activity report no. 4

QUARTERLY ACTIVITY REPORT

JANUARY 1982 - MARCH 1982

AGRICULTURAL MECHANIZATION PROJECT

Ministry of Agriculture

Arab Republic of Egypt

Submitted by

LOUIS BERGER INTERNATIONAL , INC.
100 HALSTED STREET

EAST ORANGE, NEW JERSEY , USA

AID Grant Number 263-0031

QUARTERLY ACTIVITY REPORT

JANUARY 1982 - MARCH 1982

CONTENTS

TABLES AND FIGURES

1.0 PROJECT SUMMARY

During this reporting period, the Egyptian Project Management has changed, with Dr. Ahmad F. Sahrigi now as Project Director and Dr. Zakaria El Haddad as Project Coordinator. Their emphasis is upon implementation and coordination of mechanization activities within, as well as between, all other projects involving mechanization. In this regard, they are working towards institutionalizing mechanization in the Ministry of Agriculture for the benefit of the farmer. The Project has received excellent and strong support from the new management team. All parties, old and new, have made a united effort to see that the program should continue forward during this transition period.

The three remaining expatriate positions were filled: Machinery Development Advisor, Local Farm Equipment Manufacturing Advisor, and Irrigation Engineer for the Soil Improvement Subproject, the latter to be effective as of April.

USAID has moved forward, having taken action on items that have been pending for some time: 1) approval of the Applied Research Fund guidelines; 2) approval of the Waterlift Credit Fund, and 3) activation of the Service Center Fund with the first tranch of US$ 1.5 million. These positive actions will greatly enhance the capability of the technical staff to meet their targeted objectives.

During this period, the Project's first working paper was published: "Agricultural Cooperative Tractor Cost Survey in Beheira and Gharbia Governorates," by Mr. Steven Shepley and Mr. Zaki Helmy Z. Wissa in collaboration with Dr. Zakaria El Haddad. The study reports that financial operating costs for the tractors surveyed were LE2.26 per hour and the economic costs were LE4.84 per hour. The major reason for the differential was due to the subsidized fuel and lubricant costs. This working paper is presented as a supplement to this activity report.

In addition to this working paper, serveral of the annexes will be of interest to the reader: Economic and Financial

Data Requirements; Mechanization Issues in Egypt; Data Quality Evaluation of the Mechanization Project's Farm Management Survey; Tractor and Irrigation Pump Population in Qaliubia and Minia Governorates (collected by the Evaluation Subunit and the Service Center Subproject).

Briefly, the major efforts of the Subprojects were:

1. Planning and Evaluation: Besides the above mentioned working paper and annexes, this Subproject actively pursued its data collection activities. The Farm Management Study continues with data collection and data collation as winter crops are in the harvest or post-harvest stage and summer crop activities are beginning. The Area Mechanization Survey data collection activities are finished and analysis has begun. One thousand farmers, 180 machine owners, and 30 workshop owners were interviewed. The Village Studies Program is developing a profile for the 23 random villages focusing upon: landholding patterns, cropping structure, labor situation, existing farm machinery, land prices, access to services, population, etc.

The information developed from all three surveys will form the initial data base against which changes can be measured as the Project intervenes in those random villages. Because these data are very location-specific, depending upon other generalized surveys would not be adequate for this Project's needs.

In addition, the Evaluation Subunit has collected data for other subprojects such as the Service Center, Soil Improvement, subprojects, and the Economic and Financial Planning Subunit.

2. Research and Development: Applied Research Fund guidelines were approved. Twelve proposals have been received involving: grain harvesting, landleveling, primary tillage, secondary tillage, irrigation methods, and solar drying. In cooperation with the Extension/Training Subproject, cotton tillage demonstration plots were established.

3. Extension/Training: The Extension and Training Subprojects were restructured into a single Subproject. Field training courses continued, involving 77 course participants. Training of 11 extension service mechanization specialists started at Sakha after completion of their field orientation at Sheikh

Ahmed. In total, 25 participants were involved in training center programs.

4. Soil Improvement: FINALLY, a draft workplan is nearly completed. It is divided into four parts: 1) Introduction to land improvement activities, defining research priorities; 2) Identification of research activities; 3) Land improvment implementation program, and 4) Irrigation agronomy and waterlifting activities. A Minia Governorate survey is underway involving physical attributes of Minia basins and a detailed topographic survey of representative basins.

5. Service Center/Village Workshops: The first tranch (US$1.5 million) of the Service Center Fund was deposited in the PBDAC. Sixteen letters of intent were received from interested participants. Qaliubia and Minia governorates were surveyed for tractor and irrigation pump populations.

6. Local Farm Equipment Manufacturing Program: The major effort was an orientation program in understanding the agricultural and industrial manufacturing sectors and the manufacturing environment in which the local farm equipment manufacturer must function.

The Project's level of effort is measured by two indicators: man-months and financial expenditures. The accumulated man-months since inception of the technical assistance contract totalled 146 man-months compared to 154 man-months anticipated in the Inception Report at this time in the Project's development. Excluding coordinator support, this represents approximately 25% of the total technical input. Evaluation of financial expenditures is viewed in three stages: 1) funding requests in process of review by USAID; 2) funding approved and committed by USAID; 3) funds physcially expended. On this basis, accumulated funds in-process committed and expended totalled US$ 13,780,562, or 34% of the US$ 40 million obligated for this project. Excluding the uncomitted inflation-contingency factor (US$ 13,805,000), this represents 53% of the basic line item grant (US$ 26,195,000).

The reader is referred to section 4.0 for details of the implementation schedule. Briefly, the subprojects can be

summarized as follows: 1) Planning and Evaluation: on schedule; 2) Research and Development: behind schedule due to administrative problems beyond the control of the technical staff; 3) Extension/Training: on schedule as the revised plan; 4) Service Center/Village Workshops: on schedule; 5) Soil Improvement: workplan behind schedule; 6) Local Farm Equipment Manufacturing: on schedule.

Several implementation issues are outstanding: 1) Project amendments need action, especially the Senior Accounting Advisor's position, Machinery Introduction Fund, and demonstration/training equipment; 2) Lack of available training center facilities has caused delay and rescheduling of in-country technical training programs; 3) The Project does not have the transportation capacity to fully implement the Extension/Training effort without immediate local procurement.

2.0 MAJOR ACCOMPLISHMENTS

Overall Project Accomplishments

1. USAID approved U.S.$ 2 million for Waterlifting Fund.

2. USAID activated the Service Center Fund with a first tranch of U.S.$ 1.5 million.

3. Two new positions were activated: Machinery Development Advisor and Local Manufacturing Advisor.

4. USAID approved guidelines for the Applied Research Fund.

5. Local Currency Fund for nonrevolving Project expenditures has been established.

6. The Project's HP-85 computer training program began with the completion of one training cycle.

2.2 Planning and Evaluation Subproject

2.2.1 Economic and Financial Planning Subunit

1. Completed a tractor cost survey from randomly selected cooperatives in Beheira and Gharbia. Average tractor operating costs were LE2.26/hour, but the economic cost was LE4.84/hour. The large disparity was primarily due to the subsidized costs of fuel and oil.

2. Brought participating farmers in the farm management program in Beheira to Sheikh Ahmed for a mechanization field day in cooperation with the Extension/Training Subproject. The field day was well received, and the farmers were able to relate the Farm Management Survey to implementation activities to follow the survey.

3. In order to evaluate the quality of the farm management data, variables were randomly selected and correlations performed. Expected correlations ranged from an r^2 of 73 to an r^2 of 97, indicating that these data were tracking as anticipated.

4. Details of the tractor study are in the supplemental Working Paper No. 1. A data processing center has been established in the Ministry of Agriculture for collating the farm mangement data.

5. Farm mangement data from October 1981 through December 1981 have been collated. The next consolidation period will be from January 1982 through March 1982. The farm management field effort is proceeding on schedule in the three governorates where the Project is working. In the field, winter crops are in the harvest or post-harvest stage and summer activities are starting.

2.2.2 Evaluation Subunit

1. Area Mechanization Survey

a. Following the pretest in December, ten villages were randomly chosen representing three project villages, three agrarian reform villages, and four cooperative villages. Two villages were selected in Beheira and Qaliubia, and three villages were selected in Gharbia and Minia. These villages vary in organizational patterns, access to services, and population.

b. Data collection was completed in late February; 1000 farmers, 180 machine owners, and 30 workshop owners were interviewed.

c. Already, certain points have emerged:

(1) Many farmers complain of indiscriminate use of gypsum on their fields and believe that this has reduced yields.

(2) Farmers also believe that subsoiling has reduced yields by drawing saline water to the surface.

(3) A number of workshop owners are reluctant to send their employees for outside training, believing the apprenticeship they offer is far superior.

2. Village Studies Program

a. All five teams (Beheira, Gharbia, Sharkia, Qaliubia, Minia) are staffed and being trained. Their first task has also been completed, i.e., interviews with village leaders regarding local problems in agriculture and mechanization.

b. Each team is now focusing on a Village Profile Report involving all of the 23 random villages. Questions focused on landholding patterns, cropping structure, labor situation, extent of existing machinery, land prices, access to services, and population, etc. In addition, similar information will be collected at the district and governorate levels. Because these 23 villages will serve as a mechanization model in Egypt, it is important to know whether or not they cover the range of villages in the country. In preparation for implementation, it is important to understand the similarities and differences between villages.

c. An advisory committee has been formed to concentrate upon the village studies program.

d. Another assignment has begun with many of the village teams, i.e. interviewing all machine owners in the random villages with particular emphasis on information regarding credit, maintenance, and repair problems.

3. Data needs for other subprojects

   a. Service Center Subproject: identified machinery population by markaz for Qaliubia, Minia and Sharkia and the names of all registered workshops in these governorates.

   b. Economic and Financial Planning Subunit: completed tractor-use forms

   c. Soil Improvement Subproject: initiated evaluation of the Central Delta Soil Improvement Center

   d. Soil Improvement Subproject: identified farmer attitudes towards landleveling in Minia governorate.

4. Paper presentation at the First National Conference on Soil Degradation, in Minia, by Drs. Bahgat Abdel Maksoud and Peter Reiss: This paper reports on farmers' perception of changes in soil and water conditions during the past ten years in the Abu Qurqas and Matai districts in Minia governorate.

2.3 Research and Development Subproject

1. Applied Research Fund

   a. Guidelines approved by USAID and request submitted for US$250,000, a quarter of the total funding.

   b. Twelve proposed projects have been received that include proposals on: grain harvesting, irrigation methods, landleveling, solar drying, primary tillage, secondary tillage.

2. Cotton tillage demonstration plots were established in cooperation with the Extension Subproject at Sheikh Ahmed. For details, see Dr. Reaves' March Activity Report (Annex A of this report).

3. Machine shop progress: concrete foundations were poured for the large shop machines, and the lathe, drill press, and radial drill were mounted and checked.

4. Developed specifications for soil testing equipment and forwarded these to Cairo for action.

5. Activated the Machinery Development Advisor's position. Mr. Raymond Beebe has been acquainting himself with the Egyptian agricultural scene in preparation for the development of his workplan.

2.4 Machinery Management Extension/Training Subproject

1. The Training and Machinery Management Subprojects have been restructured into a single unit under the direction of Mr. Fred Schantz as the coordinator of this Subproject.

2. To soidify this reorganization, a Village Programs Workplan has been drafted and circulated for comment. Its purpose is to bring the Training and Extension programs into a single, cohesive unit.

2.4.1 Training Subunit

1. Field training courses offered during the period were:

a. Basic Farm Tractor Driving	62 persons
b. Basic computer operation	6
c. Farm Tractor Driving, Field Opns.	9
Total course participants	77

2. Began training of eleven mechanization specialists from the Extension Department for assignment in project villages in Gharbia and Beheira governorates.

3. Maamoura Farm Machinery Training Center:

   a. The first group of 11 tractor operators began a tractor operation course, 2EX1, of the 1980-82 Training Program.

   b. A 2-month Mechanics Level I course was begun for 14 participants: 10 from the Soil Improvement Subproject and 4 from the Service Center Subproject.

4. Participant Training (Training outside Egypt):

   a. English proficiency being the first requirement for overseas training, 38 candidates were interviewed, registered with the USAID training office, and tested for English proficiency,.

   b. Fourteen of the 38 candidates were identified for an intensive English language course to be given during the next quarterly reporting period.

   c. Only one candidate is currently in an intensive language course.

5. An in-house computer training program was conducted on the project's HP-85.

6. In cooperation with the Extension Service of MOA, the project has started a peanut harvester training program involving 30 agricultural engineers. This is the first major effort of the Project's involvement with the Extension Service.

2.4.2 Machinery Management Extension Subunit

1. Extension Mechanization Specialists: Eleven specialists completed a field orientation program at Sheikh Ahmed with tours to different parts of the Delta in preparation for an intensive 3-month program at Sakha Training Center. These specialists will work at Project sites in Gharbia and Beheira governorates.

2. Most of the reporting period was devoted to the extension mechanization specialist program: orientation revolved around exposing the specialists to machines used in the area, mechanization practices, farm equipment dealerships, and workshop support facilities. In addition, a subject-matter training program was outlined for use at the Sakha Training Center (Annex A.3.3).

3. Monitored the wheat tillage demonstration fields at Sheikh Ahmed.

4. Established a cotton tillage trial at Sheikh Ahmed using a chisel plow (primary tillage) and three secondary tillage tools: disk harrow, rotary tiller, and rotary harrow. This was a cooperative program with the Research and Development Subproject.

5. Two field days were organized at Sheikh Ahmed for farmers cooperating with the Farm Management Survey in Beheira. Approximately 50 farmers from Mahmoudia markaz and 50 from Abu Hommos attended.

6. Waterlifting activities:

   a. USAID approved the Waterlifting Fund, sub-obligated US$ 2 million, and requested the first installment of US$ 500,000.

   b. Completed a survey of water pumps on the market which will aid in implementing the Waterlifting Fund.

   c. In addition, a pump use survey was completed and is being analyzed.

2.5 Local Farm Equipment Manufacturing Program

Although this program is not technically a Subproject, the program actually functions as a subproject so it will be treated as such in this and subsequent reports. The program was activated during this reporting period with the arrival of the Local Manufacturing Advisor. The activity effort has been one of orientation to the agricultural and industrial manufacturing sectors and the manufacturing environment in which the local farm equipment functions. A draft workplan has been developed and will be finalized next quarter.

2.6 Soil Improvement Subproject

1. Modified the tractor and equipment specifications developed during the last reporting period and resubmitted these to USAID with a request for a PIO/C order so that the Project might proceed with U.S. procurement through a USAID authorized procurement agent.

2. The development of a soil improvement workplan was the major activity during the period. A draft is nearly completed and will be available for comment with final drafting during this next reporting period. The workplan is broadly divided into three parts:

   a. Part I introduces land improvement activities and defines research priorities;

   b. Part II identifies research activities;

   c. Part III suggests a land improvement implementation program;

   d. Part IV deals with irrigation agronomy and waterlifting activities, which are closely allied to the Extension program.

3. Minia governorate survey: This work is divided into two parts: a) a subjective survey of basins dealing with their physical attributes, and b) a detailed topographical survey, soil survey, and sociological survey on representative basisn. The basins survey has been completed, and data are being analyzed.

4. Waterlifting activities are performed under the guidance of this Subproject but are reported as an Extension activity (2.4.2 above).

2.7 Service Center/Village Workshop Subproject.

2.7.1 Service Center Subunit

1. Activity is increasing with letters of intent for 16 different service center locations. This is summarized in Table 2.1, which includes all five Project governorates. The estimated average cost in the four loan applications thus far received is U.S.$ 210,000.

2. Both the Service Center and Village Workshop subunits held meetings with the governorate PBDAC banks in Beheira, Gharbia, Sharkia and Qaliubia to discuss the regional loan committees and procedures for processing loan applications.

3. The first installment (U.S.$1.5 million) has been deposited in the PBDAC for funding the Service Center Development Fund.

Table 2.1 Summary of Service Center Locations, Applicants and Estimated Loan Values

Target Governorate	Location		Name of Applicant	Date, Letter Intent	Date, Loan Amount	Est. Amount of Loan
	Planned	Proposed				
BEHEIRA	Itay el Barud	(same)	Tanta Motors Co.	3/12/81	17/2/82	100,000
	Abu Homos	(same)	Hammami Family	28/1/82	24/3/82	150,000
	Mahmudia	(same)	Abdou Khir Aua	29/3/82		
	Abul Matamir	--	--			
		Nubaria	Egyptrac (S. El Aguizy)	3/1/82		
GHARBIA		Tanta	Tanta Motors Co.	17/2/82		
		Tanta	Samtrade Co.	28/2/82	28/2/82	191,500
QALIUBIA		Qaliub	Egyptrac (S. EL Aguizy)	3/1/82		400,000 (verbal)
SHARKIA		(not defined)	Diabco	13/1/82		
		Zagazig	Orascom	28/2/82		
MINIA		Beni Mazar	Tanta Motors Co.	17/2/82		
(or Asyut)		(not defined)	Diabco	13/1/82		
Other Governorates						
Cairo		Nasr City	ICON Co.	11/10/81		
Dakahlia		Mansoura	DIABCO	13/1/82		
Qena		Qus	M.A.F. Mahrous (ICON)	11/2/82		
		(not defined)	DIABCO	23/2/82		
Alexandria		Maryut	AWADCO	24/2/82		

4. Collected data for agricultural tractor and irrigation pump population in Qaliubia and Minia governorates (Annex F). In addition, thresher population for Minia is reported.

