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REVIEW OF THE EGYPT WATER USE MANAGEMENT PROJECT
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BETWEEN AID AND THE
CONSORTIUM FOR INTERNATIONAL DEVELOPMENT

Submitted to

CID

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REPORT OF CONSORTIUM FOR INTERNATIONAL DEVELOPMENT
REVIEW OF THE EGYPT WATER USE MANAGEMENT PROJECT

The CID Review Team composed of Dr. D. D. Johnson, Dean, Agricultural Sciences, Colorado State University; Dr. John R. Davis, Associate Dean, Agriculture, and Director, Experiment Station, Oregon State University; and Mr. Bernie Henrie, Deputy Director, CID, arrived in Egypt on July 21 and began the review on July 22. Prior to that time the project paper, quarterly reports and printed reports, position descriptions, a review of training activities at CSU and a substantial amount of material concerning the project was presented in a briefing held in Fort Collins on July 19 with the campus Planning and Coordination Committee. In Egypt the CID team was joined by the following personnel from AID Egypt:

J. Bremer
G. Steckel
M. Winter

M. Parker
J. Blackton

The AID team is submitting a separate report of its findings.

Mr. Niel Dimmick, AID Project Officer, joined the group on July 26.

The schedule provided for ample opportunity for individual and group discussions and visits to the Kafr-el-Sheikh and Mansouria sites.

The review team expresses its gratitude to Dr. M. Abu-Zeid, Dr. E. V. Richardson and the AID and Project staff in Cairo for their warm hospitality and assistance.

Introduction and Summary

1. The review team was surprised at the lack of an existing data base within the Ministry of Irrigation regarding irrigation water budgets, plant-soil-water relationship and optimum farm water management for efficient

crop production. The availability of such information to the team in Egypt at the onset of the Project would have been a time savings. This indicates to the group that there is an even greater need for continuing the Project and helping to develop an institutional capability to develop and sustain an improved on-farm water management program as well as a set of improved crop production practices and design data for water delivery systems.

2. We find the logical framework matrix, indicators of project activity and assumptions to be valid and consistent with the needs of Egyptian irrigated agriculture as identified in the original project paper. There is sufficient flexibility in the logical framework, particularly in the identification of problems and search for solution phases to allow for the rapid testing of practices which can contribute to increased crop production.

3. Progress toward "end of project status" is excellent. Three pilot areas have been established (Kafr-el-Sheikh, Mansouria and El Minya). Efforts on the Mansouria and Kafr-el-Sheikh, are well into the search for solutions phase. The El-Minya area is well into problem identification. The problem identification and search for solutions phases have been accomplished with dispatch: The adoption of practices by farmers will take a considerably greater length of time, and measures of goal achievement will probably extend beyond the life of the current Project.

In our opinion, the Project staff, Egyptian and American alike, are enthusiastic, hardworking and are cooperating extremely well across traditional discipline lines. Even though the adoption of improved water management practices by the farmers will be slow, we encourage the Project team to continue their united effort. Shortfalls in reaching

Project goals are likely to be farmer reluctance and institutional barriers rather than team performance.

4. The synergistic effect of irrigation engineers, agronomists, sociologists and economists working together is particularly noticeable. Traditional discipline boundaries are being breached and identification of problems and solutions hastened by the interaction. The recognition by Dr. Abu-Zeid of the need for an interdisciplinary and interministry approach is to be particularly commended. AID and CID personnel have responded well to this rather unusual approach. The work with the farmers has been particularly encouraging and has facilitated accomplishment of Project goals. We encourage a continued and expanded close working relationship with farmers on the Project sites.

The constraints to good water management involve both irrigation water delivery and application, and agronomic considerations. The identification of specific agronomic problems, e.g., zinc deficiency and its correction by foliar application, can often speed adoption of overall improved practices by the farmer as a result of the confidence generated by the finding. Developing this confidence is as important as any other factor in increasing crop production.

5. The immediate need for the Ministry of Irrigation to demonstrate accomplishments in saving water, in horizontal expansion of irrigated lands, and in delivering water properly to farm lands is understood. The initial efforts to line the Beni Magdoul Canal, to line meskas, and to provide a closed pipeline for El Hammami Canal and to help farmers organize to schedule their irrigation periods should provide answers regarding farmer acceptance and adaptation to these alternatives for conserving water and for improving water delivery schedules and increasing crop production.

