QUARTERLY REPORT

April 1 to June 30, 1979

EGYPT WATER USE AND MANAGEMENT PROJECT

SUBMITTED BY

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PROJECT STATUS

Introduction

Work progressed very satisfactorily this quarter. In Mansouria adaptive research for the search for solution to the problems that have beem identified continued. In Kafr El Sheikh reports from the problem identification studies have beem submitted by the discipline leaders and firld staff and the Problem Identification report is being written in the main office. Adaptive research is being carried out in Kafr El Sheikh in a search for solutions to the on-farm problems in this area. In El Minya the problem identification research was started.

The professional staff from the Cairo office were in continual touch with the field office advising them on their technical activities and helping them conduct their respective studies. In addition they were preparing activity reports and selecting people for training.

On campus activities were devoted to this summers training course, search for replacement for field team members who now will complete their two year tour, doing special studies or activities such as data management and evaluation procedures

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for the field, filling TDY request, purchasing equipment and other backstopping duties.

MANSOURIA

In Mansouria work continued with the farmers to solve their water delivery and on-farm water management problems to increase farm production and real income. The design of improvements of the canals and meskas (farm ditches) for El Hammami and Beni Magdoul areas continued. The economic record keeping of 14 farmers was continued and their records will be completed and summarized at the end of the September cropping season. Considerable attention was given building rapport and a more positive project image among Mansouria farmers. This has involved helping solve some problems with interpersonal relations by mediating in those problematic situations, and by assisting farmers with special needs like obtaining hybrid seeds, information on pest control, appropriate water deliveries, etc.

Other activities in the Mansouria area were as follows:

1. Field trials were established on 5 sites dealing with plant density, micronutrient foliar applications and hybrid versus native varieties of corn. On several of the sites land leveling preceeding the corn planting and water measurements are being made so as to evaluate plant density, corn varieties and the effect of foliar fertilizer applications. Similar procedures are being used on watermelon and cucumber fields. Squash harvests were completed and the application of foliar fertilizers increased the number of squash harvested by 23% and the weight of squash by 28% over 8 harvests.

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2. Sociological work was conducted in support of the fieldwork. Specifically, farmers were organized for their cleaning and maintenance of the Beni Magdoul canal and six meskas in coordination with the engineers and preparation were made to continue this program in the El Hammami canal service area during the following quarter. Similarily, farmers were organized and leaders identified along several key meskas in the Beni Magdoul area. Preparations are also underway to initiate a voluntary program of scheduling irrigations among farmers using sakias on several Mansouria area meskas, to begin early in next quarter.

Sociological data collection continued. Most noteworthy were the ownership mapping process underway, obtaining secondary data needed for special main office purposes from the area coops, conducting special interviews with farmers as required by the field trial program and organizing the farmers to solve their own problems.

3. Mr. Lotfy Nasr, economist on the Mansouria field team, completed all requirements for a M. Sc. degree at Zagazig University.

4. In cooperation with the Catholic Relief Agency and the Ford Foundation a demonstration of a solar powered pump was held at the field office for local farmers and EWUP staff. The solar pump is a proto-type being tested in Egypt by a commercial firm in the United States.

5. A group of farmers at the tail of El Shimi branch at the El Hammai site requested assistance from EWUP to investigate possibility of digging a well and installing a distribution system for approximately 25 feddans. The reason for this

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request is that during the peak water use season in the summer the El Shimi branch seldom delivers sufficient water to this area. The request was discussed by the water lifting task group and other personnel in the main office. It was decided that the work plans being developed for all of Beni Magdoul Command area and the El Hammami Command area should take priority. It was reasoned that it would be more efficient to solve the problem of water distribution for the entire area rather than on a piece meal basis. A meeting was held with the farmers at the tail of El Shimi branch and the situation was explained to them.

6. The majority of the instruments have been installed in the weather station. Some are waiting for batteries to operate the recorders. The pyrchiliometer for solar radiation is yet to be installed. A new technician has been assigned to supervise the station. Jim Loftis TDY from Fort Collins is working out a system to permit the data to be placed in computer storage right from the beginning of continuous measurements.

7. The Weed Control Institute worked to clean the drains in El Hammami area. They used different chemicals with different concentrations in various reaches of the drains. In general, the control has been very good. Some of the lower concentrations had less kill and will need to be sprayed again.