2.7.2 Village Workshop Subunit

1. The focus this quarter has been on loan applicants who had been contacted previously, rather than upon pursuing new contacts.

2. Along with the Service Center Subunit, visited the PBDAC banks in the Delta within the Project area for implementation of the Service Center Development Fund. Village workshops will also have access to this Fund.

3. Completed arrangements for counterpart training in machine shop practices with the Beheira Company.

4. Started a draft of performance standards for village workshops. These standards are based on five factors: a) tools and equipment; b) personnel and training; c) ability to make adjustments and repairs; d) machine work capability, and e) welding and blacksmithing capability.

5. Initiated maintenance programs for cooperative tractor drivers and farm machinery maintenance personnel.

3.0 TECHNICAL AND FINANCIAL LEVEL OF EFFORT

3.1 Technical Level of Effort

During this period, two additional technical positions were filled: Machinery Development Advisor and Local Manufacturing Advisor. There remains one position yet to be filled, Irrigation Engineer for the Soil Improvement Subproject. However, a candidate has been proposed and it is anticipated that approval will be forthcoming in April; so that from a practical standpoint, it can be considered that all positions are filled. The actual level of effort (146 man-months) and the anticipated level of effort from the Inception Report (154 man-months) are compared in Table 3.1. All technical assistance time, within the assumed five-year life of the Project, is recoverable for all positions except for: 7.0 man-months for the Soil Improvement Irrigation Engineer and 0.1 man-months for the Team Leader.

3.2 Financial Level of Effort

Table 3.2 reviews the financial level of effort. Three stages of funding commitments are designated: 1) "in-process" funding requests being reviewed by USAID; 2) "committed funds" approved and sub-obligated by USAID but not physically disbursed, and 3) "expended funds" or physically expended funds.

Funds in-process, committed, and expended totalled U.S.$ 13,780,562. This represents nearly 53% of the basic USAID grant of U.S.$ 26,195,000. Including the uncommitted inflation-contingency factor of U.S.$ 13,805,000, this represents 34% of the total U.S.$ component (US$ 40 million).

Table 3.1 Level of Effort: Technical Staff, from September 1980 through 31 March 1982, in Man-months.

Position	Starting Date	Actual Effort	Anticipated Effort
1. Team Leader	4/10/80	17.9	18.0
2. Planning/Evaluation Advisor	15/9/80	18.5	18.5
3. Research Director	3/11/80	16.9	17.0
4. Evaluation Advisor	7/12/80	15.8	16.0
5. Extension Advisor	12/1/81	14.6	14.0
6. Farm Management Advisor	14/4/81	11.5	11.0
7. Service Center Director	9/4/81	11.7	11.0
8. Equipment Repair Advisor	3/6/81	10.8	11.0
9. Soil Improvement Director	13/7/81	8.6	9.0
10. Training Advisor	9/9/81	6.7	8.0
11. Machinery Development Advisor		2.8	3.0
12. Local Manufacturing Advisor	3/2/82	1.9	3.0
13. Irrigation Engineer		-	7.0
14. Short Term Technical Assistance		8.3	8.0
Total man-months		146.0	154.5
Total man-months not recoverable:	7.1		

Table 3.2 Financial Level of Effort: US$ Component of Project Funds Including the Louis Berger Local Currency Funds, 15 September 1980 through 31 March 1982.

Funded Items	Funding Stage: In-process (1)	Committed (2)	Expended (3)
1. Technical Assistance Contract			
a. US$ Component	-	4,577,320	1,161,523
b. Local currency[1] (through 31/1/82)	-	1,531,784	376,736
Subtotal (7,647,363)	-	6,109,104	1,538,529
2. Commodities			
a. Vehicles	170,000	-	191,500
b. Forklift (R/D)	25,904	-	-
c. Research prototype equipment	160,000	127,329	-
d. Computer (Misc.)	-	-	19,836
e. Soil improvement[2]	1,500,000	-	-
Subtotal	1,855,904	127,329	211,336
3. Funds			
a. Applied Research[3]	-	250,000	-
b. Service Center[4]	-	1,500,000	-
c. Waterlift Fund[5]	-	2,000,000	-
Subtotal	-	3,750,000	-
4. Training[6]			
a. In-country	-	188,360	-
Subtotal	-	188,360	-
5. Column total	1,855,904	10,174,793	1,749,865
6. Grand Total:			/13,780,562

Notes

1. Local currency converted to US Dollars: US$100=LE 70. The actual Egyptian Pounds for Colunds 2 and 3 were LE 1,072,249 and 263,715, respectively.
2. Estimated value of soil improvement equipment on order.
3. The Applied Research Fund is US$ 1 million, but only US$ 250,000 has been sub-obligated.
4. The Service Center Fund is US$ 5 million, but only 1.5 million is sub-obligated.
5. The Waterlifting Fund is US$ 2 million, all of which has been sub-obligated.
6. The total training package for the Project is US$2,063,000, but commitments are based on yearly requests. For the current year, the request was US$888,510.

4.0 PROJECT IMPLEMENTATION

4.1 Workplan Implementation Schedule

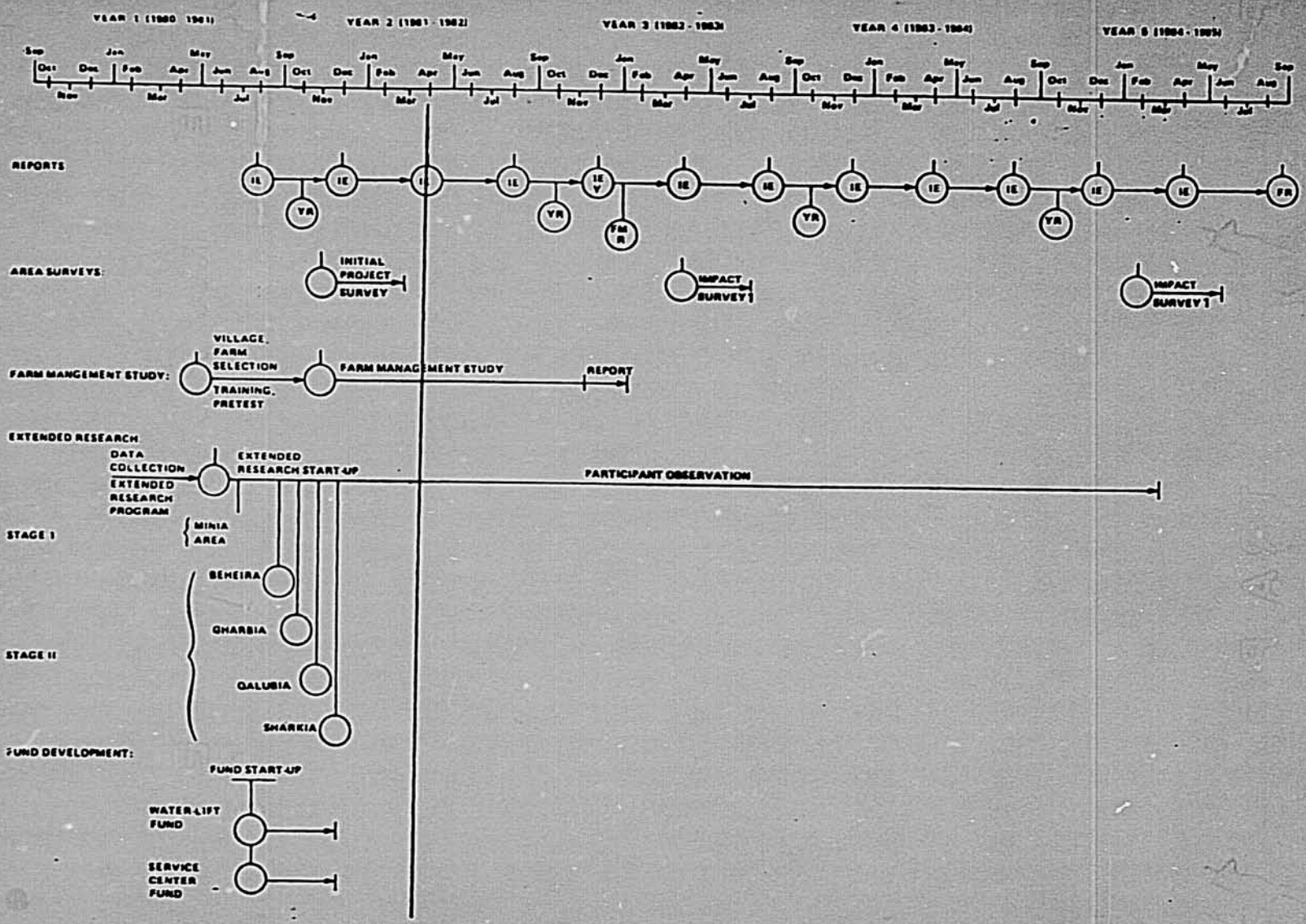
The milestone workplan for the Planning and Evaluation Subunit is presented in Figure 4.1. The final report for the Area Mechanization Survey (initial Project survey) will be completed in May rather than April. The Farm Management Survey is on schedule except that data collection will not phase out until January 1983. This is because the random farmers phased out their winter crops between October 1981 and January 1982, and consequently, the final report may be slightly delayed. The Village Studies Program (Extended Research) is now in full stride and on schedule having recovered from its earlier delays. USAID approved two credit funds, the Waterlifting Fund and Service Center Fund, this quarter so that they are now on schedule.

The Research and Development subproject has been a victim of administrative problems: problems in acquiring research prototype equipment; slowness in USAID approval of the Applied Research Fund guidelines, and the delays in completion of the remodeling program at the Research Center in Alexandria. Consequently, the projected time schedule for this subproject has been repeatedly thrown off schedule. However, it should be emphasized that this does not reflect upon the technical staff, but upon events beyond their control.

Figure 4.2 summarizes the Research and Development subproject overall milestone schedule. As mentioned, research prototype equipment has not been received. The Applied Research Fund will be activated this next quarter, now that USAID has approved the guidelines. Alexandria workshop remodeling is continuing, and the intensive instrumentation and research methodology program will be delayed until 1983. In-house tillage research should commence next quarter IF the prototype equipment has arrived. Farmer field trials have been in progress with the Extension Subproject at Sheikh Ahmed. The machinery development workplan will be finalized

Figure 4.1

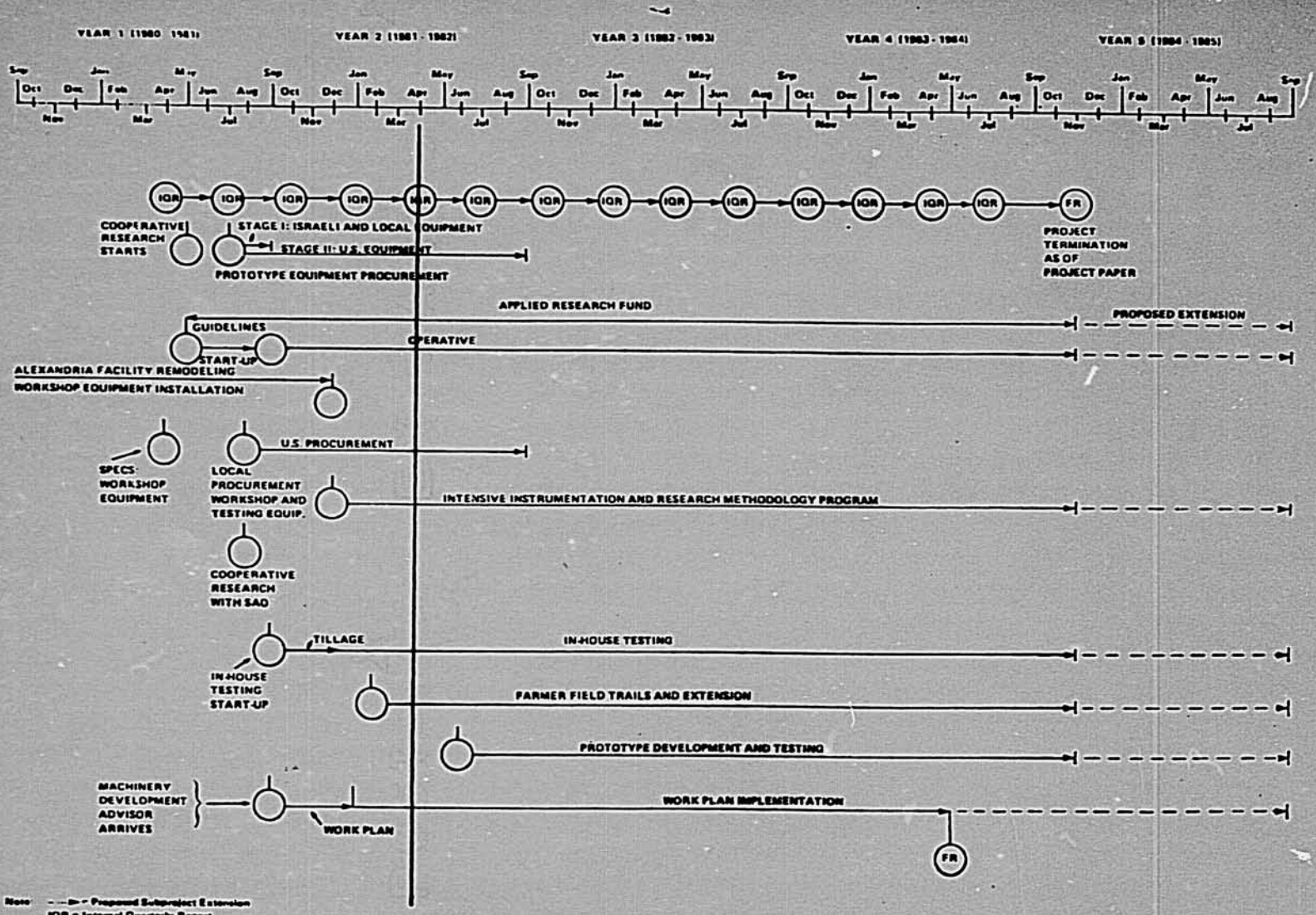
PLANNING/EVALUATION MILESTONE SCHEDULE



31 March

Note: IE = Internal Evaluation
YR = Yearly Review
FR = Final Report

Figure 4.2


RESEARCH/DEVELOPMENT MILESTONE SCHEDULE
YEAR 1 (1980 - 1981)
YEAR 2 (1981 - 1982)
YEAR 3 (1982 - 1983)
YEAR 4 (1983 - 1984)
YEAR 5 (1984 - 1985)
Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug
IQR
FR
COOPERATIVE RESEARCH STARTS
STAGE I: ISRAELI AND LOCAL EQUIPMENT
STAGE II: U.S. EQUIPMENT
PROTOTYPE EQUIPMENT PROCUREMENT
PROJECT TERMINATION AS OF PROJECT PAPER
APPLIED RESEARCH FUND
PROPOSED EXTENSION
GUIDELINES
START-UP
OPERATIVE
ALEXANDRIA FACILITY REMODELING
WORKSHOP EQUIPMENT INSTALLATION
SPECS WORKSHOP EQUIPMENT
U.S. PROCUREMENT
LOCAL PROCUREMENT WORKSHOP AND TESTING EQUIP.
INTENSIVE INSTRUMENTATION AND RESEARCH METHODOLOGY PROGRAM
COOPERATIVE RESEARCH WITH SAO
TILLAGE
IN-HOUSE TESTING
IN-HOUSE TESTING START-UP
FARMER FIELD TRAILS AND EXTENSION
PROTOTYPE DEVELOPMENT AND TESTING
MACHINERY DEVELOPMENT ADVISOR ARRIVES
WORK PLAN
WORK PLAN IMPLEMENTATION
FR
Note: - - - = Proposed Subproject Extension
IQR = Interval Quarterly Report
FR = Final Report

next quarter, and prototype development of a wheat and rice harvester will begin at the same time. A detailed time-scaled network of in-house research activities will be presented in the next quarterly report.

The Machinery Management Extension and Training subprojects have been combined into an Extension/Training subproject. The activities of the Extension Subunit are reviewed in Figure 4.3, a time-scaled network of major extension activities.

As a brief explanation, Figure 4.3 is a precedence network rather than a probabilistic network, placed in a time frame. It is a logical and chronological set of activities illustrating relationships amongst various activities and events. Events are goals attained (nodes in the diagram) and activities are the efforts requiring resources and time to complete an event. These activities are represented by a solid line (————) and identified by (i, j) where i is the initial node of an activity and j is the terminal node of an activity. Thus, in Figure 4.3, activity (2,3) represents orientation of group 1 mechanization specialists. A dummy activity takes zero time and resources to perform and is used solely to illustrate a precedence relationship. It is represented as a dashed line (----→). For example, activity (16,2) is a dummy activity indicating that activity (2,3) cannot begin until MOA funding, activity (1,16) is in place. One additional point needs to be mentioned: slack time. This can best be illustrated through an example: Activity (17,19) spans a time period from March 8 to June 1, nearly three months; during this time orientation will take place requiring one month to complete. The nearly two months not needed to complete this activity is slack time. The dashed portion of activity (17,19) is the actual time needed to perform this activity. Thus, slack time gives scheduling flexibility. In this example, funding for group III orientation could be scheduled anytime between March 8 and June 1.

