

EGYPT

THE NILE DELTA DRAINAGE PROJECT

The Nile Delta Drainage Project, effective from December 1970, was the first phase of a multi-stage program to provide improved drainage throughout 4 million acres in the Nile Delta in Egypt. The project was expected to provide tile drainage for about 950,000 acres over 6 years at a total cost of US\$147 million equivalent (of which \$26.0 million was to be a credit from IDA). A Nile Delta Authority for Tile Drainage Projects was established by Presidential Decree in September 1969, as a semi-independent governmental agency under the supervision of the Ministry of Irrigation, and was given the responsibility for the construction and initial maintenance of all tile drainage projects in the Nile Delta. The managerial and technical staff was transferred to the Authority primarily from the Ministry of Irrigation, but also from other ministries and agencies of government. Provision was made in the IDA credit for financing overseas training of selected staff in recently developed management techniques, and for employing a firm of consultants to assist the Chairman in overall planning/programming of project implementation, and the organization and establishment of a training program.

The project encountered serious management and organizational problems from its very beginning. As of late 1974, it was about 3 years behind the original schedules, in spite of the considerable supervisory effort put in by IBRD. It was clear to the Projects Officer that even if progress improved substantially in subsequent months, the time lost already could not be made up. He wondered what, if anything, he and other Bank staff could have done in the past, to expedite the project. More importantly, he was still searching for answers to what he might do in the future, to ensure that there was no further slippage of the completion date.

Project Identification and Appraisal: President McNamara's visit to the U.A.R. in July 1968 was followed up by an Agriculture Mission in September 1968. Various possible projects were discussed; of these, the drainage project for part of the Nile Delta was chosen as first priority. The tentative proposal was to establish 15 pumping stations in the Nile Delta, and provide tile-drainage in 1.4 million acres of the surrounding area. The critical rise in the subsoil water level in the Delta area where perennial irrigation was practiced had effected the yields of the crops and put a severe limitation on the possibilities of agriculture development. Recent studies by the Ministry of Agriculture and Irrigation and FAO had, however, shown that a 30 percent increase in crop yields could be expected with tile field drainage.

The government forwarded a feasibility report for a US\$172.5 million project to be completed in six years as part of a larger 15 year government

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program. An appraisal mission was planned for December 1968. The additional information sought by this mission from Government included answers to the following questions:

"(i) Will the Ministry set up a special Project Administration Group for implementing the project? If so, what would be the main functions, powers and responsibilities of the project authority; the status of its chief executive, and the administrative body to whom the chief executive will report?

(ii) What would be the proposed engineering and agricultural (administrative and technical) organization for the construction, operation and maintenance of the project? What will be the management responsibilities, scale and sources of executive staff required?"

The Appraisal Mission visited the U.A.R. in December, and obtained clarifications on these and other aspects of the project. However, some matters remained unresolved; one of these was project organization. The Back-to-Office Report stated that "there was only a partial response to the Mission's concern over the lack of closely-built organizational arrangements for the project within the Ministry of Irrigation. A proper planning section for the project was noticeably absent and this will need to be provided within the project organization." One consultant, who had accompanied the mission stated his reservations more clearly, as follows:

"I happen to know intimately the local engineers' way of approach and also the working methods of the Ministry of Irrigation. Both of these may have changed in recent years, but in my estimation this is still the greatest threat to the project. What is mostly needed to ensure success for this project is technical assistance in management."

The Government's assessment was quite different. A February 20, 1969 Bank memo noted as under:

"The Ministry of Irrigation, in very clear terms, informed the mission that they would not be prepared to have expatriate consultants supervising any of the work under the project. The mission is of the view that the Ministry is sufficiently experienced and competent to prepare the necessary drawings and to supervise the construction of works. However, the mission feels that, notwithstanding the Ministry's views, experienced expatriate consultants will be required in the fields of organization, management and training."

The Bank therefore recommended the setting up of an autonomous group within the Ministry to implement the project and the appointment of consultants to assist them in organization and management.

