ministry are no exception.

Because there exists a flexible attitude toward scheduling and planning within the Ministry, few tasks ever happen quite as scheduled. Departures from schedule are to be expected and occur due to the assumption that things never happen as planned. Plans are viewed as paper commitments mirroring a certain situation in power relationships at one point in time. Power relationships and circumstances change; and consequently so does the urgency of carrying out mutually agreed actions. These are particularly exacerbated by the contrast between performance standards and what can be accomplished with existing levels of staff competency and equipment.

Planning, as articulated by the persons interviewed is the process by which the Ministry can become what it wants to become. It is the identification of opportunity and the allocation of resources to exploit the opportunity. It is the rational determination of where you are, where you want to go, and how you

are going to get there. The planning process has two dimensions: strategic and operational. Strategic planning is the determination of what products or services are to be offered to what class or classes of customers in what geographical area and the program to provide them. Operational planning is the determination as to how to run the present operation most effectively in the period immediately ahead while appropriate progress is made toward any objectives of the strategic plans.

Another lesson learned from observation of Egyptian managers has to do with general knowledge and awareness at the senior management level. Our observations of the action planning process suggests that the leadership is not task oriented and has relatively little appreciation of operational, implementation and program planning. These constraints must be dealt with in a positive manner, rather than one which will further frustrate the management team. Emphasis on management by objectives often produces relatively limited action results. Information sharing and consensus building are rarely demonstrated. Egyptian managers usually prefer to abide by majority rule in preference to any personal confrontations. Leadership is usually taken by individuals largely in terms of prosecution of a task. This is often a solo performance by the leader in which there is little effort to enlist the support and interest of others in the work group.

Most Egyptian managers in the government and public sector conceive of their organizations as extremely rigid and not generally disposed to change. There is certainly nothing unique about this finding. This strong rigidity indicate there is much to do in creating an environment within which change is welcomed and encouraged. Put another way, it is insufficient to assume that effective organization performance can be achieved solely by working on individual actors in settings removed from the job. There must be a correlate effort to develop the organization norms and operating procedures that will be compatible with pro-active executive leadership.

Interviewees indicated clearly that public management is heavily conditioned by the private sector model. To the extent that private management succeeds in humanizing and improving the effectiveness of organizations, similar changes in the quality of work life will become feasible and desirable for public organizations. Existing management theory provides an ample base for preventing or counteracting the stultifying effects of large bureaucracies. All organizations have a technical as well as a human dimension. We have more available technology than we can apply in managing public organizations. In contrast, we have scarcely tapped the human potential which exists in public organizations. Therein lies unlimited opportunity for improving public management within the Ministry.

CONSIDERATIONS FOR FUTURE TRAINING STRATEGIES

In 1983 The World Bank published a major study devoted to issues of development management (World Development Report 1983).

A number of background studies on organization and management issues were prepared as resource documents for the report. One of the most significant was written by Samuel Paul, professor at the Indian Institute of Management at Ahmedabad, India. (Training for Public Administration and Management in Developing Countries: A Review). It provides as comprehensive a picture of training in the developing nations throughout the world as is available.

There are two observations in this report that seem particularly relevant to the Ministry and its plans for the future:

1. "The newer types of management training institutes in LDC's have departed from the classroom-teaching approach to training. While they do engage in classroom training, increasing attention is devoted to research and consultancy which feed back into the training. The development of indigenous training materials through field research is emphasised by most of these newer institutions and an attempt is made to bring into the classroom consultancy insights and findings from the field."

"... Among the management institutes, sectorial institutions and consultants involved in project related training on behalf of donor agencies, the tendency to be experiential is more pronounced as they have a stronger tradition of combining training with field research and consultancy activities." (Page 51)

2. "A new trend which has yet to make a dent on the curricula and concepts of training in the established institutions is the action learning approach that has surfaced in the training of personnel engaged in rural and social development... . The concept and methodology of this approach differs significantly from those of most conventional training programs... . Training, under this mode, is not viewed as an isolated and discrete activity, but as one which occurs in the process of action in the field, a process in which all actors apply their knowledge and generate answers together It does not presume a 'trainer' who imparts knowledge or skills to the 'trainees'." (Page 75.)

IMPLICATIONS FOR THE MINISTRY

Other management development activities with Egyptian executives and managers suggests two broad considerations for future development strategies:

- a. Egyptian executives and managers are open, supportive, cooperative, and place a great deal of emphasis on their relationships with others. These are strengths that can contribute greatly to organizational performance. They should be given careful account in developing an organizational strategy that fits the Egyptian reality. It is not likely that improved performance will come through heavy emphasis on tasks involving such techniques as management by objectives. Instead, training ought to lead to greater skills in working in groups, in sharing the leadership responsibility, and in greater decentralization and delegation.

- b. A parallel finding is that they conceive of their organizations as extremely rigid and not generally disposed to change. There is nothing unique about this finding to Egypt. The strong judgements in the direction of rigidity indicate there is much to do in creating an environment within which change is welcomed and encouraged. Put another way, it is insufficient to assume that effective organization performance can be achieved solely by working individual actors in settings removed from the job. There must be a correlate effort to develop the organization norms and operating procedures that will be compatible with proactive executive leadership.

It is suggested that the Ministry should conceive its role as more than just offering training in a residential setting. It should seek to make a contribution to an improved organization through:

1. Engaging in research and consultancy; and,
2. Viewing its mission as including the training of managers who will also have the skills and motivations to function as in-house consultants. This means an expansion of the mission to preparing managers to play a broader and more helpful role in achieving organizational improvement as well as technical competency.

The improvement of the rational skills of a manager cannot take place apart from the environment in which intuitive skills are developed. This approach through its experiential learning orientation seeks to integrate these two types of skills into an organized management development program. Leadership in management can be developed. The approach utilized in this recommendation is designed around this basic premise.

CONCLUSIONS

The management development strategy outlined here offers a sound concept of training that can be adapted to the environment in Egypt. This philosophy builds on a training concept which has been widely tested and evaluated. The major principles of this concept are:

- * Motivation and skills lead to action. Skills are acquired through practice.
- * Learning is a complex function of the motivation and capacity of the trainee, the norms of the training group, the training methods and behavior of the trainers, and the general climate of the agency or institution.
- * Improvement of service delivery is a complex function of individual learning, the norms of the working group and the general climate of the organization and the community. Individual learning, unused, leads to frustration. Training must impart skills and concepts which can be introduced effectively into the individual's actual work life.
- * Training activities should be tailored both to the objectives of the Ministry and to the needs of the individual trainees.
- * The provision of advisory services is an on-going, non-formal, training opportunity which should encourage learning and transfer of skills.
- * The "training-of-trainers" approach serves the need to build up internal training capabilities and to ensure that sufficient staff are available for program replication.
- * Training must incorporate specific job-related objectives and certain methods for determining the degree to which those objectives are met.
- * Training must impart the desired technical skills.
- * Training must be developed and presented in a manner consistent with the realities of the environment in which the trainees will operate.

Productivity is one of the most powerful ideas in the world. The idea of productivity increases is one of the most compelling promises that can be made for a better quality of life in the future. It holds the promise of prosperity and greater well-being for Egypt.

Food security in Egypt depends to a large extent upon advances in productivity in on-farm water management and agricultural production. Without increases in productivity, real standards of living cannot increase, poverty cannot be reduced and environmental quality cannot be improved. That is why productivity is important, and that is what this training effort is all about.

Productivity is a measure of the relationship between what people produce and the tools, equipment, raw materials and energy they use to produce it. Productivity indicates how efficiently a resource is used. In most basic terms it is output divided by input. On the national level, productivity refers to the effective use of all of the country's resources, including, but not limited to, human resources. When most people think of productivity they think of speed-up, pressures to work harder and more demands from the boss. But these are misconceptions. The people side of productivity really involves good planning, modern equipment and technology, well-trained technical staff and good management.

Scientific research indicates that good management can account for sixty percent of increased productivity. Labor and capital account for only forty percent. The rapid advances in technology and the resultant complex organizations will require managers who are able to apply their skills to these advancements. The Ministry is a key player in the development of this unfolding drama.

RECOMMENDATIONS

The management training needs of the Ministry can only be met by a combination of focused educational and training activities. Each level in the organization has special needs for management training. Using the action research experiential approach described in this section the following target groups are identified:

- Executive Level Managers
- Middle Level Managers
- Supervisory Staff

These three levels of management are represented both vertically and horizontally, i.e. within the central Ministry (its functional units and authorities) as well as the Governorates and Public Sector companies. This integration across geographic boundaries is essential for proper program execution within the Ministry.

The programs for each of the target groups should emphasise a combination of skills building and learning-by-doing. Illustrative topics to be included for each level follow.

Executive Level Managers

- Planning
- Leadership
- Decision Making
- Motivation
- Communication
- Delegation

Middle Level Managers

Basic Course in Management

- Planning
- Team Building
- Time Management
- Communication
- Feedback
- Listening Skills
- Motivation

Advanced Course in Management

- Interpersonal Skills
- Group Dynamics
- Leadership
- Manager as a Change Agent
- Organization Development

Supervisory Level

- Motivating the Average Worker
- Assigning Tasks and Setting Goals
- Improving Work Habits
- Teaching Job Skills
- Becoming a Trainer

Special topic courses as well as seminars, workshops and conferences should also be prepared to meet specific training needs.

The role of the Manpower Development and Training Unit (MDTU) is that of broker and project supervision. Most of the management topics suggested above can be delivered by other organizations within Egypt. The MDTU would be responsible for identifying training needs and arranging for the appropriate courses.

Additional staff need to be added to the MDTU with specific skills in management development. These staff would become part of the action research team in developing appropriate training for Ministry staff. Their research and consulting skills would be a key element of success in the overall management development program of the Ministry. Course design, monitoring during delivery and trainee follow-up would also be included under their purview.

SOURCES OF MANAGEMENT TRAINING WITHIN EGYPT

1. Universities:
 - Alexandria University
 - Assiut University
 - Cairo University
 - Helwan University
2. Universities:
 - Benha University
 - Canal University
 - Fayoum University
 - Helwan University
 - Ismailia University
 - Mansoura University
 - Suez Canal University
 - Suez University
3. Training Centers:
 - Academy for Public Administration
 - Institute of National Planning
 - Institute of Productivity and Efficiency (Ministry of Industry)
 - National Studies Center
 - Institute for Manpower Planning (Ministry of Labor)
 - Institute of Banking Studies (Central Bank of Egypt)
4. Regional and Local Training Centers:
 - Center for Agricultural Management Development
 - Training and Information Center
 - Ministry of Agriculture Training Centers
 - Industrial Training Centers
 - Ministry of Social Affairs Training Centers
 - City Planning Training Centers
 - Academy Local Centers
 - National Agency for Administrative Development
 - Local Government Center
5. Training Resources:
 - Contractors Training Facility
 - Illia Productivity Center
 - Organization of Management
 - American University in Cairo
 - University Affiliated Training Departments

LOCATIONS FOR TRAINING WITHIN THE MINISTRY OF IRRIGATION

One of the specific items of the Scope of Work was for the Consultant to develop recommendations as to the "... mix of in-country and overseas training activities appropriate to fully train MOI employees to carry out their assigned tasks and functions." After discussions with the Team Leader and team members it was concluded that insufficient data was available on which to make substantive recommendations. The short time frame simply did not allow for this critical judgement to be made.

It is evident from the interviews with MOI officials that overseas training, particularly observation tours, are vital to the training process. Exposure to new technology and on-site review of it in practice are frequently cited as principle reasons for this type of training. They did not agree, however, on the timing or selection criteria. Whether a trip to the United States should be an automatic sequence to a particular course seems to be the main issue. Currently all graduates of the On Farm Water Management Course are sent to the USA. Some managers felt the trainees should spend time in their jobs after the training and then be selected, based on improved performance or other criteria, for the trip.

This is an area that obviously needs feedback from the actual participants, additional MOI staff and instructors. Since the team did not have the opportunity to interview anyone who had completed the course, judgements cannot be made as to its effectiveness.

Another alternative gleaned from the interviews proposed a two-tiered approach to the On Farm Water Management Course. The course would be offered in three segments. The current course would be considered a basic introduction. It would be followed by a second more advanced one, and finally followed by an observation trip to the USA. This scheme needs further evaluation.

In spite of these limitations, the team has made some recommendations regarding location of training courses. In most cases this is a judgement based on the limited data available.