As Figure 4.3 indicates, the training of the Beheira and Gharbia mechanization specialists has started and is on

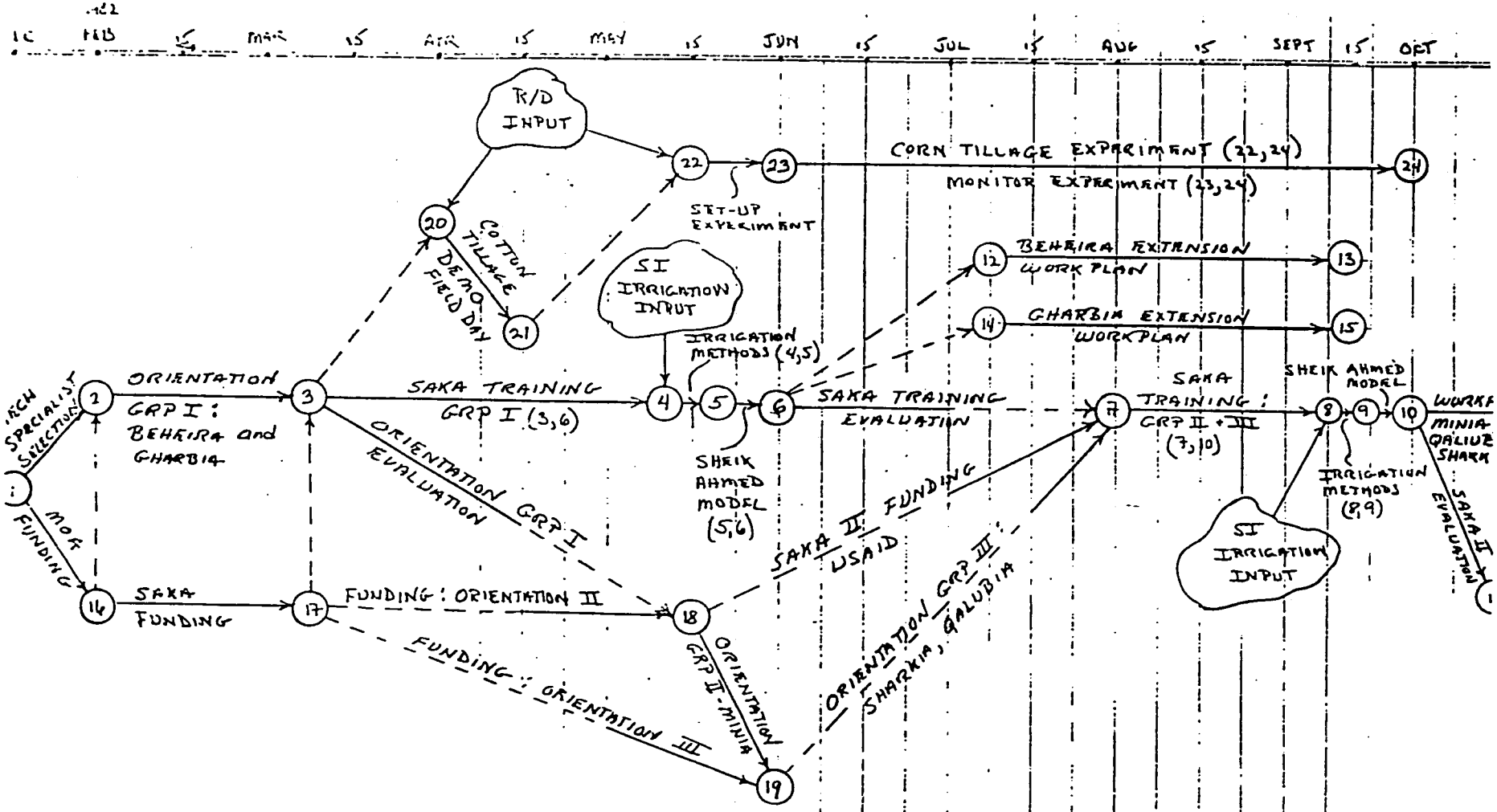


Figure 4.3. TIME-SCALED NETWORK OF MAJOR EXTENSION ACTIVITIES, DEC, 1981 - OCT 1982.

schedule: field orientation has been completed and formal training at the Sakha Training Center has begun. Also, a cotton tillage demonstration field day started in March and was completed then.

Closely allied with the extension effort is training, and this is reviewed in Table 4.1. Several courses were not undertaken: fertilization, two land preparation courses, berseem harvesting, and two cotton planting courses. The failure to institute these programs was primarily the lack of appropriate machinery. This demonstrates the need for approval of the Project amanedment for demonstration/training equipment and for advance extension planning to anticipate these needs, since an alternative equipment source might be possible.

In-country technical training for the soil improvment and service center subprojects had to be rescheduled for the next two quarters because training facilities were filled and not available to the Project. This illustrates the need for identifying a training center that can absorb the Project's needs.

The Soil Improvement subproject is reviewed in Figure 4.4. This is actually a skeletal schedule and cannot be completed until the final workplan has been approved. However, the draft workplan has been approved, and this does indicate the data collection needs, as described in Section 2.6 of this report. This subproject is actively pursuing this phase of its program though this may not be apparent in this milestone schedule. The tractor and equipment order is behind schedule. Specifications were submitted to USAID in December but no action has been forthcoming in issuance of a PIO/C. It now appears that procurement will have to be through MOA. This will cause an additional delay since the MOA is not as yet familiar with USAID procurement procedures.

The Service Center and Village Workshop subproject (Figure 4.5) have now received the first tranch of funds and are in the process of finalizing applications for submission to the bank for approval. It is difficult to place this into an

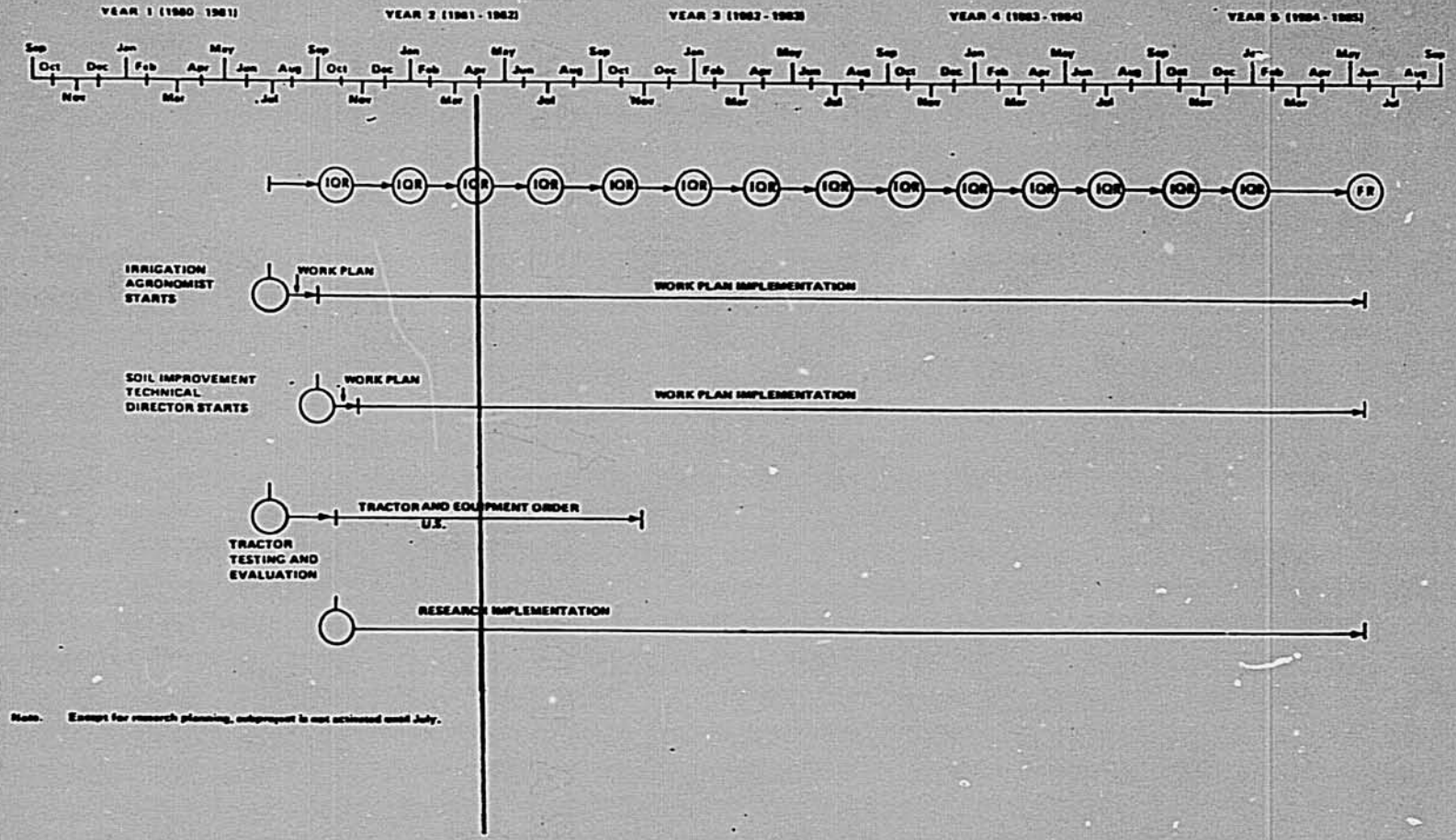
Table 4.1 In-Country Technical Training Courses Scheduled for January-March 1982 per the Training Plan

COURSE NO.	COURSE	JAN.	FEB.	MAR.	COMPLETED*
1. Extension					
1EX11	Tractor Driving	x	x	x	IP
2EX1	Tractor Operation	x	x	x	IP
2EX2	Fertilization	x			O
2EX3	Workshop: Mgmt Extension		x		X
2EX4	Preventive Maintenance		x		X
2EX5	Land Preparation		x		O
2EX6	Land Preparation		x		O
2EX7	Plowing (chisel)				
2EX8	Harvesting: berseem		x		O
2EX9	Jr. Tractor Operation		x		O
2EX10	Planting: cotton			x	O
2EX11	Landleveling			x	X
2EX12	Planting Cotton			x	O
2EX13	Insect Control-Observation			x	X
2EX14	Machinery Tour			x	X
2EX25	Mech. Extension, District level			x	IP
2. Soil Improvement					
2Si1	Mechanics: Level I			x	IP
2Si2	Mechanics	x		x	RS-May
2Si3	Welding			x	RS-May
2Si4	Shop Administration	x			RS-May
2Si5	Parts Administration	x			RS-May
2Si6	Lubrication	x			RS-May
2Si7	Tractor Operation	x		x	RS-Summer
2Si8	Mechanics: Level II			x	RS-October
3. Service Centers					
2SCi	Welding			x	RS-May
2SC2	Mechanics			x	RS-May
2SC3	Mechanics: Level I			x	IP
2SC4	Shop Administration			x	RS-May
2SC5	Parts Administration			x	RS-May

* IP: In progress
O: Not undertaken
X: Completed
RS: Rescheduled

Figure 4.4

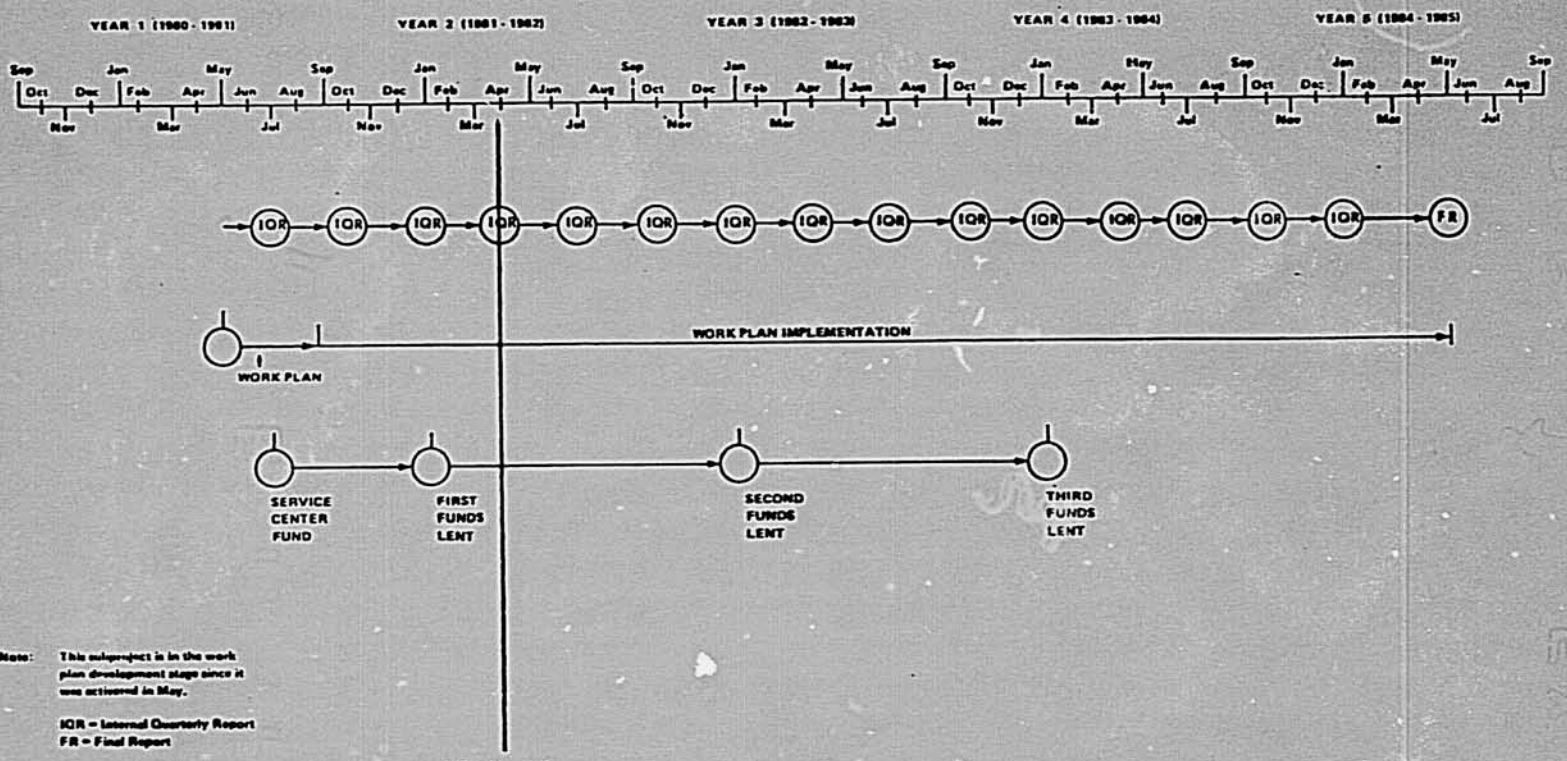
SOIL IMPROVEMENT MILESTONE SCHEDULE



Note. Except for research planning, enlargement is not activated until July.

Figure 4.5

SERVICE CENTER MILESTONE SCHEDULE



Note: This subproject is in the work plan development stage since it was activated in May.

IQR = Internal Quarterly Report
FR = Final Report

evaluation time frame because of the many variables that can cause delays and which are beyond the control of the technical team. Earlier in the program, the problem was participant acceptance; now, land acquisition on the part of the applicant is causing delay. In the Village Workshop program, a delaying factor is unwillingness on the part of the village workshop owner to assume debts. Considering these and earlier problems, it can be said that the subproject is progressing within a reasonable time frame.

4.2 Implementation Issues

1. Lack of available training center facilities has caused a delay and rescheduling of the in-country technical training programs for the Soil Improvement subproject and the Service Center/Village Workshop Development subproject.
   Remedial action: Examine expanding the training center at Gianaclis to meet more of this Project's mechanization needs.

2. Transportation needs will become critical as the Project expands into its random villages this October.
   Remedial action: Waiver authority for local procurement is needed.

3. The changing procedural environment for commodity purchases has seriously delayed the the Soil Improvement program, whose initial equipment request had been submitted to USAID last December, anticipating that this first purchase would be through a procurement agent.
   Remedial action: None available at the Project level.

4. Field Training programs are falling behind schedule because action has not been forthcoming from USAID regarding Project amendments, which would provide demonstration and training equipment.
   Remedial action: USAID action on this Project Amendment.