A letter dated April 3, 1969 to the Minister of Irrigation stated that the Bank believed "the existing agency responsible for the project (the

Executive Authority on High Dam Water and Tile Drainage) did not have sufficient strength to ensure the efficient coordination and control of the multitude of different activities necessary for an undertaking of this magnitude." The Bank therefore wished to be assured during negotiations that "sufficient concentration of responsibility is provided, and that the main activities would be placed under the direct control of the Chairman, rather than delegated to the charge of other Under Secretaries." The appointment of consultants was also recommended for assisting in procurement, training of project staff in the latest techniques of planning and supervision of construction works, and for training of technicians in the operation of project equipment. Details of these proposals, as given in the draft Appraisal Report, were as summarized in Annex 1.

The Bank was informed by telephone on April 22 that the letter of April 3 reportedly "created agitation in Cairo, in particular the Minister of Irrigation, and the Minister of Economy were perturbed. They thought their team was about to sail for Washington for negotiations and discovered that new issues were being opened."

The Minister of Irrigation's letter dated April 26 emphasized the Ministry's position. It stated that "the following are preliminary views on the points raised in your letter:-

- (1) Concerning your comments on the authority which will take responsibility of executing this project:-

The Ministry of Irrigation as a technical body headed by the Minister of Irrigation, who will act as the Chairman of this project, will carry the responsibility of the execution of this project. Thus, all the authority and responsibilities mentioned in your letter are completely covered.

It is well known that this Ministry as an establishment had proved several times its efficiency in carrying out projects of larger magnitude.

- (2) Concerning your recommendations to engage consultants to assist and advise in the three aspects mentioned in your letter:-

...if the need arises, we will be happy to cooperate with the Association ...

- (3) It would be appreciated if all other matters, which may need negotiation are sent to us in due course so that our negotiating representatives will be properly prepared for discussions."

It was clear that these two organizational issues could encounter serious negotiating difficulties. A memo dated April 29 from Mr. Knapp, Chairman of the Loan Committee informed Mr. McNamara of this possibility, and also of the Committee's approval of the proposed loan. The government's proposals termed "Plan of Work" were received in early June, and reiterated the Minister's position that existing departments would be able to handle the new project. Bank staff, while reviewing the latest proposals, reempha-

sized the need to include a minimum requirement for a coordinating mechanism within the Ministry.

Negotiations began on September 8, 1969 and were concluded on October 3, 1969. The Association emphasized the importance of having an independent Authority in charge of the execution of the Project. They pointed out that the rate of implementation planned for the Project was quite optimistic; and this would call for an efficient management with direct responsibility and control over all project activities, staff and other resources necessary to carry out the project. The U.A.R. delegation presented a draft Presidential Decree (signed on September 25, 1969) for establishing a Nile Delta Authority for Tile Drainage projects, which was found satisfactory. It was understood that the Authority would also be responsible for maintenance of all drainage works until handing this responsibility over to the Ministry of Irrigation, normally at the end of the guarantee period, and for the training of maintenance staff of the Ministry.

Both the Association and the U.A.R. delegation were agreed that the top management of the Project would represent one of the most important elements for its success. It was decided therefore, that the greatest care and scrutiny would be exercised in the appointment of such top management and that the Association would be consulted sufficiently in advance. Staff requirements for other categories (civil engineers, mechanical engineers and supervisors, including mechanics) for each calendar year from 1970 to 1975, and appointment of consultants were also agreed upon.

The Board approved the development credit of US\$26 million on March 24, 1970 to provide tile drainage for about 950,000 acres of irrigated land in the delta of the Nile River and to increase crop production on this land. The Project became effective December 22, 1970 with a 6-year disbursement period. The initial problems faced by the project during the first four years were considerable, and required painstaking effort and persistence to get them resolved at Government/Authority levels. These are described below:

Project Implementation:

The Project encountered substantial problems soon after Board Approval. A November 24, 1971 Bank memo stated the following:

"It might be of interest to note that we actually spent* 68 man weeks supervising this project in FY71 (including 21.6 man weeks of consultant's time). This figure might be compared with the 9.5 man weeks per project which we were asked to allocate for supervision at the time of the FY71 mid-year budget review. This would indicate that we spent seven times the budgeted man weeks on supervising this project between July 1970 and June 1971."