8. Land Leveling was done on specified sites for concentrated studies in Beni Magdoul and El Hammami. Some of the fields were graded to a slope not exceeding 1 cm in 120 m (0.00083). However most fields were graded to a dead level status. After leveling the fields were furrowed and the farmer planted corn by hand.

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KAFR EL SHEIKH

As with Mansouria field work is in the search for solution phase to the problems identified in the problem identification stage. The report finalizing the problems that have been identified is in draft form and will be finished next quarter. Some of the major problems that have been identified are:

1. A large portion of the land is taken up by canals ditches and drains. The cross sections of the ditches and drains are larger than necessary and poor maintenance of the ditches means they occupy still more land.

2. High and fluctuating Water Table. In some areas the water table rises almost to the soil surface.

3. Weeds in the ditches and drains - in particular the drains.

4. Nonuniform distribution of irrigation water on the fields.

5. Excessive conveyance losses from the sakia to the field being irrigated.

6. Large runoff of irrigation water from the fields during irrigation or ponding with rice to the drains. After working "his ass off" to get the water on the field the farmer lets it run off into the drains.

7. First irrigations after planting exceed soil moisture deficit. Also replenish an excessive amount of the root zone.

8. Rice is irrigated more frequently than the 8-day rotation. Water appears to be available when the farmer wants it.

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9. Farmer lacks methods and information to determine when he should irrigate.

10. The irrigation water is not as high in quality as the water in Mansouria but it is still of high quality (EC around 0.5 millimhos and relatively low sodium content). Drainage water in Kafr El Sheikh is of relatively low quality (EC's ranging from 1 to 3 millimhos).

11. The requirement that the farmer must lift water to irrigate requires two skilled irrigators for an irrigation. One to irrigate and the other to run the sakia and maintain the farm ditch.

12. The irrigation districts have many problems in the operation of their systems that thwart their efforts to deliver an adequate water supply on a timely basis to all areas. These range from a deteriated delivery system that needs considerable capital input to bring it back to capacity and capability to the problems associated with being on the tail end of the Nile system.

13. The method of irrigating rice where the farmer believes he must keep 5 to 6 inches of water ponded at all times.

14. There is a minor nutrient deficiency in the soils of the area particularly zinc with rice.

15. There is a shortage of trained transplanters for rice and labor costs are getting too high for some farmers to pay.

16. Some rice is grown under unplanned conditions by broadcasting seeds. Broadcasting seeds gives lower yields.

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17. The farmers perceive, and it may be true, that: they do not get sufficient fertilizers and the "black market" price is too high; there is a shortage of labor and their pay is too high (sounds like the U.S. farmer); there is inadequate animal food in the summer; there are periodic shortages of water; there are inequitable treatments by government officials; the cooperative does not provid sufficient help they can't get required services and that there is poor maintenance of canals, farm ditches and drains.

18. The farmers are troubled by the crop allocation system, the laws that govern owner-tennant relations, official disrespect, their image in the country and their own self respect. For a group of people that practice a highly-rational farm management system the farmers lack self assurance and confidence.

19. The size of the farms (No. of feddans) in many cases may be too small for an economical unit. This probably has to be accepted as a given and not as a problem but it thus requires that farmers on these smaller size farms must be provided access to farming technologies, equipment, etc on some sort of cooperative/custom basis. This probably doesn't mean substative but the development of delivery systems to meet these small farmer needs.

20. Farmers lack acess to adequate capital especially, as mention, the smaller size farm operators.

21. There is a lack of data for farm planning and feasibility analysis.

22. Lifting water to control its application increases production costs to the farmer and the nation and does not appear to decrease water use.

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23. There appears to be a need for improved marketing services and pricing policy for the farmer. The farmer is a free market entrepreneur and responds very well to free market forces.

24. Surface field drains take up a large segment of the land area and many of them may not be needed.

25. As with Mansouria plant populations are too low and a serious constraint to production.

26. Salinity poses a serious constraint and methods other than tile drainage will be researched.

Other activities in the Kafr El Sheikh area are:

1. On April 2 a seminar was held at Kafr El Sheikh University attended by Faculty and Students. The topic was economics of water lifting systems. An interesting discussion was held in which several staff members from the university pointed out the need for consolidating holdings in order to adapt mechanized technology to Egypitan farms.