5. Machinery introduction will fall behind schedule without a supporting machinery introduction fund, another Project

5.0 MAJOR OBJECTIVES, APRIL-JUNE 1982 PERIOD

5.1 Overall Project Objectives

1. Finalize the following workplans:
   a. Local Manufacturing
   b. Soil Improvement
   c. Machinery Development
2. Expected USAID action:
   a. Project amendments
   b. Soil Improvement equipment PIO/C request
   c. Additional vehicle procurement
   d. Local currency advance for Research and Development subproject and vehicle operating funds
   e. Approval of the Senior Accounting Advisor's position
3. Acquisition of research prototype equipment

5.2 Planning and Evaluation Subproject

1. Village Studies Program
   a. Conduct a two-week training workshop involving:
      1) Data collection and analysis
      2) Issues in mechanization and development
      3) Machinery basics
      4) Discussion of the components of the Mechanization Project
   b. Develop a working paper describing the characteristics of the 23 random project villages
   c. Prepare a working paper dealing with the agricultural wage structure and labor situation in project villages
2. Pretest Waterlifting Fund to evaluate its acceptance and procedures.
3. Area Mechanization Survey: final report to be presented
4. Farm Management Survey: continued collection and collation of field data
5. Evaluation of traditional waterlifting costs
6. Expansion and refinement of tractor cost data base
7. Continued counterpart staff training in modeling and computer programming

5.3 Research and Development Subproject

1. Start tillage tool evaluation program at Sakha
2. Accept the initial proposals for contract funding under the Applied Research Fund program
3. Evaluate wheat harvesting problems and machines available on the local market in preparation for preliminary design specifications for the first harvesting prototype
4. Assist the Extension/Training subproject with a tillage experiment at Sheikh Ahmed
5. Complete the Alexandria workshop so that it is operationally able to support research and prototype equipment development

5.4 Machinery Management Extension/Training Subproject

1. Complete mechanization specialists' formal training at Sakha preparatory to assigning them to Beheira and Gharbia governorates
2. Develop a peanut harvester training program for the Extension Service using Sharkia governorate as a model
3. Prepare a participant training handbook for selection and processing of applicants according to required USAID procedures
4. Finalize the Village Program workplan that integrates the training and extension subunits
5. Irrigation agronomy:
   a. Course preparation and presentation to mechanization specialists at Sakha Training Center
   b. Initiate preparation of a comprehensive irrigation methods and water management training manual
   c. Identify demonstration areas in the project's random villages
6. Waterlift Program:
   a. Complete sakia study
   b. Preparation of waterpump training materials
   c. Waterlifting Credit Fund extension activity

5.5 Local Farm Equipment Manufacturing Program

1. Finalize workplan
2. Select participants and start intensive English program

3. Start shop practices and application engineering training program through improving a local thresher as the training vehicle.

5.6 Soil Improvement Subproject

1. Finalize Parts I, II, III, and IV of the Soil Improvement, Irrigation Agronomy, and Waterlifting workplans
2. Minia Basin Survey:
   a. Preliminary data gathering will be completed
   b. Initiate topographical and soil surveys
3. Analysis of landleveling activities at Delta Sugar (earthmoving volume in relation to time and costs)

5.7 Service Center/Village Workshop Subproject

1. Conclude four, possibly six, Service Center loan applications in the following areas:
   a. Abu Hommos
   b. Mahmoudia
   c. Kafr El Zayyat
   d. Minia
   e. Qaliubia
   f. Itay El Barud
2. Initiate a village workshop development program in the project village in Beheira

ANNEX A

MONTHLY ACTIVITY REPORTS

A.1 PLANNING AND EVALUATION SUBPROJECT

A.1.1 ECONOMIC AND FINANCIAL PLANNING SUBUNIT

Activity Report
January 1982
Submitted by: Steven Shepley
Zaki Helmy

I Summary

We regret to report that no progress was made during the month with respect to activating the Service Center and Waterlifting Credit Funds. As noted in last month's activity report, the project has failed to meet the target startup date of December 1981 for commencement of these programs due to the lack of response from USAID in approving the Waterlifting Letter of Understanding and in releasing the initial advance for the Service Center Credit Fund.

Other activities under our jurisdiction are proceeding favorably. To date, some 6000 survey forms from the Farm Management Survey data enumeration have been completed from the 210 survey farms and are being collated by the survey team.

The Sakkia cost survey has been completed in Beheira, Gharbia and Gharbia and the data collected therefrom are being tabulated. Processing of these data will be initiated during the coming month.

A tractor cost accounting form was prepared and a random survey of tractor costs was initiated in Beheira, Gharbia and Qaliubia.

Finally, a revised local currency budget for the Mechanization Project was developed in coordination with USAID.

II Credit Funds

On January 13, 1982, a meeting was held at the Principal Bank for Development and Agricultural Credit (PBDAC) between Agricultural Mechanization Project staff, the PBDAC, and representatives from the governorate banks. The purpose of the meeting was to discuss the criteria and procedures as outlined in the Service Center Credit Fund Letter of Understanding and to introduce the Service Cneter Technical Director and Machinery Repair Advisors to the governorate and bank representatives. It was agreed that the Service Center expatriate staff would visit each of the governorate banks to begin the task of soliciting and evaluating credit applications.

A major constraint to orderly implementation of the credit programs is the PBDAC's lack of familiarity with USAID accounting and procurement procedures. During the January meeting, it was requested that the PBDAC and governorate banks appoint specific people to be responsible for the financial administration of the credit program. Prior to this request, the Mechanization Project Director formally requested USAID to provide technical assistance to the PBDAC and affiliated governorate banks in USAID accounting procedures and fiscal regulations. This request was made on December 10, 1981. To date there has been no formal response from USAID concerning this matter, but during an

informal discussion between Mr. Shepley and USAID officials on January 24th it was indicated that USAID could probably not provide the technical assistance requested, but could probably provide some general guidance to be developed into a set of operating instructions for the bank. In advance of approval of the request to create a senior accounting advisory position on the Louis Berger technical assistance contract for assisting the PBDAC in Credit Fund administration, Messrs Shepley and Zaki shall prepare accounting and procurement guidelines with assistnace from USAID. Following completion of this documentation, Messrs Zaki and Shepley will visit each of the governorate banks to brief selected bank officials on the documentation requirements. Periodically, there will be random inspections of the documentation process to verify compliance and to resolve any problems or issues that may arise.

This solution, however, is considered to be an expedient and temporary measure as the banks will require full time technical assistance to provide for efficient management of the Credit Funds. The ultimate and best solution is timely USAID approval of the amendment proposal containing the request for the Senior Accounting Advisor position which was submitted to USAID on November 15, 1981.

As of this reporting, neither the Service Center or Waterlifting Credit Funds are active. USAID has approved the Letter of Understanding for the Service Center Fund but has not issued the first disbursement. The Letter of Understanding approval and initial disbursement of funds for the Waterlifting Fund are still outstanding. Both activities are now two months behind schedule.

III Farm Management Survey

The economics and Financial Planning Subunit has established a data processing center in the Ministry of Agriculture building. Individual farm files are now being set up to receive and store the raw data sheets being collected from the 210 survey farms. A data consolidation format has been developed and the two currently assigned data analysts are consolidating data for the winter cropping season in the prescribed format, which is shown in the Appendix of this report. With the arrival of the unit's HP-85 minicomputer during the first week of February, technical production coefficients will be entered into the linear program for processing.

Management of the field survey effort has improved with the recent assignment of Mr. James McClung and counterpart to cover the survey supervision in Beheira Covernorate. This recent upgrading of field staffing has freed up some of the time of Messrs Shepley and Zaki for general monitoring of the survey effort in the four governorates and for management of other data collection efforts related to equipment cost accounting and management of the project's credit funds.

We are still experiencing some problems with the survey effort being conducted by FINTECS in Sharkia. The major difficulty appears to be in the quality of field supervision rather than with the quality of the enumerators. It appears from random inspections that have been made in the past that the field supervisor is not working full time on the survey and that the FINTECS home office supervision is not as extensive as required. Messrs Shepley and Zaki will be visiting Sharkia at least once a week in an attempt to address these concerns.

IV Tractor Cost Accounting Survey

The unit developed a tractor cost accounting survey form (see Appendix) which is not being used in Beheira, Gharbia and Sharkia. Farm management enumerators

in these governorates are not making random cost surveys of the farm tractor population which will be used as one of the inputs for future analysis of fixed and variable costs of tractor operations in Egypt. Other source inputs include data which has already been gathered from custom operators and data which will be collected from future surveys using dynamometers and other scientific instruments.

V Sakkia Cost Accounting Survey

The Sakkia cost accounting survey in Beheira, Gharbia and Qaliubia has been completed. The survey contains detailed fixed and variable cost information from some 210 observations and is now tabulated by the Farm Management data analysis group for analysis by the project economists.

VI Project Local Currency Budget

On January 24, 1982, Mr. Shepley met with officials of USAID to work out the details of the Project's local currency budget. The original Project Agreement specified an amount of LE 7,000,000 to be provided by USAID to finance the Project's local currency costs. Subsequent to the origianl agreement, there was an amendment increasing total Project funding from US$ 20 million to $ 40 million. In this amendment, no mention was made of increased funding for local currency costs, although the Project Paper stipulates an amount of LE 21 million to be proivded by USAID. During the January 24th meeting, a revised local currency budget for the full program was prepared and USAID is taking the necessary steps to execute a second amendment to the Project Agreement to cover this revised local currency budget.

VII Issues and Problems

An inordinate amount of time is being spent by the Subunit in performing clerical and office administrative duties such as comptrolling all expenditures under the Louis Berger Int. Inc. technical assistance contract, monitoring and supervising project vehicle use, comptrolling the use of project equipment, and distribution of office supplies. Normally these functions are handled by a project administrative officer rather than by a technical staff organization. These administrative and clerical duties, while important to the overall well being of the Project team, are very time consuming and detract from the attention which should be given to the primary technical roles of economic analysis and financial planning.

With the start up of the credit programs, the administrative burden of managing and comptrolling use of the credit funds will place an added burden on the limited time of Messrs Zaki and Shepley. The general problem will be further compounded should there be any delay in approval of the requested Senior Accounting Advisory position, as the current Project Accountant, who has been nominated to fill this position has given notice that he plans to resign on April 30th unless the new position is approved. If this occurs, the Economics and Financial Planning unit will have to assume the additional job of providing day-to-day accounting services until such time as a new accountant is trained and fully oriented to the methods and procedures of keeping the rather complex accounts.

A more workable solution to the above problem would be a clear separation of office administrative and expenditure comptrolling duties from what are supposed to be the primary technical functions of financial planning and economic analysis. With the increase in Project implementation activities over the next few months, what has heretofore been an ad hoc arrangement for facilitating Project mobilization will generate significant conflicts of interest in time allocation between administrative and accounting duties and technical input to the Project.

Activity Report
February 1982
Submitted by: Steven Shepley
Zaki Helmy

I Summary

After lengthy procedural delays by USAID with respect to approval of the Service Center Credit Fund Letter of Understanding and other subsequent delays related to fiscal disbursements, we are pleased to report that the documentation has been approved and that the first of three scheduled disbursements in the amount of US$ 1.5 million has been ordered and should be deposited into Account Number 1670 at the PBDAC within two to three weeks.

To prepare for the Service Center Credit activity startup, Messrs Shepley and Helmy visited the governorate Agricultural Development Banks in Minia, Qaliubia, Gharbia and Beheira to analyze the banks' existing loan procurement and accounting systems and to discuss the requirements of the Service Center Fund accounting and procurement procedures with the Bank Chairmen and appropriate subordinate bank officials. A visit is planned to the Sharkia bank on March 8, 1982 to complete the financial orientation program.

We are still awaiting USAID approval of the Waterlifting Cred Fund Letter of Understanding which was submitted to USAID on November 23, 1981.

The Farm Management Survey is proceeding well now that there is adequate field supervision of the enumeration process.

During the reporting period, the Subunit developed and disseminated comprehensive guidelines for budgeting, disbursement requesting, commodity procurement, and accounting for USAID supplied local currency funds.

Data gathering for the waterlifting cost survey has been completed and the analysis will commence during the next reporting period.

Tractor cost survey data has been compiled for Beheira and Gharbia and is being consolidated with survey data from Qaliubia. To increase the sample size, the Subunit has requested the Evaluation Subunit to collect additional survey data from Minia and Sharkia. Processing of these data shall be conducted and completed during the next two reporting periods.

II Credit Funds

Significant progress was made during the period with respect to the Service Center Credit Fund. USAID has approved the Letter of Understanding and has arranged for the first disbursement in the amount of US$ 1,500,000 in Egyptian Pounds equivalent to be released to Account No. 1670 at the PBDAC which has been set up for receipt and disbursement of these monies. The check was requested from the U.S. Disbursing Office in Paris on February 28, 1982 and is expected to be deposited to the account sometime during the fourth week of March

To prepare the governorate Agricultural Development Banks for the task of administering these funds, the Economic and Financial Planning Subunit visited the Agricultural Banks in Minia, Qaliubia, Gharbia and Beheira from February 8 to February 21, 1982 to discuss with appropriate Bank officials current

accounting and procurement procedures employed in loan administration and accountability. Concurrent with this effort, Subunit personnel also developed a comprehensive set of procurement and accounting guidelines (Appendix A) designed to integrate existing Bank systems with procedures and practices required by USAID. The guidelines were discussed in detail with the Bank Chairmen and principal accounting staff to acquaint the officials with the procedural requirements and to elicit their comments. Generally, it was agreed that there would be no problems in maintaining separate files for each of the loan accounts and that the documentation and procedural requirements would pose no additional burdens on the Bank operating procedures and/or staff time. It was also agreed that the Economics and Financial Planning Subunit staff would provide continuing assistance to each of the Banks in setting up and maintaining the account records in the required manner so as to make them "audit proof," that is, not subject to adverse criticism or findings of external auditing activities. On March 8, 1982 the Subunit will visit the Agricultural Development Bank in Sharkia to undertake the same type of orientation and procedural dicussions that have been completed in the other four governorates.

The Waterlifting Credit Fund Letter of Understanding which was submitted to USAID on November 23, 1981 is still under review and the time required for approval has delayed the planned startup of this activity two months. Upon notification of approval, the Subunit shall make return visits to the governorate banks for evaluating the existing waterlifting credit program which is currently being implemented under GOE auspices. The purpose of these visits shall be to work out a similar system for integrating required USAID procedures with the existing program to minimize any disruptive effects that the addition of the Mechanization Project's Waterlifting Credit activity may impose.

III Farm Management Survey

With the addition of Mr. James McClung to the Farm Management Survey staff, there is now adequate field supervision of the effort throughout the 210 randomly selected survey farms in Qaliubia, Gharbia and Beheira Governoates During the reporting period, Messrs Helmy and Shepley made periodic and random visits to survey sites throughout the survey area to inspect and verify data collection consistency and accuracy. The results of these inspections have happily revealed that the survey is at last being conducted in a uniform and consistent manner throughout and we are encouraged about the quality of the data being collected.

During the reporting period, the Subunit has proceeded with the data consolidation according to the format presented in the previous monthly report. The data consolidation office in the main Ministry building has been fully equipped with printing calculators to facilitate the voluminous consolidation effort. Field records for the period October through December 1981 have already been collected and are not being tabulated. To assist the consolidation effort, now underway, Mr. Fuad Mitri has been assigned as senior data analyst and is now superivising this activity.

IV Financial Management Planning for AID Supplied Local Currency Funds

As the various Conditions Precedent to funds disbursement are being approved by USAID, it is now appropriate to establish procurement and accounting mechanisms for receipt and disbursement of USAID furnished local currency allocations to support the implementation activities of the various subprojects. In

response to this need, the Economics and Financial Planning Subunit has developed a comprehensive set of guidelines and procedures for budgeting, funding requests, procurement and expenditure documentation (Appendix B) which will be used by each of the subprojects in local currency funded activity implementation. The basic principle employed in the system is post- rather than pre-audit control. As such, the established mechanism will allow subproject administrators maximum flexibility in their implementation procedures and still satisfy certain USAID limitation and accountability requirements.

To implement the proposed system, it has been requested that the Ministry establish a Project Accounting Unit staffed by a senior and two junior accountants. These personnel will be trained by the Economics and Financial Planning staff and will be guided by Messrs Shepley and Helmy in the various phases of the accounting system implementation. The Subunit will also provide periodic monitoring and auditing of performance of the accounting and budgeting system to insure compliance with the designated regulations and procedures.

V Tractor Cost and Waterlifting Cost Surveys

Tractor cost survey data from Beheira and Gharbia has been collected and is being amalgamated with data being collected in Qaliubia. Altogether, data from some 30 observations have been collected. These data will be augmented by additional data gathered by the Evaluation Subunit for Sharkia and Minia. Following routine statistical analysis of the data, the previously compiled tractor operation cost accounting program will be modified during the second iteration to be used as a basis for cost accounting of various mechanized farm operations. As it is recongized that data compiled from cooperative records may not be as accurate as subsequent data which will be compiled from Project field surveys, it is planned that there shall be a later survey made where randomly selected tractors are actually measured under working conditions in the field for fuel/lubricant consumption, horsepower output using dynamometer readings and other related maintenance/repair and operating costs. The tractor cost accounting program will be further modified during subsequent data collection iterations.

The survey of traditional waterlifting costs (sakkia and shaduf) has been completed in Beheira, Gharbia and Sharkia with some 210 observations. These data will be processed over the next two reporting periods with a report published on per-feddan irrigation costs using traditional methods. This analysis will serve as a base for internal rate of return and benefit cost evaluations of improved waterlifting means to be introduced by the Project.

Activity Report
March 1982
Submitted by: Steven Shepley
Zaki Helmy

I Summary

Orientation and training of governorate level Agricultural Development Bank personnel was completed. Training focused on the accounting and procurement procedures to be used in the administration of the Service Center Credit Fund.

The first iteration of economic and financial costs of tractor operations in Egypt was completed and a report was issued.

The initial data series from the first two months of the Farm Management Survey was statistically evaluated and a report was issued.