Six supervision missions (4 of these prior to effectiveness) had been mounted within a period of 18 months from April 1, 1970 to October 31, 1971. A summary of extracts from these supervision reports is given below:

First Mission - April/May 1970:

(i) No action had been taken to appoint Directors of the Nile Delta Authority. The Authority had no staff or office accommodation. Three of the five nominees for Directors were, in the mission's opinion, of "very indifferent quality." The remaining two were not yet nominated.

(ii) Proposals from three consultant firms had been invited but not yet received.

(iii) Access to the project area was impossible without security passes.

(iv) The nomination of the Chairman of the Authority was the subject of much conjecture during negotiations and is still a matter of concern. The person nominated is the least elderly and the most active of the present Under Secretaries of the Ministry of Irrigation, but in common with nearly all the senior officials in the Ministry, he apparently has no experience of handling large-scale development projects, and will probably have to refer most matters to the Minister.

Second Mission - July 1970:

(i) The mission went to Stockholm to review the capability of consultants, VBB, selected by the Government, and recommended approval of VBB.

(ii) Although VBB themselves have virtually no experience in large-scale tile drainage projects, this shortcoming is offset by their experience in project control and their willingness to supplement their own staff with suitable experienced experts.

Third Mission - October/November 1970:

(i) A Bank consultant, accompanied for a few days by a Bank Engineer, spent three weeks assisting the Authority to prepare contract documents.

Fourth Mission - December 1970:

(i) The mission went to assist the Authority in appointing consultants. Effective date of July 14, 1970 has been extended more than once to January 1, 1971 because of failure to appoint consultants.

(ii) Little progress has been made in negotiating a contract between the Authority and VBB. At the mission's suggestion the Chairman agreed to go to Stockholm, accompanied by the mission, to conclude a contract. The contract was signed in Stockholm on December 21 and the Credit declared effective on December 22, 1970.

Fifth Mission - April 1971:

(i) The consultants had been in Cairo about six weeks but it was already apparent that the Chairman had little intention of using them effectively to assist and advise the Authority as envisaged in their Terms of Reference.

(ii) The mission recognized that it would be necessary to keep a careful watch on the management ability of the Authority and their capacity to make appropriate preparations for the increased output expected to commence in 1972/73.

(iii) The preparation of contract documents for international competitive bidding is still a major undertaking for the Authority since they appear to have only one man of ability in this field. The consultants provided a contract engineer to assist in the preparation of contract documents and when he visited Cairo, the Chairman said he was not required and so he returned to Sweden. The mission suggested that he be recalled immediately and we have recently heard that he is now back in Cairo.

(iv) The staff of the Authority is still being recruited and trained. All departmental Directorships have been filled. The quality of the senior management remains to be tested. However, one cannot fail to have serious reservations about their ability to organize and administer a program of this magnitude.

Sixth Mission - October 1971:

(i) The project continues to fall behind schedule with little evidence that the program for substantially increased field drainage will be achieved next year. The preparation and issue of contract documents is seriously behind schedule. The organization and management of the Authority is not adequate in quantity or quality to execute the project on schedule. The consultants are under-utilized and play a minimal role. The project should be placed on the "Problem Project" list and more intensive and frequent supervision missions will be necessary.

A note dated November 24, 1971, prepared by the Project Officer, summarized the findings of these six missions, and concluded with the following observations:

"Organization and Management"

There is no doubt that the major constraint to the successful completion of the project is the poor and weak organization and management of the Authority. Every previous supervision mission has pointed this out and it is today more evident than ever. The Chairman has neither the technical competence nor the managerial ability to be the chief executive officer of an organization set up to carry out the largest single drainage operation ever undertaken. There are five Directorates headed by Directors General who report to the Chairman. One Director General died recently and another has been hospitalized and is unlikely to be able to return full time. The remaining three suffer from the same limitations, in varying degrees, as the Chairman. The Chairman's Planning Office is virtually non-existent with both its senior engineers away. One of the few able and qualified engineers who was in the Chairman's Technical Office has left to join FAO in Iraq. Supporting staff within the Directorates are as mediocre as their superiors.