2. An enterprise report was prepared on the cost and returns of producing honey at Kafr El Sheikh Governorate.

3. Data were collected and analyzed regarding a tractor powered sakia water lifting system for a large farm near the Abu Rayah site in Kafr El Sheikh Governorate. The system achieved low cost comparable to other large scale diesel and electric pumping systems. It has the advantage of using a tractor for power which can also be used for plowing and other farm practices.

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4. Farm cost and income records for 12 small farms at the Abu Rayah Site are being collected. These records will be summarized and analyzed at the end of the Agricultural year in September.

5. A portion of the data dealing with the soil chemical analysis from the soil survey was analyzed showing that over 37% of the soils are salt affected. Sodium absorption ratios in many soils exceeded values of 20 and in fact several soils had values exceeding 40. Water table depths at time of survey ranged from 45 cm to 120 cm depths. Ground water samples (9 samples) showed that 66% of the samples had sodium absorption ratios well over 15. Preliminary indications seem to show that there is a serious problem with salt affected soils.

6. Trials dealing with wheat and flax were harvested and the application of zinc foliar fertilizers showed significant increases in yield. Increases ranged from a low of 18% to a high of 28%. Trials were also established on cotton and rice sites. Various methods of seeding rice are being evaluated as the cost of transplanting is reaching the point where many rice producing farmers cannot afford to transplant.

7. Soils from 10 villages in the Kafr El Sheikh area were sampled to determine the micronutrient status as well as other chemical soil characteristics. Indications from 120 samples show that the zinc levels of most soils are not adequate for good crop growth. Rice nurseries were treated with zine in these 10 villages to see what kind of a response would occur.

8. A land operatorship map and listing of operation characteristics was completed for the Abu Rayah village area by the team sociologist to be used for sample selection in the village socio-economic survey, upcoming, among other purposes.

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9. Effort were continued in maintaining the organizations of farmers previously established, and in coordinating project activities in the area through them. Difficulties related to other agencies not providing needed support for cooperative development efforts undertaken earlier has placed progress with farmer's organization and initiative in jeopardy.

10. Two fields in Kafr El Sheikh were leveled, one field was rough leveled to dead level status using the scraper because the land plane could not reach this site. The other field was graded to a slope not exceeding 10 cm in 120 m. It was finished with the land plane and furrowed 58 cm o.c. Then planted to cotton by the farmer. It was first irrigated March 17, 18, after planting, by cooperative effort between the farmers and EWUP. The irrigation was partly by siphon tubes with many people having the opportunity to practice setting them. The 33 tubes available were not quite adequate to handle the flow from the pumps, so the bank was cut in a few places. After two hours, several furrows had already run water through to the end without breaking into the next furrow. The farmer's plan was to continue the irrigation for at least 24 hours, since this field had been fallow for several months.

11. The steel fence around the metreological station was installed at the institute experimental station at Sakha not far from Kafr El Sheikh.

12. Calibration of newly constructed flumes which had automatic stage recorders was started. Techniques are being established for continuously checking the accuracy of both the water level record and clock timing and for transferring data from the charts to the 9825 calculator for computation of flow rate.

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13. 40 observation wells 2.25 m length, 1¼" diameter had been installed in the different farms for concentrated studies at Om'sen and Hammad Canals area.

14. A new diesel portable pump with a discharge of 150 lit/hour with 6½ HP, had been purchased for Kafr El Sheikh area in order to be used for emergency cases.

EL MINYA

At the start of this quarter problem identification activities were just getting underway. A site was selected - Abueha Village - for intensive study. It forms a hydrologic unit being bound on two sides by drains, a third side by the service canal and the fourth by a road. It is about 1½ by 2 kilometers in size.

Work is progressing very well. Much secondary data has been collected from coops and district office sources. Several sets of farmer interviews have been completed, interpreted and reported. Team members have developed a good feeling for both characteristics of area farmers and project goals and procedures, due largely to an intensive training investment in that field team. Area maps are under preparation. Research plans are well developed and being initiated. Importantly, the enthusiasm, initiative and interdisciplinary organization of the team members are strong.

The main staff at the Cairo office had invested a considerable amount of time this quarter getting the problem identification research started. The Agricultural economists from the main office spent a total of 4 weeks at Minya during the quarter.