A comprehensive listing of data requirements for all project economic and financial evaluations was compiled and disseminated to the Subprojects.

Three HP-85 minicomputer programs were written, debugged, cataloged and flow-charted.

II Credit Funds

During March, the Economics and Financial Planning Subunit completed the training program for governorate level banking personnel in the accounting and procurement procedures to be used in the administration of the Service Center Credit Fund. The training, which was given at the Sharkia Agricultural Development Bank, was a follow-on to discussions of guidelines and accounting procedures given in Beheira, Gharbia, Qaliubia and Minia during the month of February. All concerned bank staff have no received instruction in the requirements of the Service Center Credit Fund administration.

On March 22, 1982, the Subunit deposited a check of LE 1.2 million into Account No. 1670 for the first disbursement of the Service Center credits from USAID.

III Analysis of the Economic and Financial Costs of Tractor Operations

The Subunit prepared an analysis of economic and financial costs of tractor operations. The survey data was drawn from 48 observations from agricultural cooperatives in Gharbia and Beheira governorates. A report covering all aspects of the analysis was prepared and is attached as Appendix .

In summary, the analysis showed actual costs in 1982 current price values to be LE 2.26/operating hour in the financial analysis and LE 5.00 in the economic analysis. The costs derived from the survey were compared with cost values derived from several independent studies and found quite comparable with these other values.

The report attached hereto presents the survey data and complete statistical evaluations to include mean and standrad deviation calculations, standard errors, coefficients of variation, skewness and kurtosis, mean confidence intervals at the 95% level, plus histograms and frequency distributions for each of the data categories.

The algorithmic procedures used in the evaluations are fully described, together with tabulations of major statistical findings, in Appendix C.

The Subunit is currently collecting tractor cost data from a wider sample in each of the five governorates and will prepare a second report on tractor costs within the near future.

IV Evaluation of Farm Management Survey Data

The data processing group is currently collating farm mangement survey data for all on-farm operations through December 1981. The Subunit has evaluated the quality of these data by making random selections of the entries and performing regression and correlation analyses of the variables. The data selected for evaluation include: 1) tractor costs and hours of operation in ploughing; 2) berseem seed application in kgs, seed costs and land area of seed application, and 3) phosphorous fertilizer application in kgs, fertilizer cost and land area of application.

In evaluating these variables, the number of observations ranged from 25 to 48 with 24 and 47 degrees of freedom. The coefficients of determination (R^2) of the samples ranged from 0.72 to 0.97. As these high correlations were found to exist across samples randomly selected from 140 different farms throughout Beheira, Gharbia and Qaliubia, we conclud. that the Farm Management staff has done a good job in field supervision of the survey effort and that we can enjoy a high level of confidence in the quality of the data.

During the next reporting period, we shall subject farm management data being gathered by FINTECS in Sharkia to similar statistical scrutiny.

A comprehensive report of this analysis with statistical tables and data plots is attached to the Quarterly Report as Working Paper Number 1.

V Analysis of Data Requirements for Mechanization Economic and Financial Evaluations

During the reporting period, the Economic and Financial Planning Subunit made a comprehensive assessment of all data requirements for the economic and financial analysis of mechanization alternatives which will be made during the life of the project. THis assessment is presented as a listing (Appendix C). There is a brief description of the data to be collected, the purpose of the data, method of collection, and the project organization designated to collect the data.

VI Computer Programming and Software Library Development

The Hewlet Packard 85 minicomputer system has been installed and the Subunit has begun to develop an analytical software library for mechanization planning and evaluation.

During the reporting period, four programs were written, documented and recorded in the library files. The progrms prepared during the month include algorithms for:

- Calculating the conomic costs of tractor operations (2304 bytes)
- Calculating the financial costs of tractor operations (2048 bytes)

- Critical path analysis (13,824 bytes)
- Credit fund loan evaluations (2304 bytes)
- Bubble sorting routine for numerical listings (768 bytes)

Files contain magnetic tapes of all programs, program listings, flow charts and descriptions.

The programs are prepared to be operated by non-programmers, with complete user prompts in English, complete English language instructions which are output on the CRT, and fully labeled numerical outputs.

In addition to software developed by the Subunit, we have also acquired additional material for use in agricultural project evaluations and planning, including:

- Linear programming
- Regression analysis
- Statistical data processing
- Internal rate of return analysis
- Discounted cash flow analysis
- Breakeven analysis
- Queueing theory and applications

It is planned to add additional items to the library from commercial sources as well as from other programs developed by the Economics and Financial Planning staff.

A.1. 2 FARM MANAGEMENT SUBUNIT

Activity Report
January 1982
Submitted by: M. Ismail
M. Faltas
G. Stringer

1. Training of the FINTECS staff of 3 supervisors and 6 enumerators has had to be repeated and several days of monitoring activities have been spent as necessitated by their inadequate work in data collection.

2. Mr. Youssef Abdel Naim who recently joined our staff has also been undergoing on the job training. He will spend a good deal of his time in Beheira.

3. Training in computer operations has been started and Magda has been assigned in the first group to be trained. After training she will be able to put survey data into the computer processing programs.

4. Winter crop activity has peaked, some short berseem is being cut and land preparation has begun for the summer crops, mainly in Qaliubia.

5. Data collection is proceeding as expected. No changes have taken place.

6. The forms for the initial transfer of data from Arabic to English have been completed and approved by both Dr. Gaiser and Dr. Shepley. Data from Shamout village in Qaliubia is now being processed. It has been decided to collect data forms every 3 months. This cuts down on the problems of partial data being available for entry. The first collection was through December 1981 and the processing will be completed prior to March when we will again collect data forms.

7. The Farm Management Survey group has been moved to Room 428 in the Ministry building. This office is now operational except for the hanging files and some file cabinets which have not been delivered.

Activity Report
February 1982
Submitted by: M. Ismail
M. Faltas
J. McClung
Youssef Abdel Naim
Fouad Mitri
G.B. Stringer
M. Marzouk
L. Bamby

1. Jim McClung and Youssef Abdel Naim are not conducting the survey effort in Beheira.

2. Magda M. Marzouk is continuing her computer training and is also completing the tabulation of the Sakkia survey data.

3. The enumerators in the three governorates have, in addition to the regular survey, carried out the Sakkia survey, the irrigation survey, and the tractor survey.

5. Mr. Fouad Hosny Mitri has recently joined the staff and is in charge of translating the basic data from Arabic to English. Mr. Mitri and Miss Layla Bamby will carry the main load of this translation effort until Mrs. Marzouk has completed her other duties, at which time she will be engaged in this task full time.

6. We are still awaiting the delivery of the file cabinets.

7. Summer crop activity is starting, primarily preparations for cotton at this time. As a result, berseem production is winding down.

8. Data collection is proceeding normally. All enumerators are by now quite familiar with the requirements of their jobs.

9. Beheira has had many days of rain during the month.

Activity Report
March 1982
Submitted by: G. Stringer
M. Faltas
M. Ismail
Y. Abdel Naim
J. McClung
F. Mitri
M. Marzouk
L. El Bamby

1. Data collection in the three governorates is continuing smoothly. All enumerators have reached a level of proficiency so that little if any data correction is required.

2. Collection of the first quarter data was completed for all three governorates and data collation has begun. During the first part of April we anticipate completing collection of data for the second quarter.

3. The winter crops are currently in the harvest or post-harvest stages. Activities related to summer crops are being undertaken. We anticipate that with the collection of the second quarter forms a farm-by-farm analysis of crop production costs can begin.

3. Activities in the office have increased with the data collating process well underway. The data for the first quarter for Qaliubia and Gharbia has been collated and collation of Beheira data is underway.

4. A letter confirming the LE 25 each participating farmer will receive for each cropping season was prepared by project management and is currently being distributed to farmers. This letter is much appreciated by the enumerators and farmers as it confirms the commitment on the part of the project.

5. A field day was conducted for farmers in Beheira participating in the survey in Sheikh Ahmed. This activity was undertaken in cooperation with the Extension Subproject. The field day was well received by the farmers who particularly appreciated seeing that things other than surveys were being carried out. The field day also served to demonstrate to the farmers the purposes of the survey.

A.1.3 EVALUATION SUBUNIT

Activity Report
January 1982
Submitted by: Peter Reiss
Mohamed Ali Shoukry

I Mechanized Farming Survey

A. During the period: Following a week's training session in Cairo for the survey enumerators, the collection of data began. Two teams of enumerators, working in Gharbia and Minia governorates, visited the first of the ten villages where the interviews will be conducted. The ten villages range in organizational patterns, access to services by virtue of proximity to paved roads and administrative centers, and population size. Of the ten villages, three are project implementation sites; three have Agrarian Reform Cooperatives. Two villages were selected in Beheira and two in Qaliubia and three each in Gharbia and Minia.

Certain points emerged from the prestest conducted in two villages in Markaz Zifta, Gharbia governorate. Workshop owners were the least cooperative group to be interviewed. Some refused to answer any questions, while others would not even permit the enumerators to enter the workshop. It is likely that they believed the enumerators to be tax collectors. Some machine owners were reluctant to answer questions, particularly concerning their costs and income from doing custom work. Despite these difficulties this set of questions has been retained in the final questionnaire.

B. Follow up for February: The collection of data in the project villages ought to be completed by late February.

II Village Studies Program

A. We have completed the selection of all members of the Program.

B. Data collection and analysis are proceeding in Minia and Qaliubia. In Minia a third questionnaire on soil and water conditions in the five project villages has been completed and the data have been coded in preparation for analysis. Based on this information a paper will be presented to the First National Conference on Land Degradation in Minia at the beginning of February. A second presentation with a slightly different focus will be made at the International Conference for Statistics, Computer Studies and Population Studies in Cairo in late March. The papers will be given jointly with Mr. Bahgat Abdel Maksoud. Village enumerators in Minia are presently tabulating data from their second study of machine owners in project villages. The Qaliubia teams has now completed the first questionnaire of village leaders and is coding and cross tabulating the results. These data will be compiled and compared to similar efforts to be made in other project governorates.

The training session in Maryut has been postponed for a few months. In discussing the training program with the five team supervisors, particularly those who will soon begin working with their teams, they voice a preference for beginning the training themselves rather than in a large group. Specifically, they feel that since some of the groups have already begun working and living in the villages, their own teams will

suffer in comparison. Furthermore, they would like more control of the training during the early stages. In that case, rather than assembling the entire staff in Maryut for an exercise in data-collection, coding and analysis, we shall rearrange the program. A study involving all five teams at the same time will be undertaken in March. The staff will be assembled for lectures, discussions and training with some reference to the exercise conducted earlier.

C. Follow up for February: Training the teams in Gharbia, Sharqia and Beheira will begin during this period. The initial activity will be similar to that done in Qaliubia and Minia: interviewing village leaders serving to introduce monitors to the communities and obtaining a review of agricultural and mechanization problems in those villages.

In addition, the Qaliubia team will be used to collect information for the evaluation of the Central Delta Soil Improvement Organization. We intend to focus on the performance of the Organization in Markaz Benha in doing subsoiling and gypsum application, costs and benefits of such a service.

We are preparing a study of the labor situation in the project villages with particular attention to landless laborers and emigrants. The initial design will be in cooperation with Abdel Basset El Sayyed and Nabil Habashi and reviewed by other supervisors before its implementation. This study is expected to be an ongoing activity.

Activity Report
February 1982
Submitted by: Peter Reiss
Mohamed Ali Shukry

I Mechanized Farming Survey

A. During the period: Data collection in the randomly selected ten villages was completed in late February. In all, one thousand farmers, 180 machine owners, and 30 workshop owners were interviewed. Machine owners had tractors, pumps or both. In one one case was another machine found, a small tiller. Workshops filled the range from small to large operations and should give a good indication of the present situation. Coding and tabulating the results has begun, unding research assistants and enumerators. Already, certain points have emerged: many farmers complain of the indiscriminate use of gypsum on their land, saying that it has reduced yields; farmers also complain that subsoiling activities have reduced yields by drawing saline soil to the surface (their perception of the situation; and a number of workshop owners are reluctant to send their employees for outside training, believing the apprenticeship they offer to be far superior.

The computer center at the American University has been selected to do the processing of the survey data. An examination of the various facilities in Cairo revealed it to be the least expensive and able to complete the work within our schedule.

B. Follow up: Coding and tabulating data has begun and will continue through the month. The group has begun with tables of mechanized and unmechanized operations for crops grown and family and hired labor use by individual households. These results will serve as one base for reviewing other data. We have planned a series of meetings with Reiss, Hopkins, Mehanna and Abdel Maksoud to continue the discussion of frameworks for analyzing the data. Abdel Maksoud has accepted the responsibility of making the initial analysis of data from workshop owners and the drafting of the first report. During this time, the first draft reviewing the survey villages and setting the data in social and economic contexts will be prepared. Our present schedule is to have the data processing (with appropriate tables) by the end of March. The final report will be written during April.

II Village Studies Program

A. During the period: All five teams are staffed and are being trained by the Evaluation Unit and supervisors. Researchers have moved to the villages for their first assignment which is the collection of basic information about the 23 project villages. The team members have been asked to complete standardized forms requesting information about landlording patterns, cropping structure, machinery, and access to services and on the basis of this information, a report will be written and distributed to every project member in late March or early April. Monitors have also been given a short questionnaire to complete with villages leaders about problems in agriculture and mechanization. We have written a coding sheet to standardize the results and to make inter-village comparisons possible. If the data come back quickly enough, the results will be incorporated into the report on the project villages. Otherwise, it will form the basis of another study. Monitors have also been asked to begin collecting names of landless laborers and emigrants. Information

about the village market is lacking in the literature of rural Egypt and certainly the labor market is a crucial factor in the evaluation of mechanization. The examination of the village labor situation in the project villages will be the first major effort of the Village Studies Program.

At this early stage of the Program, with the staff selection completed, the emphasis has been two-fold: the training of team members and the collection of basic data about the villages. This information will serve to make Project members aware of the variation among the 23 villages as well as the similarities. Certainly, working in such a large number of villages poses problems for implementation, and it is essential for the team to understand the variation among them and the need for a flexible approach in designing implementation efforts.

During the period we have made several trips to the governorates to visit the team members and take part in the training of the staff. Such frequent meetings will be necessary during the early stages of the Program, as will the use of such controlling devices as questionnaires and data sheets. In later periods I expect to make a slow transition to other, more qualitative approaches in data-gathering. Too often, one might even say almost exclusively, data collection in developing nations has been survey research which, while useful, obscures processes and gradual change. Our project, which focuses on technological innovation and/or introduction, ought to explore the nature of systematic changes in rural areas as a means of assessing project impact. Survey research alone cannot deal with process by virtue of its own limitations.

B. Follow up: Meetings with team members during the month will continue. Data from the first village sheets will be collected and analyzed for a report. The first questionnaire of village leaders will be completed and coded for analysis.

An advisory committee for evaluation has been formed by the Evaluation Advisor. Its activities will be focused on th e Village Studies Program. The Evaluation Advisor has asked Dr. Nabil Habashi of the MOA's Agricultural Economics Research Institute to be the chairman of the committee. Dr. Salah El Abd will serve as senior advisor. In addition to these members are the five professors who supervise the governorate teams: Dr. Ahamed El Adly (Beheira), Dr. Abdel Tawab El Yamani (Gharbia, Dr. Bahgat Abdel Maksoud (Minia), Dr. Abdel Basset El Sayyad (Qaliubia), and Dr. Shahat Mohamed Zaki (Sharqia), the Evaluation Advisor and Counterpart. The first committee meeting was held on 1 March and will be discussed in the next activity report.

The Evaluation Advisor is planning a week's trip to Minia in mid-month to review team progress and visit the project villages. Beginning mid-month, the Evaluation Counterpart will be enrolled in a one month computer course through the MOA.

Following the work with village leaders, the monitors will begin a study of machinery in project villages, discussing with machine owners the conditions of the machinery purchase or acquisition and problems with maintenance and repair.

III Data Demands from Project Members

A. During the period: A number of project members have requested particular information from the Evaluation Unit, and we are attempting to fulfill these demands within reason. Many of the requests can be easily integrated into our own evaluation efforts or complement them. Graham Sparrow and Bob Snyder have asked for machinery populations by markaz for Qaliubia, Minia and Sharqia. In addition, they have asked for the names of every registered machinery workshop in those governorates. We have supplied the information for machinery population in the governorates and are in the midst of getting the names of the workshops. The information has been made available by the part-time mudiriya liaison officers we have on the Village Studies Program.

Steven Shepley and Zaki Helmi have asked our monitors to complete forms on tractor use, and that information is being collected.

We have also been working with Erroll Coles and Zakariah El Haddad on an evaluation of the Central Delta Soil Improvement Center. The Gharbia and Qaliubia teams will be asked to collect the data in their areas. In addition, I am planning to make a number of visits to villages outside the project areas, including Menufia and Kafr El Sheikh governorates, to collect information firsthand.

Finally, through Dr. Habashi, we are attempting to coordinate our efforts with the Supreme Council for Agricultural Mecahnization of which he is a member. The Council, a policy-making group, will require reliable information about mechanization in rural Egypt on which to make its recommendations.

B. Follow up: Data collection on machinery population, workshops, and tractor use will be completed during March. The examination of the Soil Improvement Center will begin at the same time.