A major defect in the organizational structure is the absence of any deputies. If a Director General should be absent there is no one to

replace him. This is currently the situation in two of the Directorates. One of these Directorates is responsible for preparing all the contract documents. In the absence of this Director General, not one of his staff is either familiar with the contents of the existing contract documents, or competent to prepare the new documents which still have to be issued.

Consultants

A possible and partial solution to the immediate critical situation would be to more extensively make use of the consultants. However, the Chairman remains convinced that the Authority has all the competence necessary to efficiently execute the project and therefore the consultants are more of a hindrance than a help. He suffers them only because the Association insisted on their presence. The consultants in turn are conscious of their client's antipathy towards them and of the fact that they have no responsibilities for project execution. They are there solely to advise and assist. They take their Terms of Reference seriously and tend to proffer advice only when it is sought."

It was clear that the Project was in serious trouble. A Special Loan Meeting was held on December 2, 1971 to discuss the UAR's performance under the Nile Delta Project and its implications for future Bank Group operations in Egypt. The discussion took note of the fact that supervision missions had repeatedly pointed out the need to improve the staff and make more extensive use of consultants, but to no avail. A decision was taken that consideration should be given to a high-level representation to the Egyptian Government that the management of the Authority should be replaced. The Chairman of the meeting asked that a draft aide memoire be prepared for this purpose.

The project was placed on the Problem Projects list in January 1972. A supervision mission visited the UAR in February; simultaneously the Director (EMENA) discussed the aide memoire with Government. The mission's report noted that the project was about 18 months behind schedule and was likely to fall further behind in future, unless corrective action was taken. The problems included "major cost overruns of foreign exchange requirements (estimated at 50% to 65%), inadequate budgetary allocations of local funds, insufficient use of consultants' services, unsatisfactory contractual relationships, delays in equipment procurement and failure to make adequate use of existing equipment."

The Chairman of NDDA had suffered a severe cerebral hemorrhage shortly before the mission's visit, and an acting chairman had been appointed. The mission therefore recommended along with other suggestions, that IDA urgently reformulate the project, and that the government nominate a full-time permanent chairman as early as possible, giving IDA first an opportunity to express its views in accordance with the Minutes agreed upon during negotiations.

A supervision mission reported in December 1972 that the weaknesses in the Authority's organization had not been remedied, further deterioration had taken place to the point where the organization's ability to implement the project was highly questionable. All departments demonstrated deficiencies ranging from inadequate management to shortages of qualified staff.

Relationships among the Directors General were extremely poor and the Board of the Authority had not met for five months prior to the mission's visit. NDDA expressed its dissatisfaction with the services provided by VBB (whose contract was to terminate in March 73). Physical execution of the Project was now two years behind schedule.

The Minister of Irrigation gave the mission assurances that he would merge NDDA and the Egyptian General Authority for Drainage (EGAD) proposed for the Upper Egypt Drainage Project now being appraised, into a new organization and within two months would staff it with effective key management personnel. He undertook also to appoint experienced officers as Directors General, since all NDDA's departments were involved in the execution of the program, and not one was considered adequately equipped to shoulder the load. Deficiencies ranged from inadequacies in departmental leadership and forward planning to critical shortages of trained engineers for the supervision of works.

It was evident to the mission that certain of the present incumbents at the Director General level, for a variety of reasons including temperamental unsuitability, lack of interest or inadequate experience, were not capable of performing as part of an integrated, decision-making administrative body. One Director General had been allowed to accept employment outside Egypt for a period of a year and his acting replacement was not adequately qualified for the position. Another recently appointed Director General had been permitted to retain a number of outside responsibilities and interests and to make trips abroad not connected with NDDA activities which would seriously interfere with his project responsibilities.