APPENDICES

List of Staff (Department and Rank)	Authorized Positions	Percentage of Total Positions	Number Currently Employed		Current Vacancies	
			Number	Percent	Number	Percent
TOTAL MINISTRY						
Professional						
Senior Under Secretary	30	.034%	25	.032%	5	.047%
Under Secretary	73	.083%	69	.089%	4	.037%
Director General	186	.212%	136	.176%	50	.465%
Director	549	.625%	378	.498%	171	1.591%
Assistant Director	1269	1.444%	869	1.126%	400	3.721%
District Engineer	3017	3.432%	1591	2.062%	1426	13.264%
Total	5124	5.829%	3068	3.977%	2056	19.124%
Finance and Administration						
Senior Under Secretary	3	.003%	1	.001%	2	.019%
Under Secretary	17	.019%	13	.017%	4	.037%
Director General	49	.056%	31	.040%	18	.167%
Director	263	.299%	203	.263%	60	.558%
Assistant Director	840	.956%	610	.791%	230	2.139%
Professional	1603	1.824%	1261	1.634%	342	3.181%
Total	2775	3.157%	2119	2.747%	656	6.102%
Non-Professional						
Director General	5	.006%	2	.003%	3	.028%
First Degree	328	.373%	269	.349%	59	.549%
Second Degree	7736	9.670%	7282	9.439%	454	4.223%
Third Degree	21806	24.807%	20332	26.354%	1474	13.710%
Fourth Degree	24043	27.352%	21483	27.846%	2560	23.812%
Fifth Degree	14023	15.953%	12336	15.990%	1687	15.692%
Sixth Degree	12061	13.721%	10259	13.297%	1802	16.761%
Total	82282	91.814%	71963	93.277%	8039	74.774%
TOTAL MINISTRY	87901	100.000%	77150	100.000%	10751	100.000%
Total by Rank						
Senior Under Secretary	33	.038%	26	.034%	7	.065%
Under Secretary	90	.102%	82	.106%	8	.074%
Director General	240	.273%	169	.219%	71	.660%
Director	812	.924%	581	.753%	231	2.149%
Assistant Director	2109	2.399%	1479	1.917%	630	5.860%
District Engineer	3017	3.432%	1591	2.062%	1426	13.264%
F & A Professional	1603	1.824%	1261	1.634%	342	3.181%
First Degree	328	.373%	269	.349%	59	.549%
Second Degree	7736	8.801%	7282	9.439%	454	4.223%
Third Degree	21806	24.807%	20332	26.354%	1474	13.710%
Fourth Degree	24043	27.352%	21483	27.846%	2560	23.812%
Fifth Degree	14023	15.953%	12336	15.990%	1687	15.692%
Sixth Degree	12061	13.721%	10259	13.297%	1802	16.761%
TOTAL MINISTRY	87901	100.000%	77150	87.769%	10751	12.231%

Ministry of Irrigation. Position Profile

14

MINISTRY OF IRRIGATION
 FILLED, VACANT, AND TOTAL POSITIONS
 PROFESSIONAL STAFF
 October 1965

DEPARTMENT/AUTHORITY/COMPANY	Senior Under Secretary			Under Secretary			Director General			Director			Assistant Director			District Engineer			TOTAL POSITIONS		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	2	2	0	17	17	0	8	5	3	51	39	12	15	5	12	11	11	0	184	77	27
Irrigation Department	6	6	0	4	4	0	43	43	0	158	146	12	416	286	130	857	398	467	1484	875	689
Mechanical Department	1	1	0	3	3	0	17	16	1	67	28	39	198	165	25	889	498	318	1826	783	383
Water Research Center	1	1	0	10	10	0	38	9	21	46	28	18	125	75	50	315	217	99	527	348	157
Survey Authority	1	1	0	2	2	0	18	7	3	34	32	2	66	38	28	114	48	66	227	128	99
Drainage Authority	2	2	0	4	4	0	21	28	1	39	38	1	115	115	0	463	229	234	644	489	236
High Dam Authority	1	1	0	2	2	0	5	1	4	6	5	1	24	14	18	58	11	39	88	34	54
Coastal Protection Authority	1	1	0	3	3	0	8	7	1	12	6	6	15	7	8	18	5	5	49	29	28
Public Sector Authority	2	2	0	2	2	0	4	1	3	7	8	7	11	1	18	15	4	11	41	18	31
Upper Egypt Dredging Co.	1	1	0	3	2	1	4	2	2	16	4	12	27	5	22	61	18	51	112	24	88
Egyptian Dredging Company	3	1	2	4	2	2	8	5	3	13	3	18	27	23	4	62	34	28	117	68	49
General Irrigation Company for Re-modelling	5	2	3	5	5	0	6	3	3	57	13	44	138	38	92	148	41	187	351	182	249
High Dam Company for Civil Works	2	2	0	5	6	0	12	12	0	18	18	0	48	48	0	48	48	0	126	126	8
Egyptian Co. for Irrigation, Drainage and Civil Const.	1	1	0	4	3	1	3	3	0	6	4	2	21	15	6	28	28	0	55	46	9
Egyptian General Irrigation Workshop	1	1	0	4	4	0	7	2	5	19	14	5	47	44	3	35	33	2	113	98	15
TOTAL POSITIONS	30	25	5	73	69	4	186	136	58	549	378	171	1269	869	408	3817	1591	1426	5124	3268	2856
Percentage of Total Positions	100.00%	83.33%	16.67%	100.00%	94.52%	5.48%	100.00%	73.12%	26.88%	100.00%	68.95%	31.15%	100.00%	68.48%	31.52%	100.00%	52.73%	47.27%	100.00%	59.85%	48.12%

Ministry of Irrigation. Professional Positions.

MINISTRY OF IRRIGATION
 FILLED, VACANT, AND TOTAL POSITIONS
 ADMINISTRATIVE AND FINANCIAL STAFF
 October 1985

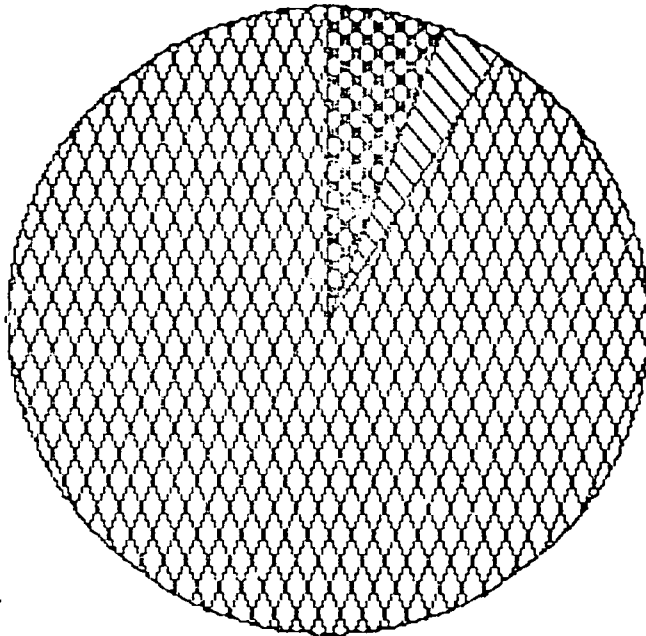
DEPARTMENT/AUTHORITY/COMPANY	Senior Under Secretary			Under Secretary			Director General			Director			Assistant Director			Professional			TOTAL POSITIONS		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	0	0	0	1	1	0	0	4	4	32	18	14	39	7	32	83	31	52	163	61	102
Irrigation Department	0	0	0	1	1	0	2	1	1	72	72	0	155	100	0	526	502	4	769	756	13
Mechanical Department	0	0	0	1	1	0	3	3	0	30	28	10	42	12	30	81	52	29	157	88	69
Water Research Center	0	0	0	6	0	0	1	1	0	4	2	2	43	38	5	110	64	46	159	105	53
Survey Authority	0	0	0	1	1	0	5	4	1	10	15	3	251	203	48	215	179	36	498	482	88
Drainage Authority	0	0	0	1	1	0	3	3	0	10	9	1	40	38	2	214	191	23	268	242	26
High Dam Authority	0	0	0	0	0	0	0	0	0	9	7	2	27	19	0	34	23	11	70	49	21
Coastal Protection Authority	0	0	0	1	1	0	3	0	3	5	1	4	9	2	7	16	13	3	34	17	17
Public Sector Authority	1	1	0	1	1	0	4	2	2	7	5	2	10	1	9	15	7	0	38	17	21
Upper Egypt Excavators Co.	0	0	0	1	0	1	1	1	0	3	1	2	18	1	17	47	10	37	70	13	57
Egyptian Excavator Company	2	0	2	4	2	2	5	3	2	7	6	1	12	0	4	48	21	19	70	48	30
General Irrigation Company for Remodelling	0	0	0	2	1	1	5	3	2	20	14	14	79	21	58	131	65	65	245	185	140
High Dam Company for Civil Works	0	0	0	2	2	0	3	3	0	19	18	0	31	31	0	61	61	0	115	115	0
Egyptian Co. for Irrigation, Drainage and Civil Const.	0	0	0	1	1	0	2	2	0	4	4	0	10	10	0	4	4	0	21	21	0
Egyptian General Irrigation Workshop	0	0	0	0	0	0	4	1	3	16	11	5	41	39	2	46	37	9	107	88	19
TOTAL POSITIONS	3	1	2	17	13	4	49	31	18	263	203	60	848	610	230	1603	1261	342	2775	2119	656
Percentage of Total Positions	100.00%	33.33%	66.67%	100.00%	76.47%	23.53%	100.00%	63.27%	36.73%	100.00%	77.19%	22.81%	100.00%	72.62%	27.38%	100.00%	78.67%	21.33%	100.00%	76.36%	23.64%




Ministry of Irrigation. Administrative and Financial Positions.

DEPARTMENT/AUTHORITY/COMPANY	Director General			First Degree			Second Degree			Third Degree			Fourth Degree			Fifth Degree			Sixth Degree		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	1	1	0	10	8	2	64	49	15	65	58	15	133	87	46	59	17	22	25	2	23
Irrigation Department	2	0	2	159	155	4	2231	2224	7	7868	7839	29	11215	11074	121	4858	4911	39	4627	4545	58
Mechanical Department	0	0	0	46	34	12	1372	1297	75	3922	3491	429	3663	2186	957	3729	3226	583	2883	1584	419
Water Research Center	0	0	0	2	2	0	149	129	20	532	484	48	683	446	157	232	148	92	217	185	32
Survey Authority	0	0	0	33	16	17	2245	2123	122	4678	4496	182	4641	4352	289	2292	2816	266	463	367	96
Drainage Authority	0	0	0	8	7	1	252	243	9	989	869	48	1546	1411	135	642	479	163	1859	958	181
High Dam Authority	0	0	0	20	20	0	387	388	7	1318	1248	78	436	487	29	147	145	2	363	343	28
Coastal Protection Authority	0	0	0	3	2	1	14	18	4	26	11	15	47	35	12	34	24	18	5	5	0
Public Sector Authority	0	0	0	0	0	0	3	3	0	11	5	6	15	4	11	9	2	7	14	1	13
Upper Egypt Excavators Co.	0	0	0	2	2	0	35	27	8	277	114	163	245	182	143	298	183	187	496	235	291
Egyptian Excavator Company	2	1	1	12	6	6	181	156	25	688	491	189	688	489	191	744	592	152	1313	892	421
General Irrigation Company for Resodelling	0	0	0	9	1	8	288	289	79	737	437	388	739	385	354	725	519	286	1877	839	238
High Dam Company for Civil Works	0	0	0	6	6	0	62	62	0	335	335	0	282	281	1	131	131	0	93	93	0
Egyptian Co. for Irrigation, Drainage and Civil Const.	0	0	0	0	0	0	2	2	0	85	85	0	164	88	76	68	39	21	38	18	28
Egyptian General Irrigation Workshop	0	0	0	18	18	0	531	448	83	385	385	0	314	276	38	189	92	17	388	238	78
TOTAL POSITIONS	5	2	3	328	269	59	7736	7282	454	21986	20332	1474	24843	21483	2568	14823	12336	1687	12861	10259	1882
Percentage of Total Positions	100.00%	48.88%	68.88%	100.00%	82.01%	17.99%	100.00%	94.13%	5.87%	100.00%	93.24%	6.76%	100.00%	89.35%	10.65%	100.00%	87.97%	12.03%	100.00%	85.36%	14.64%
TOTAL POSITIONS																					
	Auth.	Filled	Vacant				Auth.	Filled	Vacant				Auth.	Filled	Vacant						
Headquarters	337	214	123	Public Sector Authority	52	15	37	Egyptian Co. for Irrigation	341	224	117										
Irrigation Department	38928	38468	248	Upper Egypt Excavators Co.	1345	553	792	Drainage and Civil Const.													
Mechanical Department	14113	11738	2375	Egyptian Excavator Company	3612	2627	985	Egyptian General Irrigation	1657	1441	216										
Water Research Center	1735	1386	349	General Irrigation Company	3575	2398	1185	Workshop													
Survey Authority	14342	13378	972	for Resodelling				TOTAL POSITIONS	20282	71963	8839										
Drainage Authority	4416	3967	449	High Dam Company for	829	828	1														
High Dam Authority	2591	2455	136	Civil Works				Percentage of Total	100.00%	89.95%	10.05%										
Coastal Protection Authority	129	87	42																		

Ministry of Irrigation. Non-Professional Positions.