IV Conference on Soil Degradation in Minia

A. During the period: Dr. Bahgat Abdel Maksoud and the Evaluation Advisor presented a paper at the First National Conference on Soil Degradation, in Minia, in early February. The abstract of the paper follows:

> "Farmers' Perceptions of Changing Agricultural Conditions in Minia Governorate"
>
> Soil and water conditions in Egypt changed dramatically with the operation of the High Dam during the late 1960s. However, there is a continuing debate over the improvement or deterioration of these conditions during the ensuing years. The debate has largely focused on studies made by technical experts using a variety of scientific methods, but the attitudes of the affected farmers must also be included. Agricultural practices reflect their perceptions of a stable or fluid environment. This paper investigates how farmers perceive changes in soil and water conditions during the past ten years. It is based on survey research in three villages in Abu Qurqas District and two villages in Matai District. In each, sixty farmers were interviewed. The sample has been stratified according to the landholding pattern in each village. Of particular interest are the changes observed by farmers, how

they were identified, and the strategies utilized to compensate for them. The paper continues with a discussion of the role and effectiveness of the Agricultural Extension Service during the post-High Dam period and concludes with an examination of alternative means of dealing with the present environment situation.

B. Follow up: This paper is to be published in the conference proceedings through the University of Minia.

V Panel Discussion on Mechanization Issues in Egypt, at USAID

The Evaluation Advisor, with Drs. El Hossary, Nashat and Gaiser, gave a talk on mechanization issues as part of an AID discussion series. A copy of the talk given by the Evaluation Advisor is included in the annexes to this Quarterly Report.

Activity Report
March 1982
Submitted by: Peter Reiss
Mohamed Ali Shukri

I Mechanized Farming Survey

A. During the period: Several meetings were held with the research directors of the Mechanized Farming Survey. Survey data are now being tabulated and coded. Much time was spent discussing the responses of farmers with regard to how they perform the various operations for each crop: mechanized/traditional, household labor/hired labor/mixed. Dr. Hopkins has written a first draft of the methodology chapter. He has requested that we lengthen the period allowed for Mehanna and Abdel Maksoud from six to eight months drawing on still unspent money from other lines in the budget. Since this change will result in a greater than ten percent addition, a letter will have to be written to AID requesting permission. There will be no change in the final amount of the budget.

B. Follow up: Discussions will proceed concerning how the data are to be best analyzed and for what purpose. All of the data ought to be coded and processed and in a fairly complete stage by the end of the month. We are still working toward a late April or early May date for the first draft for review.

II Village Studies Program

A. During the period: We met with each of the five governorate groups, reviewing the work and assisting in the training. Each of the groups has been asked to complete uniform data sheets about the 23 project villages and the pretest area for a Village Profile Report. Questions focused on landholding patterns, crop structure, labor situation, extent of existing machinery, access to services, price of land for agriculture and building, population, etc. We have also asked for similar information on the district and governorate levels. The information should allow us to make comparisons among villages and with larger administrative units. As has been frequently mentioned, these 23 villages will serve as a model for agricultural mechanization in Egypt. It is therefore important to know if they cover the range of villages in the country. Of course, it is also imperative to understand the similarities and differences among the villages in preparation for implementation. Furthermore, it would be useful to know how the various villages compare with Sheikh Ahmed. We already know that Sheikh Ahmed is totally a land reform area and that roughly a third of the 23 villages also have land reform areas. How do they compare with other features? This profile is an initial effort to understand the most immediately accessible characteristics.

All five teams have completed the first study which involved interviewing village leaders to learn their perspectiv on problems in agriculture and mechanization. The results are being tabulated and will be incorporated into the Village Profile Report. Many of the teams have begun with the second assignment which involves the interviewing of all machine owners in the villages and has a particular emphasis on credit, maintenance and repair problems.

The part-time Liaison persons from the governorate agricultural offices have been asked to write a monthly report to be submitted to the Under-secretary of Agriculture informing him of the team's activities during the period.

We have held meetings of the Evaluation Advisory Committee (see February 1982 Activity Report, II-B for membership). The first meeting established certain ground rules for behavior of the committee and for future research and evaluation efforts. Although one particular member of the team might be responsible for the design of a certain study, all members of the committee will be shown the initial piece for their comments. A good deal of the meeting was spend explaining the purpose of the Village Studies Program; the training of disparate groups of people from the Ministry and many universities; the providing of information about the project areas for evaluation and implementation; and an initial movement towards the establishment of an Office of Planning and Evaluation in the Undersecretariat for Engineering Affairs, as proposed in the Project Paper. While the Program is therefore not strictly a research effort, having as it does an important training component, it will be expected to provide reliable and useful information about the state of mechanization and related issues in Egypt during the four-year mandate.

At the second meeting of the committee during the period, David Gaiser and Zakaria El Haddad were also present. They discussed the general approach and objectives of the project from their perspectives. Among their points, it was decided that other project members would be invited to attend the meetings when the subject involved them. The training period at Maryut was discussed briefly. Members were asked to note their training needs on paper and send them either to Dr. Habashi or Dr. Reiss so they can be reviewed before the next meeting.

B. Follow up: A committee meeting will be held on 5 April at which time the details for the Maryut training period will be made final. Preparation will also be made for a planned long term study of the labor situation in the project villages covering the following aspects: available household and hired labor, wage structures, shifts in the labor situation, the role of cooperative labor activities and labor exchanges, emigration, plight of landless laborers, women as members of the labor pool. These are only some of the points which will have to be explored to gain a comprehensive picture of the rural working situation.

III Farmers' Attitudes Towards Landleveling

At the request of Dr. Zakaria I spent a week in Minia governorate talking to farmers in the project villages. The project is expected to undertake wide-scale landleveling activities in Middle East and a number of questions have presented themselves while plans and schedules are being considered. A team of tractors will be available, and it is our desire to use them to their capacity. Given that the tractors can be used for leveling only when the land is not being cultivated, there are several questions: When can the work be done with the least disruption? Would it be necessary to compensate farmers for starting cultivation late or for harvesting early? What willingness would we find on the part of farmers to change their schedules? What is the appropriate unit for leveling? To what extent would landleveling require cooperation among farmers and with the local administrative units?

After a wekk, I returned with certain ideas which will be presented in a separate report. Some may be summarized here. There are two optimal periods furing which leveling could be done with minimal disruption: before the planting of cotton (from Dec. 15 until March 15) and before the planting of maize (from May 15 until the latest on July 15). These two periods total 150 days.

There was unanimous opposition to any delays in preparing for the winter season or the planting of cotton. Farmers were willing to harvest berseem and ful baladi earlier and/or plant maize later. Farmers did not ask for compensation, but rather expressed their need for leveling. This conflicted with a suggestion from a local official. In fact, farmers thought that payment would likely cause trouble, since how is one to determine how much would have to be paid? Still, the payment of some money may be necessary under certain conditions. The basin is the agreed upon unit of work rather than the village as a whole. With the crop rotation, in most cases, half the village could be done each years. However, the basin still presents certain problems. Cotton, in almost all cases, is planted as the single crop in a basin. However, other crops are frequently mixed. These crops often require different needs and have varying schedules. Therefore, it might be necessary to require that a single crop be planted for that one season following the leveling.

Even is this formula is used, there is still the problem of what to do with the tractors during the inactive periods. The period, it should be made clear, would be more than two hundred days a year. Mohamed El Gamal, Undersecretary of Agriculture in Minia, took me on a tour of Samalut District. We visited the land near reclaimed areas in the west of the district. In many villages, one third to one half of the land is no longer cultivated. The governorate is establishing a system of drainage, but it has no funds for leveling. It is suggested then that we cooperate with the local agricultural offices and make an integrated plan for these areas which total at least ten thousand feddans in Minia alone.

IV Agricultural Extension Specialists' Tour

We have been asked to evaluate an observation tour given for agricultural extension specialists. These people are now at the Sakha Training Center receiving a special program in mechanization under the project. The Evaluation Advisor has already made one visit to speak to the group. During the following month he will make a number of trips to talk to the eleven members about their experiences and discuss the usefulness of the tour.

V Counterpart Training in Computer Programming

During the second two weeks of the period, the Counterpart began a course in computer programming arranged through the MOA. It continues through the first week in April.

ICULTURAL MECHANIZATION PROJECT
A. I. D. Proj. NO. 263 - 0031
EGYPTIAN MOA/USAID
5 th. Floor - Building of the
General Society For Land Reform
P. O. B. 256 Dokki - Giza, ARE.
704660 - 704720
704364 - 707247

مشروع الميكنة الزراعيـــة
وزارة الزراعة المصرية - وكالة التنمية الأمريكية
الدور الخامس - مبنى الجمعية العامة للاصلاح الزراعى
صندوق بريد ٢٥٦ - الدقى - جيزة ج ٠ م ٠ ع
٧٠٤٧٢٠ - ٧٠٤٦٦٠
٧٠٤٣٦٤ - ٧٠٧٢٤٧

DATE التار

SUBJECT الوضـــوع

REF. No. ATTACH مرفقات الرقم

17 March 1982

MINUTES OF THE EVALUATION ADVISORY COMMITTEE
HELD 1 MARCH 1982

Attending the meeting were Dr. Nabil Habashi of the Agricultural Economics Research Institute, Dr. Salah El Abd of the Mariout Center, the five evaluation team supervisors (Dr. Ahmed El Adly of Beheira, Dr. Abdel Tawab El Yamani of Gharbia, Dr. Bahgat Abdel Maksoud of Minia, Dr. Abdel Basset El Sayyad of Qalubia, and Dr. Shahat Mohamed Zaki of Sharqia, Dr. Peter Reiss, Project Evaluation Advisor, and Mr. Mohamed Ali Shukri, Evaluation Counterpart.

Dr. Nabil Habahsi was introduced to the commitee as the permanent chairman. Dr. Salah El Abd was introduced as Senior Advisor.

The meeting began with a discussion by each of the team supervisors of the progress he has made to date in the governorate. Dr. Bahgat discussed the three surveys which have been completed: village leaders, machine owners, and soil and water problems. Training is continuing with weekly meetings in Minia. Work was begun in July 1981. The five monitors have been working in the project villages since late August. Team members have also been collecting names of emigrants and landless laborers in the five project villages in preparation for a study of the labor situation. Dr. Abdel Basset began training his team members in August. To date they have completed the questionnaire on village leaders and have started the work interviewing machine owners. As in Minia, the monitors have been coding and tabulating the results. Dr. Ahmed's work in Beheira began three weeks previously with the writing of a questionnaire for village leaders. Dr. Shahat's work in Sharqia began slightly earlier and the interviewing of village leaders has been

completed. Work in Gharbia started last and Dr. Abdel Tawab has met with the team only a few times. He expects to begin work on the village leader survey shortly.

Dr. Nabil Habashi and Dr. Peter Reiss reiterated the objectives of the village studies program. In the short run we hope to provide information to the project for more successful implementation. In the long run we hope to establish an improved data-collection capability within the Ministry of Agriculture by integrating efforts of personnel from the Ministry, local universities, and development projects.

It was proposed that in designing research in the future all of the committee members would be involved. Although a particular individual might accept primary responsibility for the initial design, all members would be given the opportunity to take part in the revisions. A tentative plan was discussed whereby the design would be circulated among the committee members who would send their comments as soon as possible to Dr. Nabil or Dr. Peter.

The early stage of the prgram was discussed as a period of the collection of background data about the twenty-three project villages. To that end, a village data sheet was given to the professors to be completed by the village monitors. These sheets focused on cropping patterns, machine census, labor situation, landholding pattern and access to services. The professors were asked to have the sheets completed as soon as possible and returned to Cairo.

In addition, as a service to the Planning Unit, information was requested from the village cooperatives about tractor costs. Each monitor was asked to complete six forms.

A discussion of the training period in Mariout was shelved until the second committee meeting to be held on 24 March. At that time professors are expected to discuss their training needs during the projected two to four weeks.

There was a brief discussion of publishing reports or using information gathered through the Village Studies Program. It was decided that the individual or individuals who had most responsibility for the design, analysis and writing of the piece would be given credit as author(s). All other committee members who took part in the collection of the data or any other facet would be acknowledged in a footnote in the article. The same procedure would be held for conference papers. The use of the program's data by those who are not directly involved would be closely scrutinized and approval would have to given in an advisory committee meeting.

A.2 RESEARCH AND DEVELOPMENT SUBPROJECT

Activity Report
January 1982
Submitted by: Carl A. Reaves
Mohammed A. El Naggar
Raymond Beebe

A. During the Period

After a vacation absence, a day was spent in the Cairo office discussing the progress of project activities and general plans for the coming year, as well as the training program. The present situation on procurement of shop and research equipment was reviewed.

Miss Nagwa Hanna Arsan was employed as secretary. She has a degree from Alexandria University in Arts with a major in English. The analysis of bids was completed for the three tractors and forwarded to Cairo. One person, Miss Nazel Abdel Ghani Arafa, took the English placement test in Cairo and is now enrolled in an intensive English course at the American Cultural Center in Alexandria. Her English is quite good and we are trying to get her placed in an American University as quickly as possible for a Master's Degree in Agricultural Engineering.

Two Research and Development Committee meetings were held. We now have 12 proposed projects for the Contract Research phase. The Executive Committee is reviewing these proposals and sending most of them back to the principal investigators before they are presented to the Guidance Committee. We now have proposals on grain harvesting, irrigation methods, land leveling, solar drying, primary tillage, and secondary tillage.

A good deal of time was spent reviewing bids and visiting shops in Alexandria and Cairo to inspect bidded items of machine shop equipment. These items are primarily small equipment that was not bid in the first series of bids. Mr. Beebe was helped with settling in and getting acquainted with the Test Station and the city. A visit with Dr. Abou-Sabee was arranged for Gerald Shea.

B. Activities for February

The machine shop will be established and the Israeli equipment assembled and preliminary work started with it. Visits for Mr. Beebe will be arranged to familiarize him with different areas of Egypt so that we can finalize our objectives for the duration of the project.

Activity Report
February 1982
Submitted by: Carl A. Reaves
Mohamed A. El Naggar
Raymond Beebe

A. During the Period

Considerable progress was made in establishing the machine shop. A concrete foundation was poured for the large pieces of machinery. The lathe, small drill press, and radial drill have been mounted and checked and are ready for cleanup and operation. The milling machine has been placed on the foundation but is yet to be leveled and checked for proper operation. Bids for the second series of acquisitions have been finalized and delivered to Cairo with recommendations for purchase. One milling machine operator and two lathe operators have been interviewed as potential employees.

Additional vehicle requirements for 1982 were presented as one specialized pickup truck plus one sedan or a scaled down Blazer. Specifications for a 1-ton pickup equipped with necessary options for pulling a machinery trailer were written. Specifications were written for soil testing equipment needed immediately. Other soil testing equipment will be determined after a soil scientist is assigned by MOA to the R&D subproject.

A day and a half was spent with Fred Nichols discussing activities and objectives of our project, visiting Beheira Manufacturing Co., etc. Discussed with Ed Constien the possibility of cooperating on some tillage plots in Itay El Barud. Went with Mr. Snyder to Tanta to discuss the design of a gooseneck machinery trailer with Abou Freikha. Snyder has finished the drawings and one set has been given to Tanta Motors for review and one set to Dr. Nashaat to get a license from the Ministry of Industry for construction of the trailer. Spend one day with Snyder visiting potential participants in the small machine shop project.

Two Executive R&D Committee meetings were held and three research projects reviewed.

We tried to get power steering installed on the Dodge pickup but the dealer in Alexandria referred us to Cairo. The problem of water leakage through the machine shop roof was discussed with Moussa.

B. Activities for March

Establishment of the machine shop will continue with assembly and adjustments of the Israeli prototype equipment; some experiments for Sakha farm will be designed, and Mr. Beebe orientation continued.

Activity Report
March 1982
Submitted by: Carl A. Reaves
Mohamed A. El Naggar
Raymond Beebe

A. During the Period

We worked with the Extension Subproject to establish some tillage demonstration plots at Itay El Barud. One primary tool, the chisel, was operated at two depths, and three secondary tools, disk harrow, rotary tiller, and rotary harrow, were operated at one depth on approximately six feddans. The 72-hp tractor did not have adequate power or traction to operate at the desired maximum depth of 20 cm even with two passes. Hence, primary tillage may not be a valid factor, but the secondary tillage operations were performed satisfactority. There were two adjacent plots of three feddans each and both plots had a crop of berseem. Before berseem one plot had grown a crop of rice and the other plot had grown a crop of corn. Although the plots were adjacent, physical structure of the soil was quite different with soil in the rice plot considerably more puddled. After tillage the farmers will hand plant and cultivate both plots to cotton in their usual manner.

With Mr. Beebe, we visited the Mechanized Cotton Farm in West Nubaria. We plan to do some research on completely mechanized cotton this spring. Mr. Esam Khalil, Manager of the Mechanized Farm, is now on the R&D Executive Committee and has expressed a desire to cooperate in this research.

One day was spent visiting the Industrial Fair in Cairo. The 250 hp Steiger tractor appeared to be a very good machine for subsoiling and land leveling. We decided that due to its physical size and arrangement, R&D could use it for only a small percent of the time. It is hoped that one will be available at times for the above mentioned operations.