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Maps and questionnaires were developed for more intensive survey work which will continue into the next quarter. Data were gathered and a crop enterprise cost report was prepared for soybeans in El Minya Governorate. The sociologists identification of about 50 farmers as potential cooperating research subjects; from whom about 25 will be selected; planned and arranged meetings with village leaders, farmers and local officials to discuss problems and possible project contributions to solving them; identified and established communication flows with local influentials; developed hypotheses about social constraints and opportunities in the development of the local irrigated agriculture; and provided the field team with logistic support. The agronomist spend several weeks training the field personnel in the various techniques involved in crop and soil evaluation. At the present time the field team is involved in getting an estimate of crop density on all of the major summer crops. In addition soil bulk density measurements are being taken and as soon as facilities become available pH and ECe data will also be determined.

The engineers from Cairo were also training the field team members on making stream flow measurements, ground water elevation observations; on-farm irrigation measurements, installing flumes etc. The engineer also designed a fence to enclose the storage area for project equipment, made a quick estimate of the flow in the Abueha canal that serves the area. These estimates were made during both the on and off periods and indicate there is considerable leakage from the gates. Also the survey Department was contacted to get an up to date survey and map of the Area. A preliminary Problem Identification report was written.

Main Office Activities:

The main office finalized the selection of 17 persons to go to Fort Collins for an eight week on-farm water management

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short course on problem identification. Dr. Richardson visited the project in May to determine who among the American personnel will stay on the project after completing their two year assignment. Dr. Quenemoen will stay on for another two years and Dr. Brooks for one year. Both will go on home leave next quarter and Dr. Richardson will return the later part of June to serve as Technical Project Leader while Dr. Brooks is on home leave.

A data management week was held with all disciplines participating. Dr. J. Loftis from Fort Collins helped with it. The purpose was to organize the management of the data and to further the utilization of the HP 98 25 computer by the disciplines.

The water lifting task group has been very active. The present status of this task group is that the engineers are preparing construction designs for water conveyance systems at the Mansouria study site. These designs will be given to commercial companies for bids. After receiving the bids the task group will assist with implementation. Farmers at Meska 10 have agreed to cooperate in the development of a new water lifting and distribution system. This work is continuing.

Dr. Ree from Fort Collins worked with the Engineers in reducing the water budget data for Mansouria and in developing computer analysis techniques for the data.

Other activities are as follows:

1. General Engineering Activities:

   a. A paper entitled " Preliminary Evaluation of Mansouria Canal System, Giza Governorate " was written. It will be presented in June at the ASAE meeting in Canada.

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b. A paper entitled "Conveyance Losses in Canals" was written by Farouk Shahin, M. Saif Issa and W. Fahim and presented at the "Conference on Water Resources Planning in Egypt" which held at Cairo from June 25 up to June 27. Dr. Richardson and Brooks wrote and presented a paper titled "Farm Water Management in the Nile Valley" at the same conference.

2. General Economics Activities:

a. A training seminar was held for all of the EWUP economists May 26-27 in Cairo. Reports presented and reviewed included water lifting with a tractor and sakia at Kafr El Sheikh, costs and returns from honey production, crop enterprise cost return report for soybeans, and a progress report on the economics of water distribution in Government canals. Dr. Dotzenko of the agronomy staff presented some ideas for research collaboration between economics and agronomy disciplines.

b. A seminar was presented on April 13 for the EWUP staff on the subject of water lifting.

c. Alphabetical dictionary with the names of plants in Arabic, English and Botanical form was prepared and distributed to all disciplines.

d. The economics staff participated in a farming systems workshop sponsored by FAO. A paper was presented on the economics of crop production. The workshop included travel to the experiment stations at Sids and Malawi.

e. Programs for use on the HP67 and 97 were developed to (1) compute the cuts-fills for land leveling, (2) compute the area in irrigularly shaped fields, (3) add data in units of feddans kerats and sahms and convert to hectares, decimal system, or acres, and (4) compute internal rate of return for cash flows.