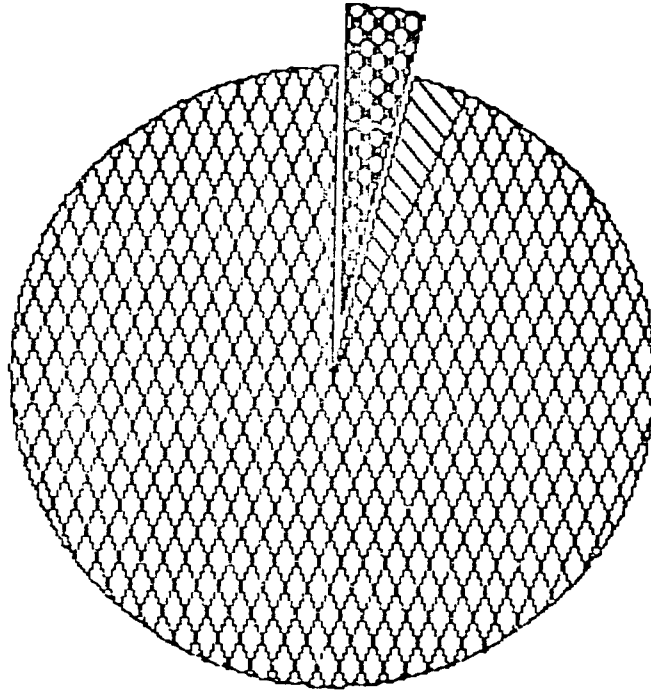
MOI AUTHORIZED POSITIONS






 - PROFESSIONAL	5124.00 (5.8%)
 - ADMINISTRATIVE	2775.00 (3.2%)
 - NON-PROFESSIONAL	80002.00 (91.0%)

TOTAL: 87901.00 (100%)

MOI FILLED POSITIONS

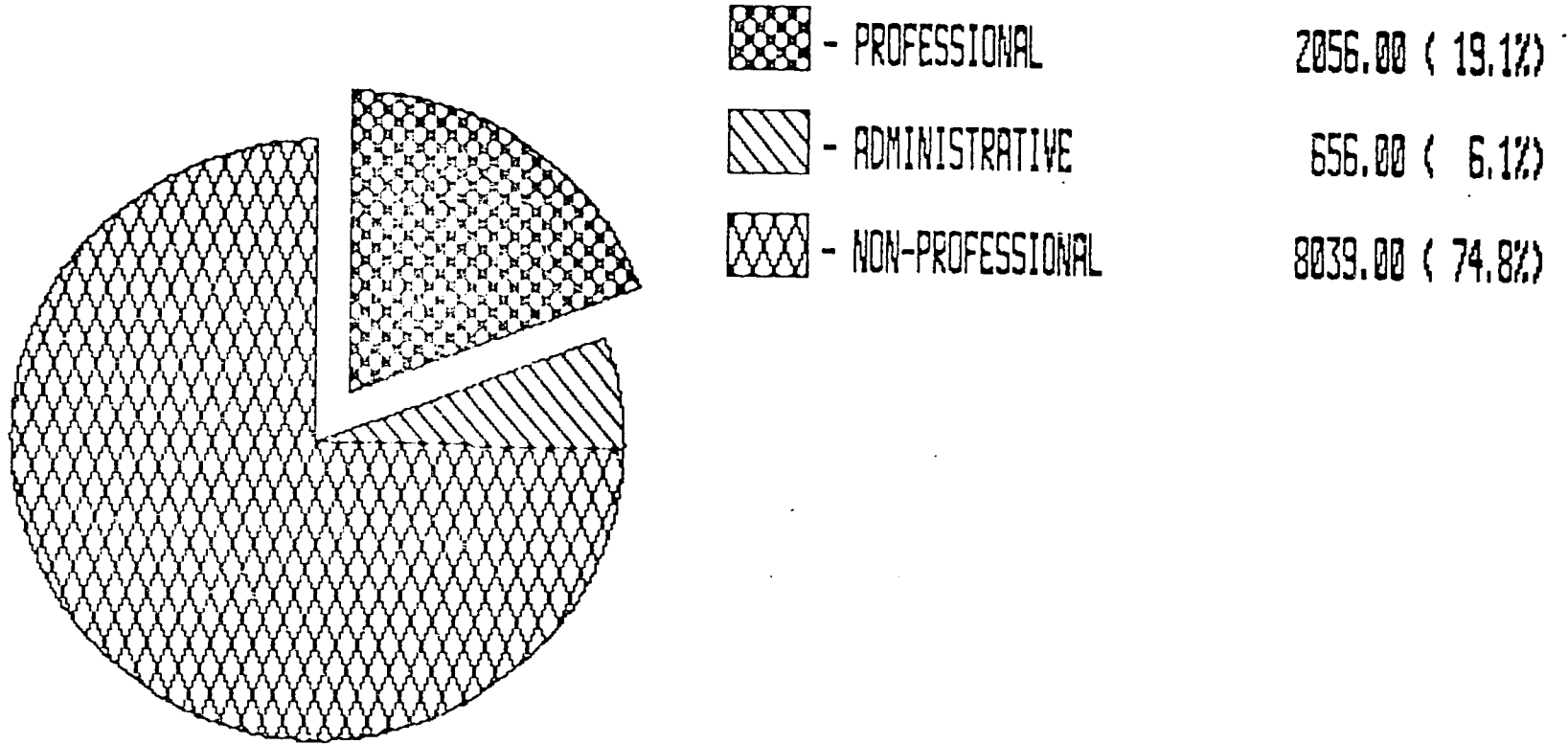


 - PROFESSIONAL	3068.00 (4.0%)
 - ADMINISTRATIVE	2119.00 (2.7%)
 - NON-PROFESSIONAL	71963.00 (93.3%)

TOTAL: 77150.00 (100%)

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MOI VACANT POSITIONS



TOTAL: 10751.00 (100%)

The purpose of this questionnaire is to determine the management and training needs of managers in the Ministry of Irrigation.

1. How many years have you been a manager or supervisor?
2. How many employees are you responsible for?
3. What are some of the major organizational objectives you expect you and your employees to accomplish this year?
4. Is there anything that might prevent you and your employees from accomplishing these objectives.
5. What has been the level of involvement of your employees in setting goals and objectives?
6. What are the strengths and weaknesses of your employees?
7. What are the strengths and weaknesses of your manager (supervisor)?
8. What problems have your employees brought to your attention?
9. What problems has your manager (supervisor) brought to your attention?
10. What has prevented you from delegating more responsibility to your employees?
11. What are your training needs? Why?
12. Have you ever attended a formal management training program within the last five years?

If yes, what?

What did this training help you to do?
13. Please number the following areas in priority for your training needs. 1 is the highest training need and 6 is the lowest training need.

planning -----

staffing -----

controlling -----

organization -----

leading -----

communicating -----

MANAGEMENT INDICATORS: STAFFING/PERSONNEL

INDIVIDUAL STAFF DATA QUESTIONNAIRE

(To be completed by each professional/managerial staff member)

1. NAME: Age _____
2. Position title: _____
3. Year when you joined this organization: _____
4. Years in your present position: _____
5. Education (Highest degree attained): _____
6. Experience
- a. Service in government? if yes, years of service: _____
 - b. Service in other sectors/
If yes, years of service: _____
 - c. Prior service in teaching/training? _____
If yes, years: _____
7. What do you consider to be your major discipline or field of expertise?

8. Do you hold membership in professional organizations?

Yes

No

- a. If yes, please give their names:

9. have you had an opportunity for personal/professional development experiences since joining this organization?

Yes

No

If yes, describe them briefly and indicate when they occurred.

10. What professional career development opportunities would you like to have in order to perform better in your present role or to prepare for greater responsibility in the future? (Be as specific as possible, e.g. training, research, writing, study tour.)

M-1

MANAGEMENT INDICATORS: STAFFING/PERSONNEL
DIVERSITY AND DEPTH OF STAFF

LISTING Disciplines/ Fields of Expertise Represented on Staff	NUMBER of Personnel in each Category	NUMBER Needed to Perform Mission

M-4

MANAGEMENT INDICATORS: BUDGET PROCESS

1. Describe your budgeting process.

2. Who has primary responsibility for developing your annual budget?

3. What roles do Ministry Department heads play in the process?

4. What are the approval procedures?

5. Are capital and operating expenses separated?

6. How are monies allocated to the Training and Manpower Project?
 - () Lump sum
 - () By specific category
 - () According to the amount of work to be accomplished
 - () Other (please explain)

7. Are there accounts where you are allowed to carry over unexpended funds from one fiscal year to another?

M-5

ds

MANAGEMENT INDICATORS:
FINANCIAL ANALYSIS BY PROGRAM

To the best of your ability, seek to identify actual income and expenditures as they relate directly to the following program/functional areas within the Training and Manpower Project.

<u>Program/Function</u>	<u>Income</u>	<u>% of Total</u>	<u>Expenditures</u>	<u>% of Total</u>
1. Training				
2. Research				
3. Consultancies				
4. Administration				

M-6

MANAGEMENT INDICATORS: EXPENDITURE CATEGORIES

Data recorded on this form should cover the last 12 month period or last annual reporting period, whichever is more convenient.

Please construct expenditures categories that will provide the most insight into your operating costs.

<u>Major Areas of Expenditures</u>	<u>Amount</u>	<u>% of Total</u>	<u>Trend - last 3 years</u>		
			<u>Up</u>	<u>Down</u>	<u>Level</u>
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
<u>Total Expenditures</u>		(100)	(No. check marks)		

What do you expect the trend of expenditures to be over the next three years?

- () Up
- () Down
- () No change

Why?

M-7

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MANAGEMENT INDICATORS: INCOME SOURCES

Data recorded on this form should cover the last 12 month period or last annual reporting period, whichever is more convenient.

Major sources of Income	Amount	% of Total	Trend last 3 years		
			Up	Down	Level
1. Parent agency base support	-----	-----	-----	-----	-----
2. Educational/ training fees	-----	-----	-----	-----	-----
3. Facility rental/ per diem charge	-----	-----	-----	-----	-----
4. Contracts/ other charges for research	-----	-----	-----	-----	-----
5. Contracts/other charges for consultancy	-----	-----	-----	-----	-----
6. Donor grants	-----	-----	-----	-----	-----
7. Other sources (specify if over 5% of total)	-----	-----	-----	-----	-----
Total Income	----- (From all sources)	----- (100%)	----- (No. check marks)		

8. What do you anticipate the trend of income to be over the next three years?

- () Up
- () Down
- () No change

9. Why?

M-8

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MANAGEMENT INDICATORS : EXPENDITURE AND INCOME
ANALYSIS BY DEPARTMENT

If the budget funds are allocated over several departments of the Training and Manpower Project please make the following analysis of income and expenditures, with percentage calculations. Please use last 12 months or last financial reporting period, whichever is more convenient.

Name of Department	Expenditures		% of Total		Income Generated		% of Total	
	Budgeted	Actual	B	A	Budgeted	Actual	B	A
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----

M-9

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MANAGEMENT INDICATORS: GENERATING REVENUE

In those cases where the Training and Manpower Project is able to charge costs directly to the recipient of the service (or is reimbursed by an outside source for such services), consider the following questions.

1. What is your average charge per participant training day?

(The calculation involves summing total reimbursable training income divided by the number of participant training days.)