The Executive Committee met twice. Since the committee structure has been modified to some extent, considerable discussion was given to objectives, priorities and procedures. Dr. Sahrigi met with the committee one to introduce the two new members, Mr. Esam Khalil and Dr. Ahmed Matouk, and to discuss committee responsibilities. He gave strong emphasis to the importance of a faster rate of progress and accomplishments.

Dr. Haddad spent one day in Alexandria discussing use of personnel at the Tractor Test Station, objectives of R&D, and priorities that R&D should pursue.

Dr. Gaiser spent one day with R&D in Alexandria. Details were discussed of present status, future objectives, and a time table was developed for accomplishing these objectives. Dr. Sahrigi also visited the Tractor Test Station to dicuss completion of facilities.

The staff meeting in Cairo on March 31 was attended.

B. Activities for April

Continued establishment of the machine shop; planning further work in cooperation with the Extension Subproject; planning further cooperative research with the Cotton Mechanization Farm, and making a detailed plan for evaluating the prototype equipment at Sakha.

A.2 Research and Development Subproject

Individual Report of Raymond A. Beebe

January 1982

I arrived in Cairo on January 7, 1982 and spent five days in the Cairo office for briefing on the project and getting acquainted with project and MOA personnel. I went to the Bacos R&D Station on Jan. 12.

Assisted by Dr. Reaves and other Station personnel I located housing at 22 Jessop St., Roushdy, Alexandria, on Jan. 21, and obtained an Egyptian driving license and other personal papers. I met personnel from the Beheira Co. and attended the January staff meeting in Cairo.

February 1982

The following visits were made: to various stores and shops with Mr. Reaves and Moussa checking on bids for working equipment; to Mansura University Agricultural Engineering Dept. to get acquainted; to the Extension Center at Itay El Barud; the Beheira factory in Alexandria and their main office; El Nasr Casting Co. and factory of local copper and steel company; several shops over two days trying to find acceptable wheels, axles and brakes for the machinery trailer proposed (unsuccessful to date); the Gianaclis wineries.

Two R&D Executive Committee meetings were attended, and the February staff meeting in Cairo. Had several discussions with Carl Reaves regarding future plans and work to be done to complete the R&D Station workshop and offices.

March 1982

Continued to cooperate with Reaves in encouraging action towards completion of the R&D workshop, labs and offices. The following visits were made: the Mechanized Cotton Farm in West Nubaria; a day of discussion in Alexandria with Dr. Gaiser and Dr. Reaves on the present status of work, future plans and priorities, and selecting RAU (German) machines for possible future evaluation; the Cairo Industrial Fair to see the Striger 270 hp tractor (which I recommended not being purchased due to limited usage and the difficulty of moving it from site to site on the Egyptian road system); Nasr Engineering and Machine Co. in Cairo looking for the machinery trailer parts (no satisfactory solution to date).

I was unable to attend the Agricultural Exhibition in Verona, Italy due to insufficient lead time to complete the required arrangements. R&D Executive Committee meetings and the March staff in Cairo were attended.

A candidate for counterpart was interviewed and I recommended his employment.

A.3 EXTENSION/TRAINING SUBPROJECT

A.3.1 Extension/Training Coordinator

Activity Report
March 1982
Submitted by: Fred Schantz
(Training and Extension Coordinator Advisor)

A. Summary

Training and Extension Coorindator activities included:

1. Development of a project Village Programs Workplan for 1982-1985

2. Extension and Extension Training activities planning sessions (March 7 and March 25).

3. Coordinating arrangements for two field days for the Farm Management Survey group at Sheikh Ahmed village (March 27, 28).

4. Preparing a quarterly cash-need statement for USAID for the Machinery Management Extension Subproject for the second quarter of 1982 (April-June).

5. Conducting Thursday monring (10 a.m.) training and extension planning and coordination meetings.

B. During the period

In order to effectively and efficiently plan for, monitor and direct the training and extension activities in the 23 project villages, a Village Programs Workplan for 1982-1985 was drafted and presented to concerned project staff on March 25. A large planning chart of the activities along with a file on each village is being developed and will be located in the training and extension office. As the district mechanization specialists complete their Sakha Training Center course and return to their project target areas, programs developed by them will be mapped out on the chart.

Ongoing planning and coordinating sessions continued throughout the month in order for both the training and extension staff to understand what activities are being developed in various areas as well as to better utilize project resources and personnel to carry out planned activities. Weekly meetings are necessary to keep all concerned in touch with developing activities.

C. Problems

There is an immediate need for a full-time Coordinator for the training and extension activities. This is due to the fact that most of the field training activities are extension needs which are distributed over a wide geographical area. Of greater importance is the need for the project's training director to be able to concentrate on the various subprojects' planned training activities, especially the participant training programs.

D. Plans for next month: 1) Finalize the Village Program Workplan 1982-85; 2) Continue weekly planning and coordination meetings; 3) Develop clear job descriptions for the training and extension coordination team.

A.3 EXTENSION/TRAINING SUBPROJECT

A.3.2 TRAINING SUBUNIT

Activity Report
January 1982
Submitted by: Fred Schantz

A. Summary

One course (9 sessions) was held for a total of 51 tractor operators and potential tractor operators at Sheikh Ahmed village, Itay El Barud markaz, Beheira Governorate (see attached table). Nine persons were registered with the USAID training officer for participant training programs. A HP-85 computer course was begun for 7 persons in the Cairo office; 8 meetings were attended; two field study trips were undertaken; and additional duties as Project Training and Extension Coordinator were assumed during the month.

B. During the Period

Only one course (1EX1) was held this month due to a) the cancellation of the fertilization course (2EX2) due to lack of equipment , and b) the postponement of three other courses (2EX1, 2EX3 and 2T1) which have been rescheduled respectively for April, February and March. The overwhelming response to the Farm Tractor Driving course conducted by Mr. Salah, the Project's Field Training Specialist, convinced our training staff of the eagerness of the farming community to learn mechanized agriculture. In order to maintain an effective course we have selected out 20 of the better students whom we will continue to field train. From this group the willing and qualified ones will be sent to a training center tractor operator course as soon as the arrangements are finalized. As more equipment is available and the new mechanization specialists begin extension mechanization programs in the filed, numerous other courses will be conducted for the farming population. Until the specialists begin their activities, Mr. Salah will continue working with the existing field staff at Sheikh Ahmed village who are managing the field courses.

The participant training programs received their first candidates with the registration and English-langauge testing of 9 project counterparts. Though this number is far short of the 106 persons palnned for 1982 programs (71 for observation tours and 35 for academic study), it is a beginning which hopefully will encourage the various subproject personnel to nominate other candidates for the programs and tours they requested. We are in the process of deciding which candidates need to enroll in intensive English courses and which ones are ready to take the TOEFL test required for entrance into academic programs. As we have employed a short-term training consultant (March-May 1982) to help develop a programmed method to process candidates through the complex USAID clearance procedures when candidates are finally nominated, they will be cleared or rejected in a short time. In the meantime we are developing a circular to be distributed within the MOA offices listing the position openings which we hope will be filled in time to complete the planned courses.

The first office computer (Hewlet Packard 85) course which began on 21 January for seven of the project staff, was met with a great deal of enthusiasm. This basic operation course will run for about six weeks at which time another group will be selected for training. We will continue this system until all

interested personnel are trained. The two subsequent courses (basic and advanced programming) will be scheduled for those who show ability on the machines and will be involved with computer use on the project.

A few more course information sheets were completed during the month as the objectives of the courses were determined. The optimistic attempt to complete these course prerequisites before 1982 has become a pessimistic effort to finish them at all. Procrastination and unavailable inputs continue to shelve this data which is critical to the project's development.

Several meetings were attended during the month which were mainly concerned with training center scheduling and project training needs. As a follow up to the December 1982 meeting at Mamoura Farm Machinery Training Center in Alexandria which was held with the certer's director, the German advisor, Mr. Robert Snyder from our Service Center Subproject, Mr. Salah and myself, we presented a proposed training schedule for 1982 at Mamoura to Mrs. Samira Khalil, the Agrarian Reform Training Manager. This was done on January 19 when our training staff described in detail our particular training needs. She agreed to review our request and inform us as soon as possible when the courses could take place and the costs of each. This procedure was also used on January 25 when we visited the Sakha training center concerning the upcoming district mechanization specialist course. Mr. Said of the credit cooperative training department agreed to review our request, which he said would take about two weeks. Our previsou discussions with Mr. Samir Sultan on January 5th were very positive concerning the use of Sakha for our extension specialist training needs and he verbalized support for our project.

Other meetings and tours included:

1. The monthly Extension/Training Committee meeting with Mr. Afifi and the extension staff. Neither of the Committee training managers have been able to attend these meetings but both Mrs. Samira Khalil and Mr. Samir Sultan have agreed to try to schedule for them in the future.

2. Discussions with the USAID training staff concerning in-country and participant training funds, participant candidate registration and testing procedures.

3. Discussions with Mr. Coles of the Soil Improvement Subproject and Mr. Mashali of the SAO concerning their training needs and the need for candidate selection.

4. Meetings with the extension and training staff of Beheira governorate with Mr. Khairy Hafez, the half-time extension mechanization officer assigned to our project. We found that each governorate has a resident training staff in addition to its extension staff who work closely together. As we plan for our implementation stage we will be able to coordinate with these two departments who are willing to work closely with our personnel.

5. A tour in Sharkia governorate with Dr. Hashish and Mr. Salah revealed an immediate need for some practical mechanization training field courses near Zagazig. Discussions with farmers were centered on their desire to mechanize and interest in upgrading their tractor operators. We discussed the possibility of conducting a few basic field tractor operation sessions and of screening some tractor drivers who could attend one of the training center's courses.

6. A meeting with Dr. Gaiser and Dr. Reiss was held on January 28 to discuss courses content for planning and evaluation courses.

My appointment by Dr. Gaiser and Dr. El Hossary as the Training and Extension Coordinator has added a planning and coordination responsibility to the Training Subproject management which we willingly accept. While we do not intend to interfere with the primary responsibilities and activities of the Machinery Management Extension Subproject personnel, we will try to support and strengthen their activities, as well as the Training Subproject's activities, by working closely together in the following ways:

1. Planning and scheduling training and extension activities (demonstrations, field days, training sessions, participant training, etc.) in order to prevent duplication and high costs;

2. Mapping our areas to be mechanized according to the project's objectives.

3. Defining personnel responsibilities which often overlap due to the difficulty of separating extension training from extension in general.

4. Examining the function and defining the role of the Local Manufacture Advisor who will be supporting both the training and extension efforts.

5. Developing a cost accounting system for the training and extension subprojects which will utilize many of the same funds.

6. Providing the project with an effective and coordinated group which is responsible for implementing the project's primary objective: mechanizing agricultural practices.

C. Problems

The following problems are preventing us from effectively implementing our primary objectives:

1. Secretarial assistance: As our activities and responsibilities increase so have our support staff needs. We require the "clerk/Translator who can type" as called for in the Training Plan.

2. Office space: Now that the computer room is being installed in the outer office, we require more space to house our staff, materials and equipment.

3. Transportation: We now have one vehicle for three persons who will need to spend at least 50 percent of their time in the field. This will require an additional vehicle.

D. Plans for next month: 1) Assist the Machinery Management Extension Subproject with their orientation and initial training of the first group of district mechanization specialists; 2) Finalize plans for March training activities at Mamoura and Sakha Training Centers; 3) Continue course information sheet procurement; 4) Continue implementation of planned courses; 5) Draft a cost accounting system for training and extension; 6) Draft a training and extension plan for the first district mechanization specialists.

AGRICULTURAL MECHANIZATION PROJECT

January 1982 TRAINING SCHEDULE

DATE	TIME	LOCATION	COURSE NO.	COURSE TITLE	COMMENTS
MACHINERY MANAGEMENT EXTENSION					
4,5,6 11,12 13,19 20,21	1000 1500	Itay El Baroud	1EX11	Farm Tractor Driving	51 persons total
--	--	Sakha T.C.	2EX1	Tractor Operation	(posponed to April)
27	1000 1500	Itay El Baroud	2EX2	Fertilization	(cancelled-no machine
--	--	-	2EX3	Workshop:Management Ext.	(Postponed to Feb. 82
PLANNING AND EVALUATION				None	
RESEARCH AND DEVELOPMENT					
5		Alexandria: Ameican Cultural Center	IRDI	Intensive English	1 person
SOIL IMPROVEMENT				None	
SERVICE CENTERS				None	
TRAINING					
7 --	--	Cairo Off.	2T1	Workshop:Agricultural Mechanization	(postponed until March)

Activity Report
February 1982
Submitted by: Fred Schantz
Ibrahim Hassan El Ghatas
Salah Bakar

A. Summary

Five courses were held or are in progress for 11 district mechanization specialists, 20 farm tractor drivers, 11 tractor operators and 7 subproject counterparts (see attached sheet). Also, 29 participant training candidates were scheduled to begin registration procedures with the USAID training department; twelve meetings were attended and three field trips taken. A cost accounting system was established and a quarterly cash need statement was completed and submitted to USAID for approval.

B. During the Period

The training activities this month spread from the locational training of farm tractor drivers at Sheikh Ahmed village to other areas and facilities. The first group of tractor operators began a two month course at Mamoura Farm Machinery Training Center and the first group of District Mechanization Specialists began a field orientation course which is being conducted in Sheikh Ahmed and various parts of the Delta. The specialists will complete their orientation on March 10 and begin a three month formal training center course at Sakha Training Center on March 14. Other training activities included the ongoing computer course for project counterparts and intensive English for academic study candidates.

The participant training program received an additional 29 candidates who are being interviewed, tested for English language competence and registered with the USAID training office. Candidates came primarily from the Soil Improvement and the Planning and Evaluation Subprojects as well as from the Research and Development Subproject. Information and forms for the TOEFL test, required for most American universities, were obtained from AMIDEAST for these candidates. The first academic study candidate to sign up for the examination is Miss Nazek Abdel Ghani Arafa from the R&D subproject, who has a good chance of entering an academic program in 1982. All other candidates will probably not complete processing procedures in time for 1982 programs and will have to be considered for early 1983 programs. The primary problem for these persons at this time is for the project to decide which candidates will go where and when.

A variety of meetings were held during the month concerning training activities and training and extension planning. On March 11 the first training and extension coordination meeting was held in the Cairo office to discuss and plan the district mechanization specialist course at Sakha. In attendance were Mr. Samir Sultan, Director General of the MOA General Department for Training, Mr. Said and Mr. Yusry Hamid of Mr. Sultan's staff, Mr. Khairy Hafez of the MOA extension department, Dr. Hashish of Zagazig University, the Extension/Training Committee, and the project's training and extension staff. A plan was finalized and future coordination meetings were agreed upon.

Other meetings and discussions included:

1. A discussion with the project's technical director, Dr. Gaiser, Deputy Project Director Mr. Aly Nashaat, and the Extension and Training Committee Chairman Mr. Afifi, resulted in the appointment of a full time extension department counterpart to the Machinery Management Extension Subproject. This position was first requested in November 1981 and until now has been filled only half time. The new counterpart will provide the project with a closer working relationship with the extension department as they now have a full time role in our extension activities.

2. Meetings were held with the MOA training managers Mrs. Samira Khalik and Mr. Samir Sultan to discuss our beginning courses at the training centers under their direction.

3. The training and extension staff attended the opening day of the field orientation course at Sheikh Ahmed. Dr. Awad, Director General of the MOA Extension Dept., delivered the opening address and was accompanied by several other extension staff.

4. Several meetings were held with the USAID training officers to register participant training candidates, complete English language courses forms and schedule and plan for ongoing project training activities.

5. Three meetings/discussions were held with the newly arrived Local Manufacturing Advisor Mr. Richard Berky. A work plan was outlined and is scheduled to be drafted by next month. Part of the plan will include additional training session for this project component which will be added to the 1982 Training Plan as an amendment.

6. Discussions were held with Mrs. Susan Vogelsang representing Checchi & Co. (a project subcontractor) mainly concerning the importance of close cooperation between the training and extension effort and its role in the project.

7. An Extension/Training Committee meeting was held February 28 to discuss sakkia replacement and machinery introduction. A close examination of the Committee's organization and evaluation of its role and responsibilities was begun in order to strengthen its role in supporting the project.

8. Discussions were held with extension subproject staff concerning the training and extension plan for the district mechanization specialists (Group I). An outline draft was begun and is being developed.

Trips taken included training-related visits to Sheikh Ahmed, the R&D Subproject center in Alexandria and the Farm Machinery Training Center at Mamoura.

Activity Report
March 1982
Submitted by: Fred Schantz
Ibrahim H. El Ghatas
Salah Bakar

A. Summary

Two new courses were begun for 11 district mechanization specialists and 14 mechanics (first level). Four courses continued on from last month for 20 farm tractor drivers, 11 tractor operators, 6 computer operators and one intensive English language trainee (see attached table). Participant training candidate processing continued with selection of 14 persons (13 from the Research and Development Subproject) to enter English language courses next month and the arrival of a short term (3 months) participant training consultant. A draft of the Local Manufacturing training program was prepared; ten meetings were held, and six field trips taken.

B. During the Period: The 11 District Mechanization Specialists who completed their field orientation/training on March 10 entered a formal mechanization extension course at the Sakha Training Center on March 15. They will complete their 12-week course June 3 and return to their districts to begin implementing field extension activities.