In contrast to top management, a number of the engineers at the upper level were of high caliber, dedicated and hard working. However, morale was seriously affected by the present situation; resignations and requests for transfers were expected in a number of cases. The staff shortage at middle levels remained critical. There were insufficient numbers of experienced engineers to carry out design and supervisory functions for the works, including pumping stations, open drains, tile drains and tile-making factories. This was equally true of all engineering fields -- civil, mechanical or electrical. The situation was not new; it had existed since the establishment of NDDA, but had been obscured from IDA's view in the past by the form in which information had been supplied in progress reports about staffing matters -- which did not show the grades and experience of the engineers. The mission was informed that most of the engineers were newly qualified and without practical experience.

The mission considered that the proposal to form a new joint organization merging the NDDA with the EGAD, (which had been discussed with the Egyptian delegation in Washington in July), was timely in relation to the need to make efficient use of limited senior staff capacity, but could be disruptive in the short term. However, it was of the view that Government, having decided to create the new organization, should have acted quickly and decisively to set it up and staff it.

Assurances were obtained from the Minister of Irrigation, the Deputy Prime Minister and the Vice President that all needed actions would be taken within two months. However, IDA's experience with the project to

date had been that reasonable progress had been possible only when a Bank mission visited Egypt or an Egyptian delegation came to Washington (this had been true for many problems: employment of consultants, preparation of contract documents, evaluation of tenders and signing of contracts). Given the difficulty of obtaining appointments to see key people and the time needed to penetrate below the surface of matters to discover the facts of any situation, the mission recommended that consideration be given to the possibility of stationing a permanent representative in Cairo rather than sending short, though perhaps frequent, supervision missions. It was recognized the margin between providing technical assistance needed locally and accepting responsibility for project execution (which they considered undesirable) was narrow. However, since a total lending program for about four million acres of drainage in the Nile Delta and Upper Egypt was at stake, exceptional action was considered justified. Disbursements to date were only about 5% of the original estimate.

As a follow-up of assurances given earlier by the Minister of Irrigation, the Egyptian Public Authority for Drainage Projects (EPAD) was established by Presidential Decree in early 1973. (See Annex 2 for details of the new organizational arrangements.) The July 1973 mission reported that it was encouraged by the progress made with respect to the reorganization, (a new Chairman and several new key officials had been appointed) but was disappointed that an inadequate allocation of local funds in the 1973 Budget was beginning to affect the award of new drain installation contracts and putting into service of new equipment. The possibility of an almost complete halt in project implementation later in the year was foreseen. The Association's concern was conveyed to Government in August 1973 but in spite of the verbal assurances received, no additional funds were provided.

The March 1974 mission reported that during the second half of 1973, the project's progress received a set back due to shortage of local currency and the October 1973 War. Project completion was about 20% in approximately 50% of the original construction time. Several senior officers had left the Authority, but their positions had been filled by others -- mostly in acting capacity. Although only 70% of the positions were filled, the staff was considered adequate. With release of personnel from military service, the staffing position was expected to keep improving continuously. The Government now encouraged Egyptians to go on overseas assignments to assist other Arab countries, but assured the mission that project work would not suffer because of staff changes. Such changes were considered quite normal in government offices, and whenever a position fell vacant, it was expected to be promptly filled by an equally competent person.

The October 1974 mission reported, however, that very little progress had been made since the last supervision mission in March. The project was now expected to be completed by December 1979, 3 years behind the original schedule. Roughly 40% of the originally estimated disbursements had taken place; and about 25% of the total drainage work had been completed so far. Major problems included inadequacy of local funds, deficiencies in project management, delays in procurement and inability to maintain scheduled rates of construction for tile-making factories and pumping plants. It seemed unlikely that project progress would be easy in the near future. Late in 1974, the Project Officer wondered what he might do to rectify the situation.