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f. Eight senior level university students were selected from Ein Shams and Kafr El Sheikh Universities to work this summer at Mansouria and Kafr El Sheikh in place of the regular staff who are training in Fort Collins. Four days of orientation and training were devoted to preparing these students for their work.

g. Dr. Quenemoen, the Economic Team Leader has accepted the responsibility of sharing overall training work with an Egyptian counterpart. He will spend 6 weeks of the next quarter on this work.

h. Work continued on a project paper dealing with the economics of mechanization for small farms. This paper is in five parts, (1) unit cost and farm size relationships illustrated by alternative pumping costs, (2) problems of adopting mechanization for a farm at El Hammami, (3) alternative methods of achieving appropriate size for mechanization adoption, (4) impact of mechanization on communities and (5) impact of mechanization on national economy. Our target date for finishing this report, intended as a project paper, is December 31.

i. The economics team participated in data management week. As a result of work initiated during this time we have now computerized our crop enterprise cost return reports, prepared a complete data management file, and started work on a computerized machinery cost program.

j. A paper on the economics of shifting from cotton to soybeans in Egypt was prepared for presentation at a conference in September to be conducted by the International Soybean Organization.

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3. General Agronomy Activities:

a. A good portion of the disciplines time was involved in statistically analyzing data and in the writing of a project paper dealing with the micronutrient status of Egyptian soils.

b. The discipline participated in several interdisciplinary task groups, seminars, discipline leaders meetings, data management week, etc.

4. General Sociology Activities:

a. Several research emphases for the period include: coding, punching and completing preliminary computer analysis of case study interview data from Mansouria and Kafr el Sheikh; planning and making preparations for data collection, analysis and writing to the end of 1979, including a large-sample survey of farmers operating in the three project field areas and several special studies (e.g. farmers views of Beni Magdoul lining activities; farmer/professional attitude consonance regarding needs and approaches in irrigated agriculture development effectiveness of staff orientation/training procedures, etc.)

b. Considerable progress was made in the preparation of several project papers and technical reports during the period. An emphasis on reporting findings will characterize discipline work through 1979. Similarly, good progress was made in the development of field trials which experimentally apply previous findings, and emphasis will continue in this activity.

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c. Special attention was also given during the period to supporting effective coordination and communication between disciplines, particularly through activities of the Data Management Task Force, the Discipline Leaders and Counterparts Committee, and El Hammami and Beni Magdoul Task Groups, A paper on work planning processes and procedures was prepared and circulated and leadership was given in support of Minya inter-disciplinary team-building processes (report on this in preparation.

d. Other activities included participation in several conferences and seminars and the development of audio-visual materials for extension use, including a package explaining project purposes and procedures and another giving practical suggestions for improved irrigation, agronomic and economic management practices by farmers.

BACKSTOPPING

1. Planning and Coordinating Committee (P&C)

The P&C committee meets weekly to plan and coordinate the bachstopping activities of each discipline. The committee reviewed the training program, the activities of each discipline, the development of evaluation procedures for people working on the contract and the campus research activities. The committee recruited professionals for TDY assignments in Egypt, briefed them on expected duties and gave them an orientation program to acquaint them with the project and Egypt. The committee at this time is actively recruiting personnel to replace those Field team members that will return to Fort Collins.

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2. TDYs

The following were in Egypt TDY this quarter:

Dr. Richard McConnen, Prof. of Agricultural Economics (3-12-79 to 4-14-79). To work with economic team on farm cost analysis.

Dr. James F. Ruff, Assoc. Prof. of Civil and Irrigation Engineering (3-25-79 to 4-24-79). To help the engineering team on the Water Budget Study.

Dr. William Ree, Prof. of Civil and Irrigation Engineering (4-15-79 to 5-30-89). To help the engineering team with the Water Budget studies.

Mr. R. La Roque, Property Control Officer (4-10-79 to 5-17-79) to inventory and mark all control property.

Dr. Everett V. Richardson, Prof. of Civil Engineering (5-10-79 to 5-21-79). To work with the Director on administration matters and to interview field team Americans to determine who will and should extend their tour. (6-22-79 to 6-29-79) to act for Dr. R.H. Brooks, Technical Project Director while he is on home leave and participate in the CID-AID project review July 22 to 28.

Dr. Jim Loftis, Assistant Prof. of Agriculture Engineering (5-14-79 to 6-30-79). To work on the data management program for the project.

3. Training

The training manual was completed and work continued on preparation for this summer training course on Problem Identification Procedure in on-farm water management.