We suggest that an immediate effort should be made to calculate a water balance for other areas served by canals and to design and evaluate the effects of lining or piping water in additional canals or meskas. To this end, we further suggest that the team add personnel experienced in design of water delivery systems and in the installation of pipeline or linings. Specifically, personnel from the U.S. Bureau of Reclamation, U.S. Soil Conservation Service, or others, should be considered. Some mistakes may be made, but with demonstrations such as at Beni Majdoul, we are confident that water delivery systems can be improved.

Institution Building with the Government of Egypt

1. We are encouraged by assignment of both Ministry of Irrigation and Ministry of Agriculture personnel to the Project team. We are uncertain as to whether other ministries or agencies might be involved. If such involvement would hasten or strengthen the accomplishment of overall project goals, we would encourage such exploration.

As the Project personnel continue to work with the farmer, it will generate an increased demand for information and help at the farm level. We perceive that pressures to provide people at the village cooperative or district level will be greatly increased and will tax both the Ministry of Irrigation and Ministry of Agriculture to meet the personnel and information demand.

Maintaining and increasing dialogue between the Ministries of Irrigation and Agriculture and AID, FAO, World Bank and others is encouraged, particularly as they relate to on-farm water management and basic crop production.

2. For a new and unique project such as this, we find the working relationship very good--particularly the interaction of the several disciplines. As the novelty wears off, and as the original team is replaced with

newcomers, it will take an increased effort to maintain the favorable atmosphere. Both Dr. Abu-Zeid and Dr. Brooks are capable and effective Project Directors; however, both will find an increased work load with the development and expansion of the Project. We encourage them to devote their energies and efforts to policy and management and find ways of delegating detail to others. This Project could well be the model for institutional change in Egypt and we encourage Dr. Abu-Zeid to continue to use his expertise as a high level innovator and catalyst in the Ministry of Irrigation. We encourage continued meetings of Project personnel and the Directors on a regular basis. We feel this has been a valuable tool.

3. The training program is in phase with the rest of the Project activities. Our observations suggest that continued emphasis on hands-on, practical farm practices be emphasized. In addition, irrigation district operation, including water delivery and measurement is a facet of training that should be explored. Taking a clue from the farmer-to-farmer program, an irrigation district-to-irrigation district exchange already under discussion between the Ministry of Irrigation and the Salt River Project in Arizona has merit.

Emphasizing again that with the lack of and need for data within the Ministry of Irrigation concerning water budgets, plant-soil-water relationships, intake rates and consumptive use, we encourage the training program to teach the Project personnel the appropriate techniques to design and evaluate farm irrigation systems.

Irrigation guides for farmer use are appropriate to achieve the goals of the Project. These can only be written by personnel who know how to design and evaluate farm systems and can adapt the results and techniques into a form acceptable to and usable by the farmer.

When trainees return to Egypt, we encourage them to use or adapt the information and techniques gained to Egyptian conditions. We observe that prior trainees are functioning well in the Project team. We believe the transfer of the training program from the U.S. to Egypt is a wise decision.

We encourage identification of future leaders for training. We feel that training at the M.S. and Ph.D. levels in the U.S. or third countries is valuable. Post-doctoral experience in the U.S. offers another relatively short-term opportunity. While out-of-Egypt training is expensive, we believe the exposure of Egyptians to western U.S. irrigated agriculture has merit whether on short or long-term programs.

4. Generally, all members of the Project team are enthusiastic and hardworking and there is a high level of morale. As in any situation, there are certain conditions or situations which annoy and every effort should be made to eliminate or minimize them before they begin to affect the forward progress of the Project. For the American personnel, the most often mentioned restrictions are mail from home, availability of vehicles and drivers, and delivery of goods (especially supplies) through Egyptian customs.

Interim Accomplishments

1. This Project is the interface between good agronomic practices leading to increased food production and the water delivery system. Both are exceedingly complex. This Project attempts to build a bridge between the farmer and the irrigation district. There is a critical lack of data on both sides and it is unrealistic to assume that this Project will provide simple solutions to the many complex problems involved. Nevertheless, the chance of success in identifying social, economic and technical constraints is good and the Project should be encouraged to foster change in both farmer practice and water delivery institutions.

Early indications suggest that acceptance of the Project and its early results by the several publics has been good. We hasten to caution that untimely or preliminary data which are not based on thorough evaluation may lead to serious difficulties--to the farmer if he perceives change will lead to economic gain and it does not happen, and to the water delivery system if costly changes are made without increases in water use efficiency or increased crop production. Acceptances of practices by the farmer will be the key. The voice of the farmer related to the delivery system, particularly through irrigation scheduling, will be increasingly important. Efforts to line canals, provide pipelines, etc., must be keyed to farmer acceptance.