ORGANIZATION AND MANAGEMENT*

Ministerial Responsibility

The Minister of Irrigation would be responsible for the general supervision of the implementing agency for the project, and for the maintenance and operation of the works after completion. The Minister of Agriculture and Agrarian Reform would be responsible for providing extension services, on-farm inputs and agricultural credit through the cooperative organizations, to enable full benefits to be achieved from the project.

Project Authority

Executive responsibility for construction of the project has been vested in the Nile Delta Authority for Tile Drainage Projects which is an independent government agency under the supervision of the Ministry of Irrigation, established by Presidential Decree in September 1969. The Authority is in process of formation on the organizational pattern shown in Chart 1. Its management would be comprised of a Chairman and a Board of eight directors, five of whom would be executives on the project. The Minister of Irrigation can in addition appoint the Under Secretary of Agriculture and two other directors of high technical competence. The administrative and technical staff would be transferred to the Authority mainly from associated departments of the Ministry of Irrigation, and also from other agencies of the government.

The formation of the Authority provides the basis for the efficient implementation of the project, since the staff would be engaged solely on project execution, and the Authority would have the necessary control of all technical, administrative and financial aspects of the project. These include:

- (i) planning, budgeting and progress control;
- (ii) investigations and detailed engineering;
- (iii) procurement of goods and services;
- (iv) acceptance, storage, sales and distribution of equipment and spares;
- (v) training facilities for project staff and operators;
- (vi) coordination and supervision of all project field forces on drain remodelling, pump station construction and tile laying;
- (vii) equipment maintenance and repair facilities;
- (viii) funding and allocation of local currency requirements;

*Source: Appraisal Report, 1969

- (ix) separate project accounting and audit procedures; and
- (x) planning of project maintenance and introduction of monitoring and evaluation of agricultural benefits.

All these activities would be concurrent throughout the first four years, while most of them would be continuous for the full period of the project, and thereafter for subsequent phases of the overall drainage plan.

The organizational scheme as presented would be adequate to enable the Authority to direct, coordinate and supervise the numerous activities of all the government forces, local construction concerns and foreign suppliers involved in the project. The selection and appointment of competent, experienced and suitably qualified officials for top management posts in the Authority would be one of the most important elements for the success of the project. The government recognizes this and during negotiations agreed to make every effort, including that of keeping the Association informed on any significant changes prior to the event, to maintain an effective organization and management structure.

Staff Availability and Training

More than 200 engineers and 400 technicians would be needed in the Authority for the design and supervision of construction of civil works, and for supervision of erection of mechanical and electrical plant.

Assurances have been obtained that the required numbers of qualified staff would be transferred to the Authority in accordance with a timetable which has been agreed with the Association. Sufficient numbers of foreign technicians, to be provided by the equipment suppliers, would be resident in the UAR from the date of delivery of the construction equipment until completion of its use on the project or, in the case of pump station equipment, a six-month training period for operating staff after the commissioning of each installation.

The agricultural extension service provided by the Ministry of Agriculture and Agrarian Reform to farmers in each governorate, district and village is presently staffed with an adequate range of specialists to meet the needs of crop and livestock production in the project area, and for the ginning of cotton, together with the production and storage of cotton seed. The extension staff is backed up by suitable research organizations in crop, livestock and all necessary specialist disciplines. Similarly, the cooperative and agricultural credit organization is adequate. The extension services in the project area would be considered adequate if the mobility of field officers and the availability of training aids were improved. To meet this need, allowances have been made in the cost estimates for appropriate vehicles and equipment.

Agencies of the UAR government have the proven capability of implementing very large projects (viz: the operation and widening of the Suez Canal and the completion of the High Dam). However, in order to achieve significantly faster drainage construction rates than at present, their engineers and technicians need additional training to up-date their management and operating methods. The provision of trained personnel

would be a critical aspect of the execution of the project. The principal training requirements for the project are for tile laying machinery operators and mechanics, drainage investigation technicians, tile drain layout designers and supervisory engineers, as well as for planning and construction control engineers.