2. What is highest rate the Training and Manpower Project has charged per participant for a day of training?

The highest? _____

The lowest? _____

3. Outline the reasons for the differences.

4. What is your average cost per participant training day?

5. In the cases where fees are charged for courses, do they cover total costs?

- () Yes
- () No
- () Partially

6. If costs are not, or only partially, covered by participant fees, please indicate the reasons for this policy.

7. Does the Training and Manpower Project have a schedule of fees for consultancy services? If so, what is it and how was it determined?

8. Does your schedule of consulting fees include an overhead charge?

- () Yes
- () No

MANAGEMENT INDICATORS: FINANCIAL POSSIBILITIES.

If there were total freedom to improve the financial status of the Training and Manpower Project, where do you see the possibilities for such improvement? (Be as specific as possible in constructing your response.)

1. How would you increase revenue?

a. In the short term

b. In the long term

2. How would you reduce expenditures?

a. In the short term

b. In the long term

M-11

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9. Office space for faculty and staff.

1 2 3 4 5 (Circle one)
Very Poor Very Good

10. Quality of library facilities (physical plant).

1 2 3 4 5 (Circle one)
Very Poor Very Good

11. Quality of library collection (books, periodicals, documents).

1 2 3 4 5 (Circle one)
Very Poor Very Good

12. Quality of management of library collection.

1 2 3 4 5 (Circle one)
Very Poor Very Good

13. Residential facilities.

a. Sleeping rooms

1 2 3 4 5 (Circle one)
Very Poor Very Good

b. Social areas

1 2 3 4 5 (Circle one)
Very Poor Very Good

c. Recreation facilities

1 2 3 4 5 (Circle one)
Very Poor Very Good

d. Dining facilities

1 2 3 4 5 (Circle one)
Very Poor Very Good

14. Overall quality of facility to match the status of the officials the Training and Manpower Project seeks to serve.

1 2 3 4 5 (Circle one)
Very Poor Very Good

M-12

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CLIMATE INDICATORS: ORGANIZATION ANALYSIS

1. The staff can plan and schedule individual work with confidence that things will go as anticipated.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

2. Staff members have the freedom to allocate and organize their individual time, within constraints imposed by organization schedules.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

3. Professionals in this organization work without a lot of supervision.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

4. Staff members feel they can influence the organization.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

5. Staff members are encouraged to exchange ideas and opinions.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

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6. The organization desires that there be broad participation in its activities.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

7. Disagreements are usually accepted as necessary and worked through by affected staff members.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

8. Staff members feel they have something to say about setting the directions of the organization.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

9. Staff members are encouraged to work together and support each other.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

10. There is encouragement to work as a team.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

11. There are opportunities to work with colleagues in joint projects.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

12. People in the organization are friendly and helpful.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

13. There is trust and confidence in the leadership.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

14. Management pays attention to what staff members are saying.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

15. The management is friendly and easy to approach.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

16. The leadership style in the organization is one of encouragement.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

17. When something fails, the organization views it as a learning experience for individuals.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

18. It is possible to try new things in this organization.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

19. New ideas are considered and tried whenever possible.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

20. The organization is willing to examine its own goals and practices.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

21. This is a growing, developing organization.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

22. The organization is open to new ideas.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

23. There is a minimum number of rules and controls in the organization.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

24. The formal organization chart does not reveal the many forms of relationships that exist here.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

25. This is an organization that practices the management ideals it preaches in its training.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

26. This organization tends to think in terms of the future.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

27. Staff members feel good about the organization and its performance.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

28. The organization has a bright future.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

29. This organization is a good one in which to work.

Organization	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5
Personal view	Highly Uncharacteristic			Highly Characteristic	
	1	2	3	4	5

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30. There is an effort to let people know how well they are doing.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

31. Staff members are provided the information they need to perform their tasks.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

32. People feel free to express ideas and make suggestions.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

33. People can learn new skills, new things in this organization.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

34. The organization has a real interest in the welfare and happiness of its staff.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

35. There is a recognition that staff members need to engage in continuing professional development.

Organization	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

Personal view	Highly Uncharacteristic				Highly Characteristic
	1	2	3	4	5

36. Staff members are encouraged to move towards roles and positions of greater responsibility and challenge.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

37. Most staff members are happy they work here.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

38. People who do a job well are recognized in the organization.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

39. The organization uses the skills and abilities of its staff members fully and effectively.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

40. There is a general feeling that the organization needs and deserves the best from its employees.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

41. People work hard in this organization.

Organization	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5
Personal view	Highly Uncharacteristic 1	2	3	Highly Characteristic 4	5

42. There is a concern for the quality of performance in the organization.

	Highly Uncharacteristic			Highly Characteristic	
Organization	1	2	3	4	5
Personal view	1	2	3	4	5

43. Staff members set their own standards and feel responsible for meeting them.

	Highly Uncharacteristic			Highly Characteristic	
Organization	1	2	3	4	5
Personal view	1	2	3	4	5

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YOUR OVERALL USE OF TIME

In this final set of questions you are asked to make as careful an analysis of your use of time as possible. Consider that 100% of your time goes to the activities below (there is an "other" category you may use when appropriate). Then make your best estimate of the time you think you spend on each of the categories. Enter these percentages in the Left column and then in the Right, allocate the percentages of time you feel would be desirable.

<u>% Actual</u>	<u>Time Category</u>	<u>% Desired</u>
-----	Formal training activity	-----
-----	Research activity	-----
-----	External Consultation	-----
-----	Personal development	-----
-----	Administration	-----
-----	Other (please specify)	-----

YOUR USE OF YOUR TIME IN TRAINING ACTIVITY

This second query on your use of time involves your training activity only. In this case consider only the total amount of time you spend on training and regard that as 100% of effort. Again, the request is that you take the total of time you spend on training and allocate the percentage to the categories below. In the Left column, enter what you consider to be the actual percentages; in the Right column, enter what you would desire as percentages.

<u>% Actual</u>	<u>Time Category</u>	<u>% Desired</u>
-----	Formal class presence	-----
-----	Preparation for class/planning	-----
-----	Reflecting on training experience	-----
-----	Course logistics/administration	-----
-----	Consultation with individuals	-----
-----	New course development/design	-----
-----	Field work/applications	-----
-----	Other (please specify)	-----

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ORGANIZATION ANALYSIS SUMMARY FORM

This form is designed as means for numerically summarizing data on the 43- item Organization Analysis instrument. Numbers of responses at each interval on the 5- point scale should be entered; and a mean for each question should be computed on the two dimensions, organizational actuality and personal view.

Question

AUTONOMY/FEELINGS OF RESPONSIBILITY

1. Individuals plan work with confidence
2. Freedom to organize time
3. Work without lots of supervision

Participation/Influency/Teamwork

4. Individuals can influence
5. Encourage exchange of ideas
6. Broad participation in activities
7. Say in organization's development
8. Encouragement to work together
9. Opportunities to work together
10. Work as a team

11. Work jointly with colleagues in projects

12. People are friendly and helpful

LEADERSHIP

13. Trust in leadership

14. Management pays attention to staff's suggestions

15. Management is friendly, easy to approach

16. Leadership style is one of support

CHANGE, LEARNING ORIENTATION

17. Learning from failure encouraged

18. Possible to try new things

19. New ideas considered

ORGANIZATION PERCEPTIONS

20. Willingness to examine goals

21. Growing developing organization

22. Open to new ideas

23. Minimum rules and controls

24. Organization chart not reflective of relationships

25. Practices management ideals

26. Thinks in future terms

27. Good feelings about performance

28. Has bright future

29. Good organization to work with

COMMUNICATIONS/FEEDBACK

30. Efforts to let people know how they are doing

31. Provides information to do jobs

32. Freedom to express ideas

STAFF RELATIONS

33. Can learn new skills

34. Organization interested in staff welfare

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35. Professional development recognized

36. Greater responsibility/challenge

37. Staff happy to work here

MOTIVATION/ACHIEVEMENT

38. Work gets recognized

39. Staff skills/abilities used fully and effectively

40. Feelings that organization needs and deserve best from employees

41. People work hard

42. There is concern for quality of performance

43. Staff sets own standards and feels responsible

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APPENDICES

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TRAINING CONCEPTS QUESTIONNAIRE

1. Training should be planned and designed to impact directly on the implementation of programs.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

2. Operating managers have the greatest need for training support from their organization.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

3. A key idea which affects the approach to training programs is: Knowledge plus skills plus attitudes (values) equals behavior.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

4. The basic goal in a training program is to have an effect on behavior.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

5. Training should result in action.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

6. Training content should be fundamentally different for persons at various levels of responsibility (such as supervisors, middle managers, executives) in an organization.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

7. Problem-solving activities can be conceived as training programs.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

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8. People want to grow and develop.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

9. Participants in a training program should share in deciding what is to be achieved and how.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

10. Participants in a training program should be regarded as learning resources for that group.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

11. Individuals are the best sources of insight as to their learning needs.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

12. Learning can be fun.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

13. It is desirable to create a "community" in which participants develop a commitment to help each other in the learning process.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

14. Formal assessments of participants in a training program hinder the learning process.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

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15. It is desirable to create a climate of openness and free inquiry among participants.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

16. All members of a training group (including the instructor) should feel powerful and influential.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

17. All members of a training group should feel responsible for the group learning.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

18. Approaches to training should be learner centered, not trainer centered.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

19. Most training should occur on the job.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

20. Training should help people identify their strengths, as well as their weaknesses.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

21. Participant feedback is a powerful contributor to learning and an important component of a training program.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

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TRAINING CONCEPTS SUMMARY FORM

This form is designed as a means for numerically summarizing data on the 26-item Training Attitudes Questionnaire. Numbers of responses at each interval on the 5-point scale should be entered; and a mean for each question should be computed on the two dimensions, personal philosophy and perceived organizational philosophy in action.

1. Training should be designed to impact directly on the program.
2. Operating managers have the greatest need for training support.
3. Knowledge plus skills plus attitudes equal behavior.
4. The basic goal of training programs is to have effect on behavior.
5. Training should result in action.
6. Training content should be different for different levels.
7. Problem solving activities can be seen as training programs.
8. People want to grow and develop.
9. Participants should share in setting training goals.
10. Participants should be regarded as learning resources.
11. Individuals have the best insight into their training needs.

22. Learning occurs when people feel there is a gap between what they know and what they need to know.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

23. It does little good to tell people what they should learn.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

24. One important indicator of effective training is a feeling of greater personal confidence.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

25. The focus of a residential training program must be on the individual, not the organization.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

26. Training programs should offer the participant an opportunity to experiment without penalties for failure.

	Strongly Disagree			Strongly Agree	
Personal	1	2	3	4	5
Organization	1	2	3	4	5

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12. Learning can be fun.
13. It is desirable to create an atmosphere of helping others learn.
14. Formal assessments of learning hinder the process.
15. It is desirable to create a climate of openness.
16. All members of the training group should feel powerful.
17. All members of the group should feel equally responsible.
18. Approaches to training should be learner-center.
19. Most training should occur on the job.
20. Training should help people identify their strengths.
21. Participants feed back is a powerful contributor to learning.
22. Learning occurs when the gap between what we know and need to know is filled.
23. It is not effective to tell people what they need to learn.
24. An indicator of effective training is more personal confidence.

25. Residential training should focus on the individual.

26. There should be opportunity for experimentation without penalty.

GRAND MEANS

(Computed by totalling all means for Personal responses and dividing by 26. The same process is followed for computing the Grand Mean for the Organization.)

PERSONAL ()

ORGANIZATION ()

QUESTIONNAIRE ITEMS WITH MEANS BELOW 3

Item No.

Mean

PERFORMANCE INDICATORS: INDIVIDUAL COURSE ANALYSIS
(To be Completed for Each Course Offered)

1. Title of course:

2. Client groups to be served:

-) Ministry of Irrigation
-) Ministry of Agriculture
-) Ministry of Land Reclamation
-) Other (please specify)

3. Length of course:

-) Less than one day
-) Number of days
-) Number of weeks
-) Number of Months

Please give a brief rationale for the amount of time allocated to this course:

4. Number of times offered in the last 12 months:

) Times

5. Location of course:

-) Training and Manpower Project premises
-) Other places

a. Please indicate the number of times courses were offered in different locations

Location	Number of times Offered
-----	-----
-----	-----
-----	-----
-----	-----

6. Year in which this course was first offered: _____

a. Have there been any significant changes in the course since that time, If so, please describe them.