2. The research being conducted in this Project is of a test and developmental nature. Research elsewhere and the intuition and experience of Project personnel have targeted the areas of activity where the greatest progress seems possible. It would be a mistake for those who view the Project to assume that the results are other than indicative or that they have widespread replicable value. Ultimately the same work will have to be done at all locations in Egypt. The value of this work is twofold: 1) to identify problems in selected, hopefully representative areas and 2) to evaluate a development process which will effectively serve elsewhere.

We believe that some of the basic assumptions regarding water delivery and control should be challenged and needs to be thoroughly and deliberately evaluated (e.g., underuse or overuse of water, lifting or gravity application, animal vs. diesel pumps, lining of ditches, pipe delivery, etc.). This Project has a good chance of providing some of these answers at the three sites, providing for development and demonstration of optimal water and crop production practices.

3. The results obtained by the Project are finding farmer acceptance. In fact, relationships between farmer and Project personnel appear good and channels of communication are increasing. Project personnel are acutely aware of this communications link and appear to be developing an excellent relationship with the farmer. Newsletters, such as that developed by Dr. Serry, field days, field demonstrations, and similar grass roots activities should be encouraged. They will serve to further extend the research findings.

The findings, as shown in the published and upcoming reports from the three sites, will emphasize that each site is different and that practices to achieve optimum crop production on those sites are also different. This further emphasizes the basic validity of choice of different sites for the Project activities. Some generalizations, some overall applicability to Egypt may be forthcoming but simple, single valued solutions to water delivery and crop production problems should not be expected. The uniqueness of this Project is the process of 1) problem identification, and 2) search for solutions by an interdisciplinary team. This process, once refined and tested can be expanded throughout Egypt and the world. The results and project findings must be examined for their social and economic implications before they are widely applied.

Project Administration

1. From what the review team has been able to determine, all parties (GOE, AID, CID) have performed promptly: There is good liaison and communication and the monitoring system is effective. It is important that AID, CID and the Ministries continue to inform each other of related projects and encourage formal and informal exchange with this Project team and other project teams and personnel. Periodic program reviews by each of the agencies will be helpful.

2. The recruitment of required Project personnel thus far has been successful. The personnel are competent and dedicated. Increasing pressures from state governments and expanding international agricultural activities may make American personnel difficult to recruit. The necessity of providing amenities such as housing equivalent to other Americans in the area will be increasingly important in recruiting and retaining American scientists on the Project. Further, continued attention should be focused on opportunities for professional growth and development. We suggest that future short-term personnel on TDY contain people who may possibly serve as replacement for the present staff. Short exposure to the enthusiasm, effective working relationships and accomplishments of the team and Project may serve as an effective recruiting mechanism.

The new graduates joining the Project from the Egyptian side will lack practical experience. This makes the in-Egypt training program plans even more valid. In addition, the availability of trained technicians and access to training will be very important in future Project activities.

3. Although the review team did not examine the financial structure of the Project in depth, we are not aware of any particular financial constraints.

4. The property purchased for use by the Project has been accounted for and properly inventoried. There is an existing list of this equipment and the inventory has been reconciled with the expenditures.

5. Fiscal matters including banking in Fort Collins and Cairo have been carried out satisfactorily both for the field personnel, CID, and Colorado State University, though final audits have not yet been accomplished.

Additional Comments

1. We feel that major needs of improved crop production in Egypt are based on two fundamental issues: a) consumptive use and irrigation

efficiency data for major crop and soil conditions, and b) optimal water delivery systems at the district and branch canal level. This Project will have the effect of tying these two together. It appears to us that the water budget phase is lagging other parts of the Project. As stated in the first part of this report, information was not available within the Ministry of Irrigation for use of the field staff at the beginning of the Project. Additional personnel--agricultural engineers or water management specialists--would therefore, be of substantial value to the Project.

2. The needs and attitudes of women must continue to be considered in relation to the impacts of the project, e.g., potable water if water is carried by pipeline, places to wash clothes if ditches are lined or employment opportunities if displaced by mechanical rice transplanters. While the sociological side of the Project is impressive and in many ways unique, we feel that the addition of female sociologists to the team would be valuable.

3. The team of Abu-Zeid, Richardson, Brooks and Dimick is a rare combination of gifted and far sighted individuals who complement each other well. Their continued mutual influence on and direction of the Project make its probability of success very high.

4. We are encouraged by the practical involvement of American and Egyptian personnel at the field and farm level and we support the concept that a large majority of the Project personnel should be so involved.