This would necessitate the establishment of a project training center in the Delta. Assurances have been obtained that staff who have been trained under the project programs would return to and remain on the project for a minimum period of at least two years in the field in which they were trained.

Consultants

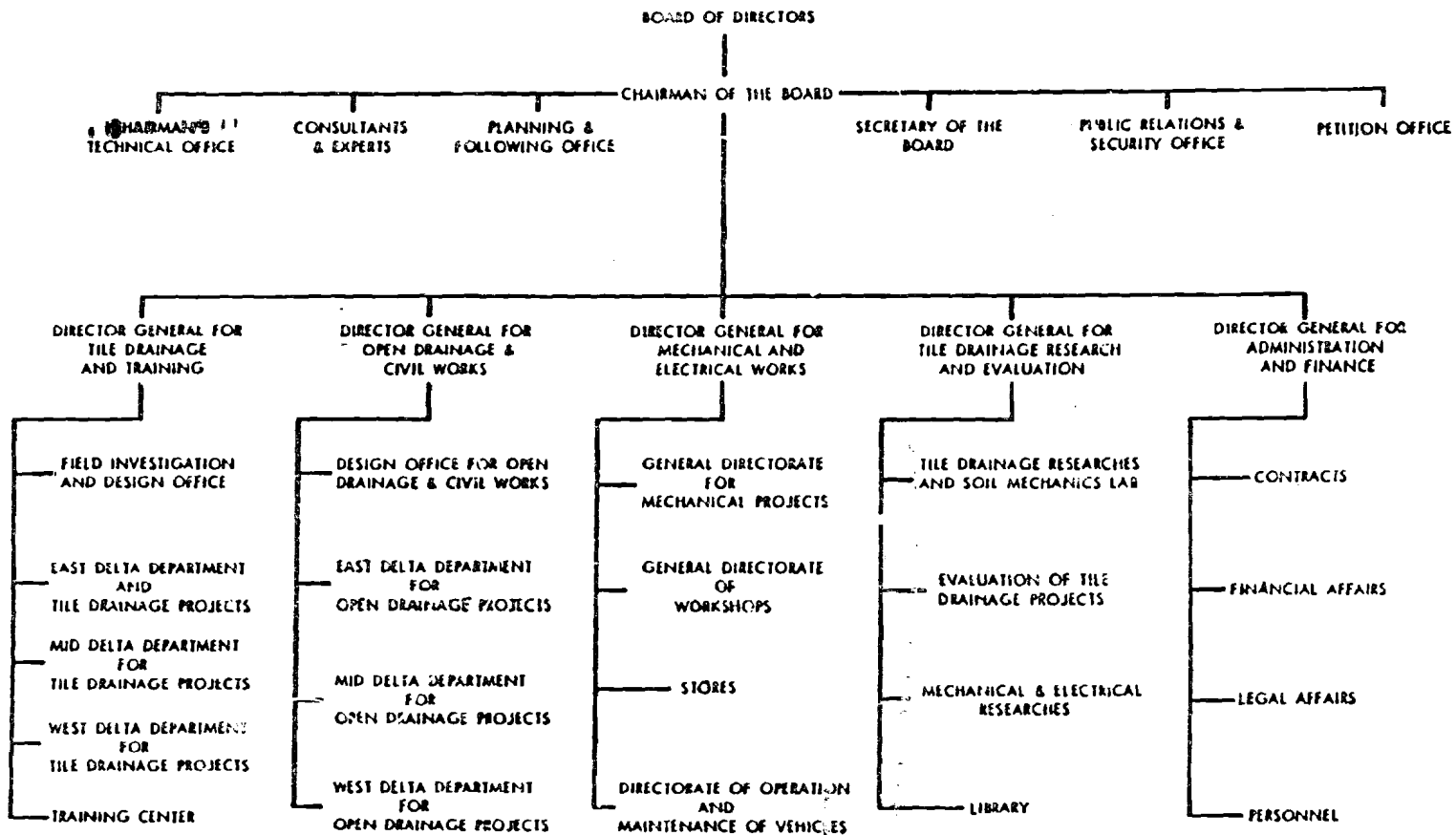
There is an urgent need to plan and implement appropriate training courses for project personnel, both at the proposed training center and overseas, in modern methods of project management and control as well as equipment operation and maintenance. It would, however, be beyond the initial capacity of the Authority to make all the necessary arrangements for this in the short term. To ensure that the training programs would be carried out rapidly and effectively, it would be necessary for the Authority to engage a firm of consultants to devise and assist in the training programs in the UAR and overseas. Before trained Egyptian personnel could be made available or fully effective, the firm of consultants would also have to provide advice and assistance to the Authority's staff in planning, coordination, and progress control; in establishing appropriate procedures for the survey, design and the production of drawings for the project; in procedures for bid evaluation, equipment maintenance and for stores control. It was agreed during negotiations that a firm of consultants would be appointed under terms and conditions acceptable to the Association.