7. Participants in the course during previous 12 months

a. Total number

b. If there were several offerings of the course, please indicate enrollments for each offering below.

1st Offering	-----
2nd Offering	-----
3rd Offering	-----
4th Offering	-----
5th Offering	-----
6th Offering	-----
7th Offering	-----

c. Average number of participants in each one.

d. Total enrollment analysis

	<u>Total</u>	<u>Percentage</u>
(1) Sector		
Ministry/Department	-----	-----
Authority	-----	-----
MOI Company	-----	-----
Private	-----	-----
(2) Nature of service		
Pre-service	-----	-----
In-service	-----	-----
(3) Level of government		
National	-----	-----
Directorate	-----	-----
Inspectorate	-----	-----
District	-----	-----
(4) Participant's base		
Cairo	-----	-----
Other	-----	-----
(5) Position level of participants		
Executive	-----	-----
Middle manager	-----	-----
Supervisors	-----	-----
Individual workers	-----	-----

8. Recognition for completion of course:

- () Certificate
- () Diploma
- () Other (please explain)

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9. Evaluation

a. What types of evaluation were used in the course?

- () In-course assessment of participants
- () In-course evaluations by participants of course
- () End-of-course assessment of participants
- () End-of-course assessment by participants of course
- () Follow-up evaluations of course at least six months after its completion

b. Evaluation forms/procedures

- () Standard - used throughout Training and Manpower Project
- () Specially designed for this course

c. Did the evaluation process yield data on the following participant reactions to the course?

- () Level of satisfaction with course in general
- () Opportunities to participate in learning activities
- () Satisfaction with level of learning perceived to have been reached
- () Feeling about length of course
- () Plans for further learning as a result of having taken this course

d. If there are specific data on these reactions, please report them below.

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e. If there were assessments of participant performance, what approaches were used?

-) Examinations
-) Appraisal of classroom performance
-) Assessment by fellow participants
-) Non-classroom observations
-) Other (please specify)

f. If there were evaluations of the course by participants, what approaches were used?

-) Questionnaires
-) Class/group discussion
-) Review of documents prepared by participants in order to determine the effectiveness of the learning program
-) Personal interviews with participants
-) Outside observers
-) Other (please specify)

g. If there has been a follow-up evaluation of the course what approaches have been used?

-) Questionnaires
-) Bringing participants back to the Training and Manpower Project for special evaluation session
-) On-site field visit

10. Results of Evaluation process in this course:

-) Led to major curriculum revision
-) Led to major revision of the course
-) Led to major expansion of the course content
-) Led to major change in time allocated to course
-) Led to major change in teaching methods
-) Led to change in instructional staff
-) No positive effect on course content or delivery
-) Little impact on course

11. Please provide any information (ideally from the evaluation process) on the relevance and the effectiveness of the course.

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PERFORMANCE INDICATORS: SUMMARY OF TRAINING COURSES

1. Number of Courses Offered

Length of Course	Planned	Delivered	Percent
Less than 2 days	-----	-----	-----
2-5 Days	-----	-----	-----
Over 5 days up to 2 weeks	-----	-----	-----
Over 2 weeks up to one month	-----	-----	-----
Over one month up to three months	-----	-----	-----
Over three months	-----	-----	-----

* The percentage of courses delivered in relation to the number planned.

2. Position levels of courses for which courses were targetted. (Please include only the courses which attempt to attract specific clientele.)

	No. of Courses
Senior Executives	-----
Middle managers	-----
Supervisors	-----
Individual workers	-----

3. Location of courses:

Number offered at Training and Manpower Project	-----
Number offered at other sites	-----

4. Curriculum Analysis

Number of new courses offered in last 12 months	-----
Number of new courses offered in last 36 months	-----
Number of total courses in curriculum for 3 to 6 years	-----
Number of total courses in curriculum for 6 years or more	-----

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5. Participation Analysis - Totals

	Planned	Actual
a. Total number of participants in all courses	-----	-----
b. Total number of participants in courses lasting:		
1. Less than 2 days	-----	-----
2. Two to five days	-----	-----
3. Over 5 days and up to two weeks	-----	-----
4. Over 2 weeks up to one month	-----	-----
5. Over one month up to 3 months	-----	-----
6. Over 3 months	-----	-----
7. Average no. of participants per course:	-----	-----
8. Total days of training provided:	-----	-----
(Total no. days of training times no. of participants)	-----	-----

6. Participant Analysis -Profiles

	No. of Participants	Percent of Total
a. Sector		
Ministry/Departments Authority	-----	-----
MOI Company	-----	-----
Private	-----	-----
b. Nature of service		
Pre-service	-----	-----
In-service	-----	-----
c. Level of government		
National	-----	-----
Directorate	-----	-----
Inspectorate	-----	-----
District	-----	-----
d. Participants' Base		
Cairo	-----	-----
Other	-----	-----
e. Position level of persons attending various programs		
Senior executives	-----	-----
Middle manager	-----	-----
Supervisor	-----	-----
Technicians	-----	-----
Administrative	-----	-----

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7. Types of Evaluation

No. of Courses
Used

- a. In-course assessments of participants -----
- b. In-course evaluation by participants
of course -----
- c. End-of-course assessments of
participants -----
- d. End-of-course evaluation by participants
of course -----
- e. Follow-up evaluation of course at least
six months after completion -----

8. Type of process used in courses:

No. using

- a. Standard process in TMP -----
- b. Special approach for class -----

9. Types of evaluation of participant performances used in courses:

No. Using

- a. Examination -----
- b. Appraisal of classroom performance -----
- c. Evaluation by fellow participants -----
- d. Non-classroom observations -----
- e. Others -----

10. Types of course evaluations by participants used in courses:

No. Using

- a. Questionnaires -----
- b. Class/group discussion -----
- c. Review of documents prepared by
participants in order to determine the
effectiveness of the learning program -----
- d. Personal interviews with participants -----
- e. Outside interviews with participants -----
- f. Others -----

11. Data on Evaluation by Participants

	Quantitative	Qualitative
a. Level of satisfaction	-----	-----
b. Sense of participation	-----	-----
c. Level of learning achieved	-----	-----
d. Length of course	-----	-----
e. Plans for further learning	-----	-----

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PERFORMANCE INDICATORS: INDIVIDUAL RESEARCH PROJECT ASSESSMENTS

1. Name of research project:
2. Principal researcher:
3. Others involved in research:
4. Overall purpose of research:
5. Is the research designed to:
 - () Support general internal organizational needs and objectives?
 - () Outside client interests and needs?
 - () Serve instructional purposes?

(Research may serve more than one purpose: you may find it appropriate to check more than one box.)

6. If you checked a box in Question 5, is it expected to result in any of the following?
 - () Case studies
 - () Training exercises
 - () Simulations
 - () Course documents/readings
 - () Other (Please specify)

7. Initiator of the research:
 - () The Training and Manpower Project
 - () The Ministry of Irrigation
 - () Another government agency
 - () A donor agency
 - () An individual staff or faculty member
 - () Other (Please specify)

B. Time factors

- a. Completed projects in the last 12 months

Date of completion:

Estimated time for completion:

Actual time used:

b. Projects in Process

Anticipated date of completion:

% Completed at this date:

Estimated total time for completion:

Actual time used to reach present stage:

9. Funding of research

-) Outside client money
-) The Training and Manpower Project
-) Donor organization
-) No funding/on your own

10. Primary location of the research effort

-) At the Training and Manpower Project
-) In the field (away from the Training and Manpower Project)

11. Primary research focus:

-) Policy
-) Organization/management
-) Evaluation of projects/programs
-) Other (please specify)

12. Primary methodological approaches

-) Library document or bibliographic scanning
-) Questionnaires
-) Interviews
-) Observation
-) Diagnostic action processes
-) Other

13. Primary method emphasis:

-) Quantitative
-) Qualitative

14. Research output:

	Completed	Planned
Books	-----	-----
Monographs	-----	-----
Articles in institute journals	-----	-----
Articles in other journals	-----	-----

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Agency reports	-----	-----
Newsletters or other regular publications	-----	-----
Training materials	-----	-----
Other (Please specify)	-----	-----

15. Evaluation of the Research

- () Completed
- () Planned
- () Not planned

16. If evaluation is completed or planned, by whom has it been/is it to be done?

- () Outside professional group
- () Peers, others in the Training and Manpower Project make a formal review
- () The agency using or initiating the research
- () Other (Please specify)

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PERFORMANCE INDICATORS: SUMMARY OF RESEARCH PROJECT ASSESSMENTS

1. Total number of research projects completed within past 12 months (or last calendar year):
2. Total number of research projects currently in process:
3. Total number of research projects designed to:
 - () Support the Training and Manpower Project needs and objectives
 - () Support outside client interests and needs
 - () Serve instructional purposes
 - () Case studies
 - () Training exercises
 - () Simulations
 - () Course documents/readings
 - () Other (Please specify)
4. Number of research projects initiated by:
 - () The Training and Manpower Project itself
 - () The Ministry of Irrigation
 - () Another government agency
 - () Individual faculty or staff member
 - () A donor agency
 - () Other (please specify)
5. Average length of time required to complete research projects, in days:
6. Number of research projects funded, by source:
 - () Outside client agencies
 - () The Training and Manpower Project
 - () Donor organizations
 - () No funding/ personal time
 - () Other
7. Primary location of research. Number of:
 - () At the Training and Manpower Project
 - () In the field
8. Research focus. Number on:
 - () Policy
 - () Organization/management
 - () Evaluation of projects/programs
 - () other

9. Methodological approaches. Number relying on:

- () Library/bibliographic scanning
- () Questionnaires
- () Interviews
- () Observations
- () Diagnostic action processes
- () Other

10. Number of research projects which used primarily.

- () Quantitative methods
- () Qualitative methods

11. Research outputs. Number of:

	Actual	Planned
() Books	-----	-----
() Monographs	-----	-----
() Articles in own institute journal	-----	-----
() Articles in other journals	-----	-----
() Sponsoring agency reports	-----	-----
() Newsletters or other regular publications	-----	-----
() Training materials	-----	-----
() Others (please specify)	-----	-----

12. Status of Evaluations

- () Number of projects evaluated
- () Number of projects for which evaluation is
planned
- () Number of projects for which no evaluation is
planned.

13. Types of Evaluators. Numbers of:

- () Outside professional groups
- () Peers, others in the Training and Manpower Project
making a formal review
- () Agency using or initiating the research
- () Agency funding the research
- () Other (Please specify)

14. In narrative form, please give brief summaries of evaluations that have been completed on research projects.

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PERFORMANCE INDICATORS: INDIVIDUAL CONSULTANCY REPORT
(To be completed for each consultancy assignment)

1. Description of consultancy:
2. Principal consultant:
3. Others involved in consultancy:
4. Status of project:
 - () Completed
 - () Still in processIf still in process, when will it be completed?
5. Overall purpose of consultancy:
6. Was the consultancy expected to:
 - () Assist in the development of the Training and Manpower Project
 - () Support outside client interests and needs?
 - () Support instructional purposes, such as the development of:
 - () a. Case studies
 - () b. Training exercises
 - () c. Course documents/readings
 - () d. Insights into training as problem solving
 - () e. Other (please specify)
7. Who initiated the consultancy?
 - () The Training and Manpower Project itself
 - () The Ministry of Irrigation
 - () Another government agency
 - () Individual faculty or staff member
 - () A donor organization
 - () Other (please specify)
8. Number of days devoted to the consultancy:
9. How was the consultancy funded?
 - () Outside client agency
 - () The Training and Manpower Project itself
 - () Donor agency
 - () No funding - personal effort
 - () Other

10. Where did the consultancy take place?

- In the client's organization
- At the Training and Manpower Project
- In other locations
- In several places

11. What was the focus of the consultancy?

- Analyze a policy issue or concern
- Provide expert/technical advice
- Perform a management/organization analysis
- Evaluate program or service activities
- Collect data for policy/management uses
- Engage in problem diagnosis and problem solving
- Offer individual advice and coaching
- Other (please specify)

12. What kind of product resulted from the consultancy?

- Written report by consultant
- Written report as a result of group problem solving
- Management memorandum
- Oral report
- Action plan
- Other (please specify)

13. What were the results/consequences of the consultancy?

- Recommendations for client consideration
- Management/organization decision
- Action plan developed by client organization for implementation
- Legislation
- Other

14. Was the consultancy evaluated?

- Yes
- No

15. If evaluated, was it done

- By the client organization?
- Through regular Training and Manpower Project processes?
- By the sponsoring organization?
- By a donor organization?
- Other (Please specify)

16. What were the lessons learned from the consultancy that will help the institution become more effective in the performance of its mission?