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Seventeen trainees arrived on campus June 23 to take the 2nd on-farm water management training course. Drs. Clyma, Sunada, Redgraves and Mosely are commited full time to the course with Drs. Ruff, Saltanpour, Santapollo, Schmehl, Loftis, Layton, Skold, and Lowdermilk helping part time. Several Research Associates and Graduate Students will also assist. Dr. Quenemoen and Engineer Zaki from Cairo are also helping conduct the course in preparation of transferring the training course to Egypt next year. Engineer Zaki has been appointed as Engineer-in-charge of all training for the project at the Cairo office.

Training Field Trips

A field trip was arranged and conducted for His Excellency Engineer Abdel Hady Samaha, Minister of Irrigation, and four of his staff. These were Dr. M. Abu-Zeid, Director Water Management and Irrigation Technology Research Institute, Dr. A. Rady, Technical Director, Minister's office, Dr. M. El Moatasim, Senior Engineer in Side Affects of High Dam Research Institute and Eng. Sarwat Fahmy, Director of Water Master Plan for Egypt. The trip was taken the last of April.

They visited Irrigation Districts in Colorado, Nebraska and Arizona; A center pivot Manufacturing plant (Lockwood Corporation in Geing Nebraska); The Engineering Research Center and Hydraulics Laboratory of Colorado State University; Agricultural Experiment Stations in Colorado, Nebraska and Arizona and some full scale farming experiments for salinity control at Grand Junction Colorado and Yuma Arizona; The Glen Canyon Dam at Page Utah; Emperial Dam and sediment excluder system near Yuma Arizona; and the U.S.B.R.'s drainage water desalting research station near Yuma Arizona.

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Arrangements were made for six or seven Senior Engineers in the Ministry of Irrigation to travel to Ft. Collins to take part in the Field Trip that is arranged in August for the Problem Identification Training Course.

Video Tape Training

Nothing this quarter

On-the-Job Training

This is a continuing activity of the project.

Equipment

Equipment was continuously being ordered and shipped to Cairo in response to requests from the field.

Other

Project Papers were reviewed. Final typed and published. In addition several papers for technical journals and conferences were reviewed, typed and published.

WORK PLANS
July 1, 1979 to December 31, 1979

I July 1 to September 30, 1979

A. Cairo

1. Mansouria

The adaptive research program for the search for solutions to the identified problems will continue with the following activities:

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a. Design and ordering of equipment for research on delivery system. Improvement both in El Hammami and Beni Magdoul.

b. Farmers will be organized to take part in the operation, maintenance, systems improvement of the meskas and branch canals.

c. Land leveling will continue.

d. Various methods and implements for seed bed preparation, cultivation and other agronomic practices will continue.

e. Pest control experiments will continue.

f. Water budget data gathering and analysis will continue with a draft report prepared.

2. Kafr El Sheikh

The problem identification paper will be finalized and the adaptive research program will continue.

Field trial experiments on folyer and zinc fertilizers will continue.

Observation and data collection will continue on the fields that were leveled and furrowed.

The research on various methods of planting rice will continue.

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Farmers organization efforts will continue.

Task forces will be formed to design a research program to develop improved irrigation water delivery and removal systems.

The water budget gaging station data will be analysed as to its sufficiency to define the water budget.

The meterological station will be completed.

Additional applied research programs will be designed to develop solutions to the problems that have been identified.

The land leveling program will continue as fields become available but in the meantime an overall land leveling program for the area will be developed.

3. El Minya

The problem identification studies will continue. Measurement sites for the water budget studies will be selected. The village soil fertility survey will continue. The fence arround the office compound will be completed and the meterological station will be completed. The 1st phase of the sociological survey will be completed along with the collection of agronomy, engineering and economic data.

4. Main Office

There will be an indepth project review by a CID-AID Review Team. The review will be conducted from July 22

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to 28. Members of the team as presently constituded are:

CID:

Dr. Donal Johnson, Dean of Agriculture, Colo. State Uni.

Dr. John R. Davis, Assoc. Dean of Agr. and Experiment Station Director

Mr. Bernie Henrie, Chief Egyptian Desk CID

USAID/Cairo

Mr. Niel Dimick - Project Manager

Mr. Marcus Winter - Asst. Ag. Development Officer

Ms. Jennifer Bremer - IDI

Mr. John Blackton - Program Office

Mr. George Steckel - Program Officer

B. Fort Collins

1. Training

a. The 2nd on-farm water management training course will be put on.

b. The field trip for the trainees and under-secretaries of State from the Ministry of Irrigation will be conducted.