Operation and Maintenance

After their construction and formal acceptance from the contractors, the project works would be handed over by the Authority to establish Departments of the Ministry of Irrigation which would then be responsible for all operation and maintenance. The continuous monitoring of the general effect of tile drainage on soil conditions and crop production in the project area would be an important element in the evaluation and design of future projects. Assurances have been obtained that suitable monitoring services would be set up and maintained by the Authority.

UNITED ARAB REPUBLIC: NILE DELTA AUTHORITY FOR TILE DRAINAGE PROJECTS

ORGANIZATION CHART



IBRD - 4618

ORGANIZATION AND MANAGEMENT *

Project Authority Responsible for Drainage Works. Government has combined NDDA and EGAD under a new joint authority, the Egyptian Public Authority for Drainage Projects (EPADP), established by a Presidential Decree. The Board of Directors of EPADP has been established and a Chairman has been appointed. The proposed organization for EPADP is shown in Chart A.

EPADP has the necessary powers for the control of all technical, administrative and financial aspects of both the Upper Egypt and the Nile Delta (Lower Egypt) Projects. These include all investigations, planning, design, procurement, construction, budgeting and operation of project accounts. EPADP will have departments responsible for Administration and Finance; Planning, Research, Evaluation and Training; Petitions, Security and Public Relations; and Consultants and a Technical Office, which will also be the office of the Secretary to the Board of Directors. These departments will report directly to the Chairman.

The responsibility for planning, design and execution of drainage works in Upper Egypt and in the Nile Delta will rest with the respective Vice-Chairmen. Both Vice-Chairmen will be members of the Board and have already been appointed. Each Vice-Chairman will be assisted by a deputy, who will have authority to act in his absence. Separate design offices, which will be responsible for detailed planning and design of all drainage works in each project, will be attached to the Vice-Chairmen. Field supervision of drainage works in Upper Egypt will be carried out by four Directors General. A mechanical department will be responsible for supervising the installation of pumping stations and transmission lines and for workshops, project stores and mechanical equipment retained by the Authority.

Procurement will be among the responsibilities of the Administration and Finance Department and an ad hoc committee composed of the Chairman, Vice-Chairman concerned and the head of the Technical Office of EPADP will approve specifications prepared by the design office and will also evaluate bids and make recommendations for award.

To ensure that strong and capable management essential for project implementation is available, assurances were obtained that Government will appoint, at all times, a qualified and experienced Chairman for EPADP and qualified and experienced Vice-Chairmen, on a full-time basis.

The Panel of Consultants to monitor progress and to undertake project evaluation has already been nominated by Government and includes representatives of the Ministry of Agriculture, Soils Division and Department of Statistics. Collection of data on crop yields would be undertaken by the personnel of the Ministry of Agriculture.

*Source: Appraisal Report, Upper Egypt Drainage Project, June 1973.

ORGANIZATION CHART FOR THE EGYPTIAN
PUBLIC AUTHORITY FOR DRAINAGE PROJECTS