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PERFORMANCE INDICATORS: SUMMARY OF CONSULTANCY PROJECT REPORTS

1. Total number of consultancy projects completed within past 12 months (or last calendar year).
2. Total number of consultancy projects currently in process?
3. Total number of consultancy projects designed to:
 - () Assist in the development of the Training and Manpower Project
 - () Support outside client interests and needs
 - () Support instructional purposes
 - () a. Case studies
 - () b. Training exercises
 - () c. Course documents/readings
 - () d. Insights into training as problem-solving
 - () e. Other (please specify)
4. Number of consultancy projects initiated by:
 - () The Training and Manpower Project itself
 - () The Ministry of Irrigation
 - () Another government agency
 - () Individual faculty or staff member
 - () A donor organization
 - () Other (please specify)
5. Average length of time required to complete consultancy projects (stated in days)
6. Number of consultancy projects funded, by sources:
 - () Outside client agency
 - () The Training and Manpower Project itself
 - () Donor organization
 - () No funding-- personal effort
7. Primary location of consultancy, number of each:
 - () In the client's organization
 - () At the Training and Manpower Project itself
 - () In other locations

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8. Consultancy focus, number of each:

- () Policy issue or concern
- () Expert/technical advice
- () Management/organization analysis
- () Program or service activities
- () Data collection for policy/management uses
- () Problem diagnosis and problem solving
- () Individual advice and coaching
- () Other (please specify)

9. Kinds of products resulting from the consultancy:

- () Written report by consultant
- () Written report as a result of group problem solving
- () Management memorandum
- () Oral report
- () Action plan
- () Other (please specify)

10. Results/consequences of the consultancy:

- () Recommendations for client consideration
- () Management/organization decision
- () Action plan developed by client organization for implementation
- () Legislation
- () Other (please specify)

11. Number of consultancy project:

- () Evaluated
- () Not evaluated

12. Types of evaluations of consultancy projects, in numbers of each:

- () By the client organization
- () Through regular Training and Manpower Project processes
- () By the sponsoring organization
- () By a donor organization
- () Other (please specify)

13. In narrative form, please give a summary of the lessons learned in the Training and Manpower Project about the consultancy process.

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PERFORMANCE INDICATORS: PUBLICATIONS

<u>Types of Publications</u>	<u>Number Issued last 12 months</u>	<u>Date last issued</u>	<u>Charge made? Y or N</u>	<u>Cover costs? Y or N</u>
1. Institution (TMP) Newsletter	-----	-----	-----	-----
2. Institution (TMP) Journal	-----	-----	-----	-----
3. Occasional paper/ Monograph	-----	-----	-----	-----
4. Books	-----	-----	-----	-----
5. Institution (TMP) bulletin/list of course offerings	-----	-----	-----	-----
6. Annual reports	-----	-----	-----	-----
7. Materials to support courses	-----	-----	-----	-----
8. Case studies	-----	-----	-----	-----
9. Other (specify)	-----	-----	-----	-----

Additional comments regarding publications:

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ENVIRONMENTAL INDICATORS:
SURVEY OF THE TRAINING AND MANPOWER PROJECT CLIENT AGENCIES

This questionnaire is designed to assist the MOI/ATD Training Assessment Team to get feedback from those who have been involved with the training, research, publication and consultancy activities of the Training and Manpower Project. To the extent possible, it should be completed by the agency's chief officer, in consultation with those most acquainted with the Training and Manpower Project's services.

1. Please rank order the following services in the order of their importance to your organization. (1= most important, 2= next most important, and so on)

- () Consultancy services
- () Publications
- () Research
- () Training

2. What is your overall rating of the quality of these services?

Please rate those areas in which your organization has had sufficient experience to make a judgement. You are asked to circle a number on a 5 point scale in which "1" is at the negative end of the scale, i.e. poor, and "5" is at the positive end of the scale, i.e. excellent. Please circle "NA" in cases where your organization has not had sufficient experience with the service to render a judgement.

a. Consultancy Services

1	2	3	4	5	NA
Poor				Excellent (Circle One)	

b. Publications

1	2	3	4	5	NA
Poor				Excellent (Circle One)	

c. Research

1	2	3	4	5	NA
Poor				Excellent (Circle One)	

d. Training

1	2	3	4	5	NA
Poor				Excellent (Circle One)	

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Questions 3 through 11 are concerned primarily with the training services offered.

3. To what extent do you feel that the training your organization has received from the Training and Manpower Project has improved job performance?

1 2 3 4 5 (Circle one)
Little or none Very much

4. To what extent has this institution helped you to meet your most critical training need?

1 2 3 4 5 (Circle one)
Little or none Very much

5. What is your overall reaction to the length of the various training programs in which your organization has been involved?

- Too long
- Too short
- Just right

6. Where do you prefer that most training programs be held?

- At the Training and Manpower Project building
- Within your own organization's premises
- At various, more convenient locations
- Other (please specify)

7. Do you encounter any of the following difficulties in sending employees to the Training and Manpower Project?

	<u>Always</u>	<u>Sometimes</u>	<u>Never</u>
Financial?	-----	-----	-----
Lack of adequate information?	-----	-----	-----
Inability to release staff?	-----	-----	-----
Administrative?	-----	-----	-----

8. How do you generally regard the level of fees charged for the training?

- No fees are charged
- Too high for services rendered
- About right
- Too low for services rendered

9. Would you be willing to pay more for training which you feel would particularly benefit your organization?

1 2 3 4 5 (Circle one)
Not at all Very willing

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10. What impact do you think the training has had on your organization and its employees? (Circle appropriate numbers)

	No Impact			Great Impact	
a. Knowledge in subject	1	2	3	4	5
b. Skills in technical matters	1	2	3	4	5
c. Changes in attitude/behavior	1	2	3	4	5
d. Motivation to do better job	1	2	3	4	5
e. Interpersonal, intergroup skills	1	2	3	4	5
f. Leadership abilities	1	2	3	4	5
g. Personal (i.e. confidence)	1	2	3	4	5
h. Increasing awareness of contemporary issues and concerns	1	2	3	4	5
i. Ability to solve problems	1	2	3	4	5
j. Improved productivity	1	2	3	4	5

11. When you think of the training that is offered by the Training and Manpower Project, would you characterize it overall as:

- Academic/theoretical
- Practical/job-related
- A mix of the theoretical and practical

12. Have you used the Training and Manpower Project and its staff in a consultancy role?

- Yes
- No

Questions 13 through 16 are concerned with consultation services offered by the Training and Manpower Project. If you have not had any experiences with these services, you should omit this section.

13. What kinds of services and activities have been involved?

- General management
- Organizational
- Financial
- Personnel/human resources development
- Technical
- Evaluation of services/programs
- Use of new technology
- Other (please specify)

14. What was your overall level of satisfaction with the consultation services provided to your organization?

- 1 2 3 4 5 (Circle one)
 Very Very
 Unsatisfactory Satisfactory

15. Were you charged for the consulting services you have received?

- Always
- Sometimes
- Never

16. For what tasks do you feel you would be most likely to use the Training and Manpower Project's consulting services. (Please provide specific information and priorities)

17. Are you aware that the Training and Manpower Project undertakes research?

- Yes
- No

Questions 18 through 22 are concerned with research activities of the Training and Manpower Project. If you have not had any experiences with these services, you should omit this section.

18. Have you utilized the research output of the Training and Manpower Project?

- Yes
- No

19. Have you requested the Training and Manpower Project to do research for you or proposes research to be undertaken by the Training and Manpower Project?

- Yes
- No

20. Have you provided funding for any research by the Training and Manpower Project?

- Yes
- No

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1. Would you be willing to support research efforts financially?
(check appropriate box)

- () Where you consider that there is a direct organization interest.
- () Where you consider that the findings would be broadly useful in public policy/administration
- () You would not consider it appropriate for your organization to support research activity.

2. What are the problems areas in which you think it would be helpful for the institution to undertake research?

3. Are you aware of a program of publications at the Training and Empower Project?

- () Yes
- () No

4. If yes, do you feel they are useful to your organization?

1 2 3 4 5 (Circle one)
No use Very useful

5. If yes, do you find the publications attractive and well written?

1 2 3 4 5 (Circle one)
Very poor Excellent

6. Which of the following publications would be most useful to you and your organization? (Check appropriate boxes)

- () Regular newsletter on management/organization
- () Management/organization journal
- () Periodic reports of research activities
- () Calendar of training events
- () Training materials to use in your organization
- () Technical bulletins
- () Other (please specify)

27. What do you feel the Training and Manpower Project does particularly well and should continue doing to serve your organization?

28. What suggestions do you have for the improvement of the Training and Manpower Project?

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TRAINING NEEDS ASSESSMENT CHECKLIST

The following checklist is designed to help you identify the extent to which you are using all available means to insure that training services are meeting the real needs of the Ministry of Irrigation. A second column on the form asks you to check the possibilities you will want to consider.

<u>TRAINING ASSESSMENT APPROACHES</u>	<u>Check Those Currently in Use</u>	<u>Check Those You want to Consider</u>
1. Direct interaction with Ministry of Irrigation		
a. Individual interviews	()	()
b. Group interviews	()	()
c. Questionnaires	()	()
d. Performance surveys	()	()
e. Review of records	()	()
2. Analysis of personnel records	()	()
3. Legal/policy mandates	()	()
4. Introduction of new technology/ systems	()	()
5. Identification of operational problems	()	()
6. Tests and examinations	()	()
7. Impact of promotion/transfers	()	()
8. Grievances/complaints	()	()
9. Accident reports	()	()
10. New projects/programs	()	()
11. Creation of new positions	()	()
12. Changes in standards	()	()
13. Management requests	()	()
14. Training advisory committees	()	()
15. Long range planning	()	()
16. Other (please specify)	()	()

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Training Needs Assessment
Team Approach

An interdisciplinary training needs assessment team was established by the United States Department of Agriculture, Office of International Cooperation and Development, in September 1985. The team consisted of the following:

1. Paul H. Calverley, Deputy State Conservationist, U.S. Department of Agriculture, Soil Conservation Service, Davis, California.
2. Philip W. Harlan, Ph.D., International Training Specialist, U.S. Department of Agriculture, Office of International Cooperation and Development, Washington, D.C. (Team Leader).
3. Aldon D. Nielsen, Assistant Chief, Division of Foreign Activities, U.S. Department of the Interior, Bureau of Reclamation, Washington, D.C.

The team assembled in Washington, D.C. for a team planning meeting on October 9-11, 1985 prior to leaving for Egypt on October 12.

The team arrived in Cairo, Egypt, on October 13, 1985, and began work on its assignment the following day, October 14. The assignment was completed on November 9 and the team returned to the United States on November 10. The planning meeting in Washington, D.C., proved very effective in increasing the efficiency and productiveness of the team during the limited four weeks in Egypt.

The major activities of the team in approaching its assignment included: (1) Confirming the team's objectives and action plan; (2) Determining pertinent sources of information; (3) Reviewing pertinent literature; (4) Interviewing and collecting data from key people within the MOI, USAID, consultants in country, and others knowledgeable about the training needs and resources of the Ministry; (5) Analyzing and summarizing data collected; (6) Checking on completeness of data and filling in gaps as appropriate and possible; (7) Drawing conclusions and recommendations; and, (8) Preparing a draft report.

Seventeen reference documents were utilized. These are listed in Appendix G.

Thirty nine individuals were interviewed in 10 of the 12 organizational units of the Ministry. No interviews were conducted with the Ministry of Irrigation Coordinating Committee as an organization; however, several of the committee members were interviewed in their organizations. Also, no interviews were conducted with the "Minister's Office Affairs" staff. In addition 14 interviews were conducted with knowledgeable individuals outside of the Ministry, making a total of 53 interviews conducted. Appendix H provides a list of all individuals interviewed. A outline used to guide the interviews in provided in Appendix I.

At the time of the teams departure from Egypt on November 10, 1985, the report was in draft form. The report was edited and finalized by Eng. Abdel Hamed Fahim, Odis Kendrick and Eng. Edwin Stains with the assistance and input of members of the High Committee for Training.