2. Backstopping

a. P&C committee and campus project Director will

i. Put on the 2nd training program in on-farm water management.

ii. Select, train and provide orientation for TDY and replacement personnel for the field team.

iii. Select and supervise equipment purchasing.

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iv. Travel to Cairo as needed.

v. Conduct special studies on furrow, and basin irrigation; data management.

b. Jim Loftis will continue his development work on the data management program.

c. Campus personnel will work with their field team counterparts in:

i. Development of work plans

ii. Analysis of data and writing of reports for all project activities - on-farm water management, water budget and soil fertility studies.

iii. Work will continue of personnel evaluation methology.

Note: Major activity this quarter involves putting on the training program.

C. Personnel

1. Field Team

a. Dr. Brooks and Dr. Quenemoen will be on Home Leave.

b. No other changes.

2. TDYs

Dr. F. Santapollo, Prof. of Sociology
to help sociology team analyse their data and develop farmer organization.

Dr. L. Zurcher, Prof. of Sociology 7/18/79 to 8/ /79)
to help sociology team analyse their data.

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Dr. W. Schmehl	Agronomy	Sept.
Dr. W. Sayre	Engineering	Sept. 1 to Dec. 16
Dr. W. Ree	Engineering	Sept.
Dr. Luft	Economics	Sept. 18 to Oct. 7
Dr. A. W. Marsh	Engineering	Aug. 27 to Oct. 6

II October 1 to December 31, 1979

A. Cairo

1. Mansouria

Continue development of Applied Research program in search for solutions. Emphasis will be on El Hammami. The Irrigation Engineer will finalize plans and procure equipment to change the water delivery system, Economists will analyze the economic soundness of alternate schemes, Sociologists will work with the farmers to help them organize into an effective water delivery management circle, the Agronomists and Ag. Engineers will lay out on-farm water management, scheduling and irrigation methologies.

2. Kafr El Sheikh

Publish problem identification report, continue field trials in search for solutions, start planning large scale irrigation research program similar to the one on El Hammami. This program will involve drainage.

3. El Minya

Finalize problem identification studies start initial planning on applied research in search for solutions.

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B. Fort Collins

1. Training

a. Progress report on summer training session.

b. Minor modifications of Training Manual and prepare training sylibus.

c. Start planning for taking course to Egypt.

d. Start selection process along with Cairo for academic training program as provided for in Section 13 and 14 of the General Provisions and as outlined in training Guidlines developed by Richardson and Clyma.

e. A amangement training course will be put on in December by Benton and Hautoloma in Cairo.

2. Backstopping

a. P&C committee and campus Project director will continue activities outlined in Section I. In addition any corrective actions or suggestions made by the CID-AID review team will be implemented.

b. P&C committee will finalize selection of Dotzenko and Golus' replacement and will actively screeen candidates for Adams, Knop and Wolfe's replacement.

C. Personnel

1. Field Team

Dr. Alex Dotzenko, Senior Agronomist will leave in Oct.
Mr. Harold Golus, Junior Agronomist will leave in Nov.

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BEST AVAILABLE COPY

2. TDYs

Dr. A. W. Marsh	Ag. Engineer	Aug. 27 to Oct. 6
Dr. W. Clyma	Ag. Engineer	Sept. or Oct.
Mr. T. Ley	Ag. Engineer	Oct. or Nov.
Dr. D. Redgraves	Agronomy	Nov. or Dec.
Dr. W. Schmehl	Agronomy	Sept. or Oct
Dr. W. Sayer	Engineering	Sept. 1 to Dec. 16
Dr. W. Ree	Engineering	Sept.
Dr. J. Ruff	Engineering	Nov. - Dec.
Dr. Luft	Economics	Sept. 18 to Oct. 7
Dr. J. McConnen	Economics	Oct. 1 to Nov. 30
Dr. M. Skold	Economics	Nov. 15 to Dec. 20
Dr. M. Lowdermilk	Sociology	Fall
Dr. D. Benton	Management	Dec. 1 to 15
Dr. J. Hautoloma	Management	Dec. 1 to 15