FILLED, VACANT, AND TOTAL POSITIONS
PROFESSIONAL STAFF
October 1965

DEPARTMENT/AUTHORITY/COMPANY	Senior Under Secretary			Under Secretary			Director General			Director			Assistant Director			District Engineer			TOTAL POSITIONS		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	2	2	0	17	17	0	9	9	3	51	39	12	15	3	12	11	11	0	184	77	27
Irrigation Department	6	6	0	4	4	0	43	43	0	158	145	12	416	296	119	857	392	467	1484	875	509
Mechanical Department	1	1	0	3	3	0	17	16	1	67	29	39	198	165	25	828	498	319	1825	783	263
Water Research Center	1	1	0	10	10	0	38	9	21	46	29	18	125	75	50	315	217	98	527	348	157
Survey Authority	1	1	0	2	2	0	18	7	3	34	32	2	65	38	28	114	48	66	227	128	97
Drainage Authority	2	2	0	4	4	0	21	20	1	39	38	1	115	115	0	453	229	254	644	429	236
High Dam Authority	1	1	0	2	2	0	5	1	4	6	5	1	24	14	10	58	11	39	88	34	54
Coastal Protection Authority	1	1	0	3	3	0	8	7	1	12	6	6	15	7	8	18	5	5	49	29	28
Public Sector Authority	2	2	0	2	2	0	4	1	3	7	8	7	11	1	18	15	4	11	41	18	31
Under Egypt Dredging Co.	1	1	0	3	2	1	4	2	2	16	4	12	27	5	22	61	18	51	112	24	89
Egyptian Dredging Company	3	1	2	4	2	2	8	5	3	13	3	10	27	23	4	62	34	29	117	63	49
General Irrigation Company for Reconciling	5	2	3	5	3	0	6	3	3	57	13	44	128	38	92	148	41	187	351	182	249
High Dam Company for Civil Works	2	2	0	6	6	0	12	12	0	18	18	0	48	48	0	48	48	0	126	126	0
Egyptian Co. for Irrigation, Drainage and Civil Const.	1	1	0	4	3	1	3	3	0	6	4	2	21	15	6	28	28	0	55	46	9
Egyptian General Irrigation companies	1	1	0	4	4	0	7	2	5	19	14	5	47	44	3	35	33	2	115	98	15
TOTAL POSITIONS	38	25	5	73	69	4	195	136	58	549	378	171	1259	869	488	3817	1591	1424	5124	3258	2254
Percentage of Total Positions	100.00%	65.33%	16.67%	182.89%	94.52%	5.48%	182.89%	73.12%	26.85%	182.89%	68.95%	31.15%	182.89%	69.49%	31.52%	182.89%	52.73%	47.27%	182.89%	59.52%	42.12%

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11/02/1965

PLANNED, VACANT, AND TOTAL POSITIONS
ADMINISTRATIVE AND FINANCIAL STAFF
October 1965

DEPARTMENT/AUTHORITY/COMPANY	Senior Under Secretary			Under Secretary			Director General			Director			Assistant Director			Professional			TOTAL POSITIONS		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	8	8	0	1	1	0	2	4	4	72	15	14	29	7	22	33	31	52	163	61	182
Irrigation Department	0	0	0	1	1	0	2	1	1	72	72	8	159	198	9	526	522	4	769	756	13
Mechanical Department	0	0	0	1	1	0	3	3	0	38	38	12	42	12	38	81	52	29	157	99	69
Water Research Center	0	0	0	0	0	0	1	1	0	4	2	2	42	38	5	118	64	46	159	185	53
Survey Authority	0	0	0	1	1	0	5	4	1	18	15	3	251	283	49	215	179	36	458	482	88
Drainage Authority	0	0	0	1	1	0	3	3	0	18	9	1	42	38	2	214	191	23	269	242	26
High Dam Authority	0	0	0	0	0	0	0	0	0	9	7	2	27	19	2	34	23	11	73	49	21
Coastal Protection Authority	0	0	0	1	1	0	3	2	3	5	1	4	9	2	7	16	13	3	34	17	17
Public Sector Authority	1	1	0	1	1	0	4	2	2	7	5	2	18	1	9	15	7	8	39	17	21
Upper Egypt Excavators Co.	0	0	0	1	0	1	1	1	0	3	1	2	12	1	17	47	18	37	78	13	57
Egyptian Excavator Company	2	0	2	4	2	2	5	3	2	7	6	1	12	8	4	48	21	19	78	42	38
General Irrigation Company for Rescheduling	0	0	0	2	1	1	5	3	2	25	14	14	79	21	52	131	66	65	245	185	142
High Dam Company for Civil Works	0	0	0	2	2	0	3	3	0	18	12	2	31	31	2	61	61	0	115	115	0
Egyptian Co. for Irrigation, Drainage and Civil Const.	0	0	0	1	1	0	2	2	0	4	4	0	18	18	0	4	4	0	21	21	0
Egyptian General Irrigation Workshop	0	0	0	0	0	0	4	1	3	16	11	5	41	39	2	46	37	9	187	69	19
TOTAL POSITIONS	3	1	2	17	13	4	49	31	18	263	283	68	642	618	222	1682	1261	342	2775	2119	656
Percentage of Total Positions	100.00%	33.33%	66.67%	128.82%	76.47%	23.53%	182.82%	63.27%	36.73%	128.82%	77.15%	27.81%	128.82%	72.62%	27.35%	182.82%	78.67%	21.33%	182.82%	76.36%	23.64%

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DEPARTMENT/AUTHORITY/COMPANY	Director General			First Degree			Second Degree			Third Degree			Fourth Degree			Fifth Degree			Sixth Degree		
	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant	Auth.	Filled	Vacant
Headquarters	1	1	0	18	8	2	64	49	15	65	58	15	155	87	46	59	17	25	25	2	23
Irrigation Department	2	0	2	159	155	4	2031	2024	7	7649	7619	30	11210	11094	121	4550	4911	39	4630	4545	59
Mechanical Department	0	0	0	46	34	12	1372	1297	75	3522	3491	429	3263	2186	957	3729	3226	503	2023	1594	419
Water Research Center	0	0	0	2	2	0	149	129	20	532	464	49	623	446	157	232	148	92	217	155	32
Survey Authority	0	0	0	33	16	17	2345	2123	122	4678	4496	182	4641	4352	289	2292	2816	266	463	367	56
Drainage Authority	2	0	0	9	7	1	252	243	9	929	869	48	1546	1411	135	642	479	163	1059	959	101
High Dam Authority	0	0	0	20	20	0	287	282	7	1318	1248	70	476	467	29	147	145	2	363	343	20
Coastal Protection Authority	0	0	0	3	2	1	14	10	4	26	11	15	47	35	12	34	24	10	5	5	0
Public Sector Authority	0	0	0	0	0	0	3	3	0	11	5	6	15	4	11	9	2	7	14	1	13
Upper Egypt Excavators Co.	0	0	0	2	2	0	35	27	8	277	114	163	245	102	143	298	183	187	496	285	251
Egyptian Excavator Company	2	1	1	12	6	6	161	156	25	658	491	169	658	489	191	744	592	152	1313	892	421
General Irrigation Company for Resodelling	0	0	0	9	1	9	293	289	79	757	437	288	729	365	354	725	519	285	1077	639	219
High Dam Company for Civil works	0	0	0	6	6	0	62	62	0	325	325	0	282	281	1	131	131	0	93	93	0
Egyptian Co. for Irrigation, Drainage and Civil Const.	0	0	0	0	0	0	2	2	0	85	85	0	164	89	76	68	39	21	38	18	28
Egyptian General Irrigation Workshops	0	0	0	19	18	0	531	449	83	265	265	0	314	276	38	189	92	17	322	238	78
TOTAL POSITIONS	5	2	3	328	269	59	7736	7252	454	21085	20332	1474	24243	21493	2568	14823	12336	1657	12261	10259	1001

Percentage of Total Positions 100.00% 48.80% 68.22% 102.20% 82.81% 17.99% 102.82% 94.12% 5.37% 102.82% 92.24% 5.74% 102.82% 89.25% 10.65% 102.82% 87.97% 12.82% 102.22% 85.25% 14.5

TOTAL POSITIONS																					
			Auth.	Filled	Vacant				Auth.	Filled	Vacant				Auth.	Filled	Vacant				
Headquarters	377	214	125	Public Sector Authority	52	15	37	Egyptian Co. for Irrigation	241	224	117										
Irrigation Department	38528	38665	268	Upper Egypt Excavators Co.	1345	557	792	Drainage and Civil Const.													
Mechanical Department	14113	11716	2375	Egyptian Excavator Company	2612	2027	585	Egyptian General Irrigation	1657	1441	216										
Water Research Center	1735	1326	349	General Irrigation Company for Resodelling	2575	2348	128	Workshops													
Survey Authority	14142	12372	972	High Dam Company for Civil works	829	829	0	TOTAL POSITIONS	80282	71962	9029										
Drainage Authority	4416	3967	449																		
High Dam Authority	2591	2455	136																		
Coastal Protection Authority	129	87	42																		
									Percentage of Total			100.00%			89.65%			12.25%			

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UNIVERSITIES, INSTITUTES, AND TRAINING CENTERS
IN EGYPT

1. Principal Universities:

Cairo University
Ain Shams University
Alexandria University
Al Azhar University

2. Regional Universities:

Tanta University
Helwan University
Suez Canal University
Assuit University
Zagazig University
Menia University
Mansoura University
Menoufia University

3. National Training Institutes:

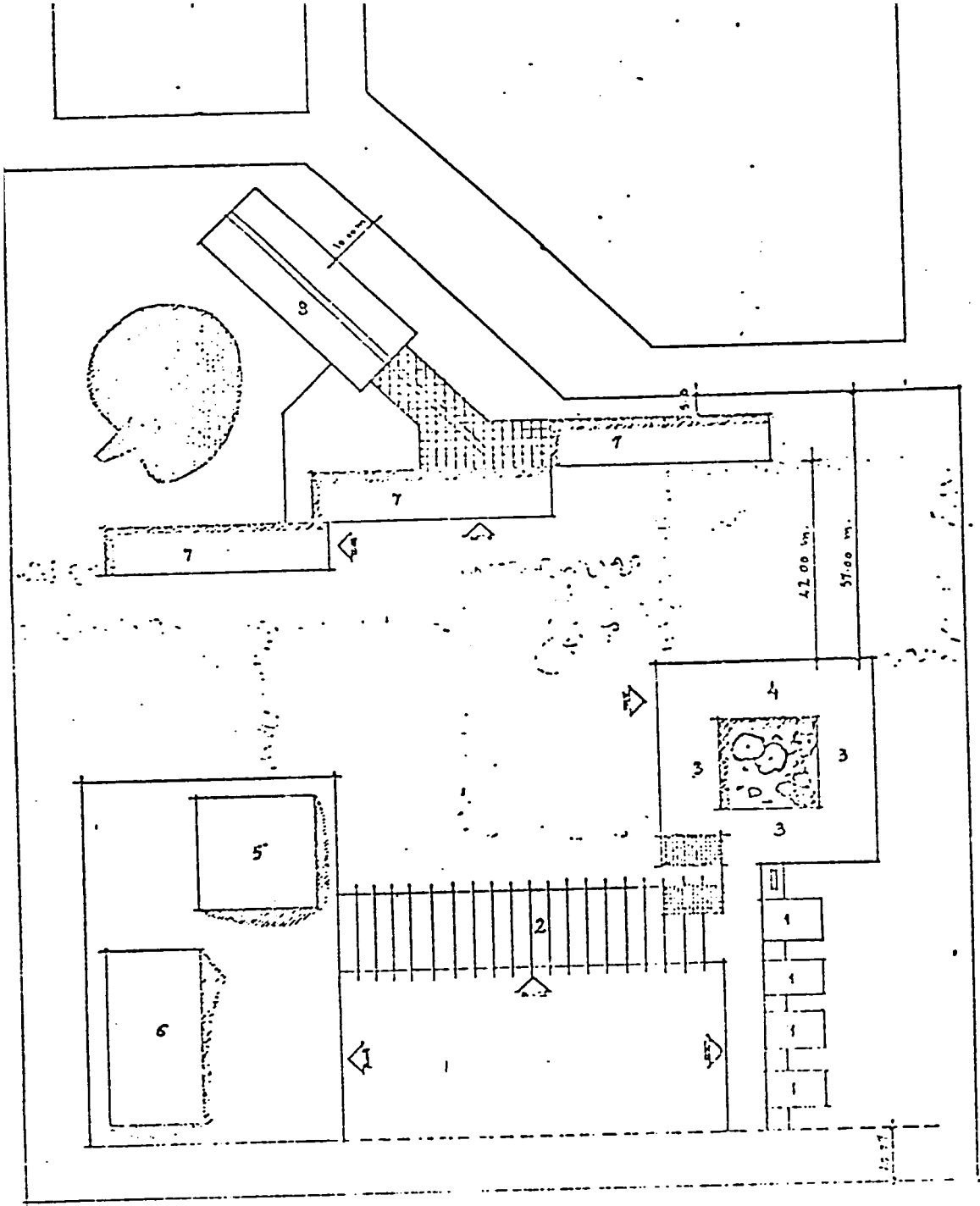
Sadat Academy for Public Administration
Institute of National Planning
Institute of Productivity and Efficiency
(Ministry of Industry)
National Studies Center
Institute for Manpower Planning
(Ministry of Labor)
Institute of Banking Studies
(Center Bank of Egypt)

4. Regional and Local Training Centers:

Center for Agricultural Management Development
Nile Training and Information Center
Ministry of Agriculture Training Centers
Industrial Training Institutes
Ministry of Social Affairs Training Centers
Family Planning Training Centers
Sadat Academy Local Centers
Central Agency for Administrative Development
Sakkara Center for Local Government

5. Other Training Resources:

Arab Contractors Training Facility
Ismailia Productivity Center
Arab Organization of Management
The American University in Cairo
University Affiliated Training Departments

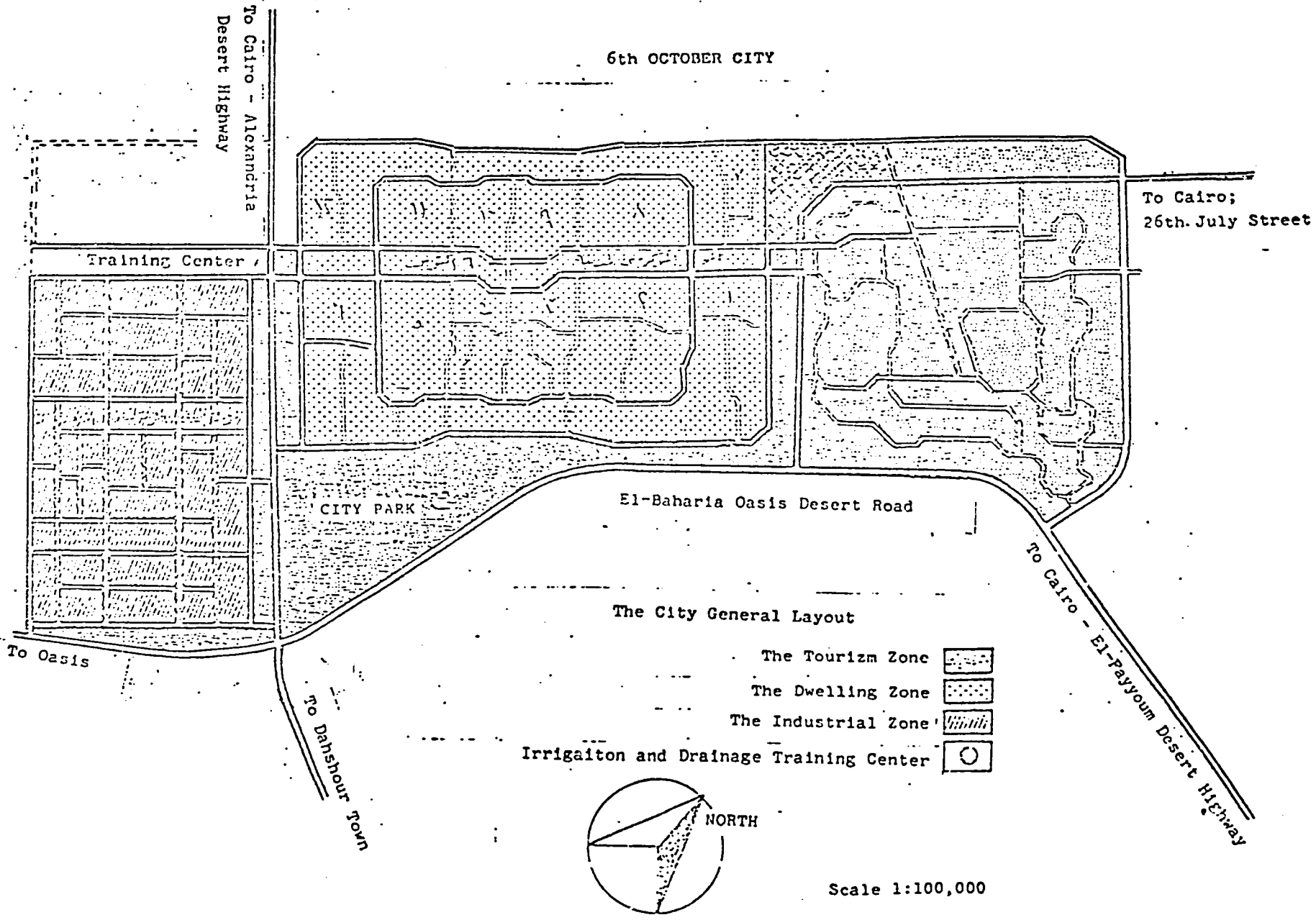


1. Lecture rooms.
2. Offices.
3. Experimental lab.
4. Library.
5. Restaurant and Cafeteria.
6. Main conference room.
7. Trainers bed rooms.
8. Staff bed rooms.

Appendix E
 Preliminary drawing of building
 location for proposed National
 Irrigation Training Institute at
 6th October City.

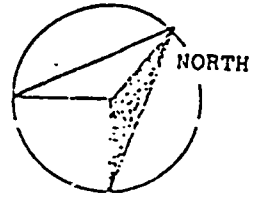
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6th OCTOBER CITY



The City General Layout

- The Tourism Zone
- The Dwelling Zone
- The Industrial Zone
- Irrigation and Drainage Training Center



Scale 1:100,000

6th October City General Layout
Strategic Location of Irrigation
National Irrigation Training
Institute.

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LIST OF INTERVIEWEES

Deputy Minister of Irrigation
H.E. Eng. Ismail Badawy

Mechanical and Electrical Department
Eng. Abdel Ghani Hassan, First Undersecretary

Irrigation Department
Eng. Farouk A. Shahin, Undersecretary for Irrigation
Improvement Projects

Planning Sector
Eng. Sarwat H. Fahmy, Undersecretary, Director Master Water
Plan
Rod Vissia, Chief Technical Advisor/Team Leader,
U.N. Project for Master Water Plan
James C. Ringenoldus, Senior Technical Advisor,
Project Preparation Unit
Rifus B. Hughes, Agriculture Economist,
Project Preparation Unit

Finance and Administration Department
Mostafa Nour, Chairman

Egyptian Public Authority for Drainage Projects
Eng. Amin Makhoulf, Chairman
Eng. Mohamed Ali, General Director of Planning and Follow-up
Eng. Sayed Fawzy Heida, Undersecretary

High Dam and Aswan Reservoir Authority
Eng. Abd El Moneim El Zeftawy, Undersecretary and Director
Ramsis Shahan Basilious, Undersecretary for Observation
and Research
Eng. Mohamed Rocheli Mohamed, General Director of Public
Relations
Eng. M. Abd El All, Director General, Aswan Dam

Coast Protection Authority
Eng. Ahmed Aly Mazen, First Undersecretary and Chairman
Eng. Mohamed K. Nader, Undersecretary for Execution and
Maintenance

Egyptian Survey Authority

Eng. Ahmed Aly Mazen, First Undersecretary and Chairman
Eng. Kamal El Sharabasy, Vice Chairman
Eng. Iskandar A. Zaki, Director General for Planning
Eng. Abdel Moneim Abdel Maksoud, Director General for
Surveying Calculations and Training

Water Research Center

Eng. Mahmoud Abu Zeid Chairman
Manpower Development and Training Unit
Eng. Jean Kamel, Consultant
Eng. Ahmed Bayoumy

Mansouria Pilot Project Team

Eng. Fahim Wadie, Team Leader
Samal Fazwy, Agricultural Economist
Eng. Mahmoud Kheder, Agronomist

Kafr El Sheikh Pilot Project Team

Eng. Kamal Ezz El-Din, Team Leader
Ragi Dawish, Agricultural Economist
Eng. Ahmed Ismail, Agronomist

Irrigation Public Authority

Eng. Refaat K. Messiha, Undersecretary and Vice Chairman

Egyptian Dredging Company

Eng. Amin Mostafa Ismail, Chairman

Egyptian General Irrigation Workshop Company

Eng. Yeyha Mahmoud Ab El Khalik, Chairman
Eng. Yeyha Mahmoud Abou El Naga, Director General for
Technical Affairs
Eng. Iskander A. Zaki, Director General for Planning

Consultant Office for Engineering Design and Irrigation
Project.

Eng. Fahmy Fouad Mikhail, Undersecretary for Design
Eng. Abd El Hamid El Bagoury, Deputy Director
Eng. Mervet Fawzi

Ministry of Agriculture

Eng. Atef A. Halim, Director General, Center for Agriculture
Management Development
Director General, Center for Agricultural
Mechanization, Kafr El Sheikh

Ministry of Development

M.A. El Masry, Chairman, High Dam Lake Development Authority

Ain Shams University

Dr. M. Wafaie Abdel Salam, Head, Irrigation and Hydraulics
Department

Dr. Abdel Kawi A.M. Khalifa, Assistant Professor, Engineering

U.S. Agency for International Development

Edwin Stains, Office of Irrigation and Land Development

William J. Carmack, Office of Irrigation and Land Development

Eng. Ali Mohamed Khalifa, Office of Irrigation and Land
Development

Canadian Embassy

Michel P. Archambault, Counselor, Cooperation and Development

Netherlands Consultants

Joep Blom, Hydrologist, Ministry of Foreign Affairs

Reinder H. Backelman, Department of Civil Engineering, Delft
University of Technology

Colorado State University

Dr. E.V. Richardson

Food and Agricultural Organization of the United Nations

Dr. Abu Senina

Ministry of Irrigation
Needs Assessment Interview Guide

1. The purpose of this guide is to determine the management and technical training needs of the various departments within the Ministry of Irrigation. Questions are to be asked of Senior Under Secretaries or their representatives.
 - A. What is the staffing structure of your department?
 - B. What are your department goals and objectives?
 - C. What are your current training activities and where are they offered?
 - D. Immediate technical training needs. (1-5 yrs)?
 - 1) Kinds of courses and list in priority order.
 - 2) Length of course.
 - 3) Where taught.
 - a) Irrigation Training Center.
 - b) Abroad.
 - c) Egyptian Universities
 - d) Job site.
 - e) Other
 - 4) Instructors
 - a) American
 - b) University
 - c) MOI
 - d) Other
 - 5) Attendees (position and number)
 - 6) Cost (Budget thru MOI or donor)
 - 7) Is there a formalized training plan?
 - 8) Is there a system for evaluating attendees performance following training?

- E. Long Range Technical Training Needs (5 yrs and beyond)
- 1) Kinds of courses and list in priority order.
 - 2) Length of course.
 - 3) Where taught.
 - a) Irrigation Training Center.
 - b) Abroad.
 - c) Egyptian Universities
 - d) Job site.
 - e) Other
 - 4) Instructors
 - a) American
 - b) University
 - c) MOI
 - d) Other
 - 5) Attendees (position and number)
 - 6) Cost (Budget thru MOI or donor)
 - 7) Is there a formalized training plan?
 - 8) Is there a system for evaluating attendees performance following training?
- F. Managerial Training needs.
- 1) How many employees are responsible to you?
 - 2) Have you ever had any formalized management instruction? If so when and where?
 - 3) Have members of your staff had formalized management instruction? If so when and where? Was it effective? Why?
 - 4) What might prevent you from reaching your organizational goals next year?
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- 5) What has been the level of involvement of your employees in the goal setting process?
 - 6) What has prevented you from delegating more responsibility to your employees?
 - 7) What are the most important aspects of management training needed by your employees? (Prioritize)
 - a) Planning
 - b) Delegation
 - c) Time management
 - d) Decision making
 - e) Leadership
 - f) Motivation
 - g) Communication
- G. Are there some items on training that we have not covered you would like to bring to our attention?

(This question outline has been prepared for a 1-1 1/2 hr. interview.)