The first group of mechanics (level I) began a formal course at Mamoura Farm Machinery Training Center where a tractor operator course is still in progress. The mechanics were selected from the Soil Improvement Subproject (10) and Service Center Subproject (4) and will follow the course for two months. Some locational training continued at Sheikh Ahmed but on a reduced scale since research plots and other extension activities received primary focus during the cotton preparation and planting season.

The participant training effort intensified this month with the arrival of Mr. Dale Debutts, a training consultant. Mr. Debutts has an extensive background with the USAID training department including a 3-year assignment recently in Cairo. His primary role will be to develop, with the assistance of the project's training director, a step-by-step handbook on participant candidate selection and processing through USAID requirements. He will also intensify the identification, selection and placement of the various subproject candidates from the MOA in order to fulfill the required project positions.

A concentrated effort was made this month to develop a local manufacturing training program amendment and it was discussed with those concerned on March 22. A final draft was begun following the meeting.

A number of meetings were held and field trips taken during the month concerning both training and extension related activities, including:

1. Discussions with Sakha Training Center concerning the district mechanization course and the course began on schedule though after a good number of problems. Dr. Zakaria El Haddad, Project Coordinator, opened the course on time at ceremonies attended by the following officials:

Mrs. Nabila El Tonsi	Deputy Director General, Dept. of Training
Mr. Samir Sultan	Training
Mr. Sayed	Program Designer, General Dept. of Training

Mr. Khairy Hafez	Mechanization Director, Extension Dept.
Mr. Fred Schantz	Project Training and Extension Coordinator
Mr. Ahmed El Beheiri	Project Extension Counterpart
Mr. Ibrahim Hassan	Project Training Counterpart
Mr. Salah Bakar	Project Technical Specialist

Following the ceremonies Dr. Zakaria and Mr. Hafez presented lectures to the trainees.

2. A meeting was held March 16 with Samira Khalil and Mr. Sultan of the MOA Training Dept. to discuss training center billing procedures. A system was set up and agreed upon by Dr. Zakaria El Haddad and the others present.

3. The Thursday Training and Extension Coordination meetings were attended during the month and the training component of the Village Programs Workplan 1982-1985 was discussed in detail. As the majority of the implementation activities are with the Machinery Management Extension subproject, ongoing weekly meetings are necessary to coordinate their activities with project training personnel.

Trips taken during the month included: a) a field day at Sheikh Ahmed; b) the Sakha Training Center to monitor the district mechanization specialists' course; c) a field survey trip to Sharkia and Ismailia governorates to examine peanut harvesters; d) a visit to Beheira Co. in Alexandria to discuss the Local Manufacturing program.

C. Problems

Secretarial assistance is still required. With the additional duties of coordinating training and extension activities, another counterpart is required.

D. Plans for next month: 1) Continue planned training activities; 2) finalize the Local Manufacturing Program Training Program amendment; 3) Finalize the Village Programs Workplan 1982-1985 (formerly called the 1982 Extension and Training Plan); 4) Formalize the participant training handbook and process participant training candidates.

MARCH 1982 TRAINING SCHEDULE

DATE / TIME	LOCATION	COURSE	COURSE TITLE	COMMENTS
MACHINERY MANAGEMENT EXTENSION				
(1 Feb to 10 March)	Sheik Ahmad Village	2EX3a	Field Orientation of District Mechanization Specialists	(11 trainees completed March 10
(20 Feb to 20 April)	Mamoura Farm Machin Training Center	2EX1	Tractor Operator	11 persons) (in progress)
1-20	Sheikh Ahmad Village	2EX1b	Farm Tractor Driving	20 persons (continuing)
15 March (to 3 June)	Sakha Training Center	2EX25a	Mechanization Extension District level	11 persons
PLANNING AND EVALUATION				
		2PE1	Evaluation Methodology	Posponed until May 15, 1982
		2PE2	Machinery Basics	
RESEARCH AND DEVELOPMENT				
	Intensive English	1RD1		1 person (continuing)
SOIL IMPROVEMENT				
2 March to 2 May 1982	Maamoura Farm Machinery Training Center	2SI1	Mechanic level I	10 persons
SERVICE CENTERS				
2 March	Maamoura Farm Machinery Training Centers	2SC3a	Mechanic level I	4 persons
TRAINING				
Feb/March	Cairo Office	CP1	BasicComputer Operation	6 persons (completed 15 March)

A.3 EXTENSION/TRAINING SUBPROJECT

A.3.3 MACHINERY MANAGEMENT EXTENSION SUBUNIT

Activity Report
January 1982
Submitted by: Edward Constien
Ahmed El Beheiry

I During the Period

Development of the Orientation and Introductory Training was completed. The program is the first phase of the further education of persons selected by the Extension Department to be mechanization specialists. This phase of the program will begin February 1 and end on March 10 and will be followed by a 3-month course beginning March 15. The orientation session will be aimed at introducing new "students" to the machines being used in the area, the mechanization practices employed, the facilities available (dealers, spare parts stores, workshops, etc.), and the people involved in demonstrating, repairing and selling machinery in the area. People from Beheira and Gharbia governorates are in the first sessions. Other governorates will be represented in later training sessions.

Visits were made to Nubaria Farm and to dealers who will be assisting with the orientation to expalin the program and enlist their assistance and cooperation and make necessary arrangements. A copy of the syllabus is attached to this report.

At the monthly meeting of the Advisory Committee a report was given on the program at Sheikh Ahmed and the Machinery Introductory program was discussed along with the Waterlifting Program. The Committee suggested that a future meeting be devoted to the Waterlifitng Program. The next meeting was scheduled for February 1, to coincide with the first day of the orientation of mechanization specailists.

A syllabus for the Subject Matter Training for mechanization specialists was prepared and given to the Training Subproject team along with suggested instructors for each section. This phase of the training program is intended to provide the specilaist with in-depth knowledge of agricultural machines suitable for Egypt plus extension teaching techniques oriented toward mechanization. A copy is attached to the report.

Visits were made to the mechanization development area at Sheikh Ahmed to monitor the wheat and tillage demonstration fields and develop plans for future educational programs.

Ditch cleaning demonstrations were held taking advantage of the irrigation "dry" season. A plan was developed to clean the ditches in the area on a systematic basis. Farmers continue to be enthusiastic about this component of the program. Future plans include conducting demonstrations in the Sheikh Ahmed area for potential custom operators in other areas.

II Plans for February

Most of the month will be spent conducting the Orientation and Introductory Training sessions. Plans will be made for conducting tillage and land leveling demonstrations preceding the 1982 cotton crop.

SUBJECT MATTER TRAINING FOR

EXTENSION MECHANIZATION SPECIALISTS

SECTION 1 INTRODUCTION

Egypts Mechanization Program

The Extension Mechanization Program

The Role of the Mechanization Subject Matter Specialist

ECTION 2 TRACTORS

Operating Controls

Driving and U.. Techniques

Traction and Hitching

Hydraulic Systems

Transmission Systems

Cooling systems

Two Wheel Tractors

Proper Operation, Care and Maintenence

Review of Tractor Research

ECTION 3 MACHINERY MANAGEMENT

Selecting Tractors

- Horsepower
- Features
- Reliability
- Availability of Service and Spare Parts

Mechanization Systems

Checking Machine Capacity, Checking Losses, Calibration, etc.

Machine Costs, Custom Rates, etc.

CTION 4 TILLAGE EQUIPMENT AND SEEDBED PREPERATION

Objectives of Tillage

Characteristics of Chisel Plows, Moldboard Plows, Rotary Tillers, Tandem Disk Harrows, Offset Disk Harrows, Bedders, Ridgers, etc.

Seedbed Preperation for Selected Crops

Soil Type and Soil Moisture Factors

Proper operation, Care and Maintenence

SECTION 5 LAND LEVELING

Land Leveling Equipment

Surveying Equipment

Land Leveling Methods and Developeing a Plan

SECTION 6 IRRIGATION

Selecting Pump Sets

Field Layout for Efficient Irrigation

Irrigation Practices for Mechanization

Compareing Diesel and Electric Powered Pump Sets

Converting a Sakia to Mechanized Power

Proper Operation, Care and Maintenence of Pump Sets

SECTION 7 PLANTERS AND GRAIN DRILLS

Function of Planting Machines

Components of Planters and How They Work

- Metering Devices
- Furrow Openers
- Covering Devices

Calibrating Planters

Planter Attatchments

Compareing Pneumatic and Plate Planters

Small Scale, Animal Powered Planters

Proper Operation, Care and Maintenence of Planters

Components of a Grain Drill and How They Work

Calibrating Grain Drills

Attatchments for Grain Drills

Proper Care, and Maintenence of Grain Drills

Rice Transplanters

Tree Transplanters

SECTION 8 PEST CONTROL

Operating Characteristics of Boom Sprayers, Hand Gun Sprayers, Back Pack Sprayers, Small Animal Powered Sprayers, Airplane sprayers, Dusters, etc..

Compareing Mechanized Chemical Pest Control With Hand Application Methods

Sprayer Components--Nozzles,Pumps, Pressure Regulators, Tanks, Hoses, Strainers, Agaitors, Hand Guns, etc.

PEST CONTROL (continued)

Sprayer Calibration

Orchard Sprayers

A Review of Pest Control Methods for Selected Crops and Typical Application Rates Used in Chemical Pest Control

Proper Operation, Care and Maintenence

Mechanical Weed Control--Interrow Cultivation

SECTION 9 HARVESTING AND THRESHING

A Review of Harvesting and Threshing Methods and Problems

Mowers and Mower-Binders theat Have Have Been Tested in Egypt

The Role of The Combine in the Delta

Components and How the Operate of the Mower, Mower-Binder, Thresher, Combine, Winnower, Etc.

Selecting Harvesting and Threshing Equipment

Proper Operation, Care and Maintenence

A Review of Research of Harvesting and Threshing Equipment

SECTION 10 APPLYING EXTENSION METHODS TO THE MECHANIZATION EDUCATION PROGRAM

Demonstrations

Field Days

Obtaining Visual Aids for Meetings and Other Extension Activities

Surveys and Other Methods of Gaining Information

Other Extension Methods

Developeing and Implementing a Plan

This suggest plan is for discussion and planning. Instructors will have the responsibility of developeing final teaching plans for ecah individual section.

E. Constien
Jan. 1982

ORIENTATION AND INTRODUCTORY TRAINING FOR EXTENSION MECHANIZATION SPECIALISTS

Time: February 1, 1982 to March 10, 1982

Location: El Sheikh Ahmed and other locations in or near the areas where the specialists will be assigned

Person in charge: Ahmed El Beheiry

DATE	LOCATION	ACTIVITY	INSTRUCTORS
Feb. 1 & 2	Sheikh Ahmed	Orientation; overview of mechanization in Egypt; Extension Mechanization plans; Mechanization Project plans; role of Extension Mechanization Specialists, etc.	Beheiry, Khalil Constien
Feb. 3	Nubaria Farm	Machines and machine systems	Khalil, Beheiry
Feb. 8	Cairo	Visit ICON (John Deere dealer); see workshop, spare parts storage, meet sales and service personnel, discuss machines offered including information on models, sizes, capacities, costs, etc.	Mustafa Rahman
Feb. 9	Nubaria Farm	Machines and mechanization systems	Khalil
Feb. 10	Nubaria Farm	Continuation of Feb. 9 program	Khalil
Feb. 15	Sheikh Ahmed	Extension mechanization training	Beheiry
Feb. 16	Tanta	Visit Tanta Motors (dealer for David Brown tractors, grain drills, pump sets, trailers, etc.); see workshop, sales room, meet sales and service personnel, discuss equipment models, sizes, capacities, operating characteristics, costs, etc.	Abed Abou Freika
Feb. 17	Damanhur	Visit workshops, spare parts sales offices, "dealers" for pumps, tractors, trailers, etc.	Sparrow, Snyder, dealers
Feb. 21	Sheikh Ahmed	Extension mechanization training and Extension Advisory Committee meeting	Beheiry
Feb. 22	Kafr El Sheikh	Land leveling	EWUP Project staff
Feb. 23	Gianaclis	Visit service centers in area, check facilities, meet personnel, etc.	Nagar, Beheiry
Feb. 24	Cairo	Small scale machinery: discuss types, sizes, capacities, costs, availability, operating characteristics, etc.	

Activity Report
February 1982
Submitted by: Edward Constien
Ahmed El Beheiry

I During the Period

Most effort this month was directed to concluding the Orientation and Introductory Training Program for Extension Mechanization Specialists. The program began on Feb. 1 at the Extnesion Mechanization Development Area at El Sheikh Ahmed. Mr. Ahmad Awad, Director General of the Extension Service, members of the Extension Mechanization team and the Training Team participated in the opening session. Eleven men from Beheira and five from Gharbia, chosen by the extension services in their respective governorates, are attending the program. Instruction has been headed by Ahmed El Beheiry assisted by university professors and other mechanization experts, at Sheikh Ahmed. Sessions at Nubaria Mechanized Farm, Gianaclis, Icon Co., Tanta Motors, at workshops and spare parts stores, have been conducted by members of the farms or companies, directed and assisted by El Beheiry. On day was spent at the Egyptain Water Utilization Project (EWUP) station at Kafr El Sheikh.

All sessions have gone very well. The EWUP scientists conducted an excellent seminar on land leveling and have volunteered to provide additional training in the future. The information this project has developed will be valuable to the Extension Specialists when they begin their individual educational programs later this year. Each of the farms or companies that participated in the sessions have made special efforts to provide the trainees information and each offered assistance and facilities to them when they begin their individual programs.

These sessions are part of the first phase of a three-part program to provide these men with the information, dedication and enthusiasm they will need to conduct educational programs on mechanization in their respective areas. An evaluation will be made of this phase of the program before staring the next group; at this point, it appears to have been highly successful and the Extension Team is pleased with the results of our plan.

This first group will complete the orientation sessions on March 8 and begin the second phase on subject matter training at Sakha Training Center, Mar. 15. A second group will begin an orientation program the latter part of April or in May 1982.

Changes in Plans: Small changes in starting and completion dates have been made to accomodate the organizations and personnel with whom we work. The intended number of six men from each governorate was reduced to five from Gharbia. This should not cause problems, in following through the plan, as some loss in personnel was anticipated. Orientation sessions for the next group will probably be moved forward to assure that the second group can complete their subject matter training at Sakha before the cold weather season begins next winter. Also, a short additional orientation to be held in Upper Egypt specifically for the trainees from Minia, is being planned.

II Problems

Assignment of an additional vehicle to the Extension Team during the orientation program solved the transportation problem and contributed to the success of this phase of the program.

Lack of available operating expenses continues to be a problem and is decreasing the effectiveness of the overall program.

III Activities for March

1. Complete the orientation sessions
2. Evalute the orientation sessions held
3. Work with the Research and Development team to conduct some tillage field trials in the Sheikh Ahmed area using the Extension equipment.
4. Make plans for the orientation program for the second group of mechanization specialists.
5. Begin plans for a wheat harvest field day to be held in cooperation with scientists working on the EMCIP (Egyptian Major Cereals Project).
6. Conduct a tillage demonstration on 25 feddans of cotton.

Activity Report
March 1982
Submitted by: Edward Constien
Ahmed El Beheiry

I During the Period

The Orientation Program for the 11 Extension Mechanization Specialists from Beheira and Gharbia governorates was completed on March 10. The second phase of this program, the technical sessions, began on March 15 at the Sakha Training Center.

The Orientation Program appears to have had a high degree of success in reaching planned goals. The length of the sessions--six weeks--will, however, be difficult to duplicate and future orientation sessions will be shorter. Subject to the evaluation, it is hoped furture orientations can be run in four weeks or less.

The second phase, at Sakha, is a more formal technical session, designed to provide the specialists with background knowledge of agricultural machines appropriate to Egyptian agriculture.

Members of the Extension team, in cooperation with the Research and Development Subproject, planned research trials/demonstrations in the Sheikh Ahmed and surrounding areas to develop broader information bases for the extension program and provide tentative answers to some of the problems of local farmers. The first trials will be on seedbed preparation for cotton. Two primary tillage depths, each with four different secondary tillage techniques, will be tried with three replications. The trials were put on in privately owned land with local farmers involved in the planning and implementation. Meetings will be held during the growing season with farmers and with the mechanization specialist trainees.

The next group of trials will be similar to the cotton seedbed preparation trials but will be conducted in an area with a soil of lower clay content.

The Extension team and members of the Farm Management Survey team cooperated in planning and conducting two field days in the Sheikh Ahmed area for farmers from two of the villages involved in the Farm Mangement study. About 50 farmers from El Mahmoudia markaz and 50 from Abu Homos markaz were brought into the area. The program at Sheikh Ahmed was explained and the farmers were shown the demonstrations on seedbed preparation, mechanized wheat sowing, land leveling, ditch cleaning and other activities in the area. Discussions were held on how these types of activities could be held in their respective areas at a later date.

II Activities for April

1. Complete cotton seedbed preparation demonstrations.
2. Complete arrangements for the maize seedbed preparation trials in cooperation with the Research and Development Subproject.
3. Work with the Extension Department to further develop plans for the 23 target villages.
4. Evaluate the Orientation sessions and develop plans for the next.

A.4 SOIL IMPROVEMENT SUBPROJECT

Activity Report
January 1982
Submitted by: Erroll Coles

During the period:

1. Further modifications were made to the tractor and equipment specifications before submitting them to USAID.

2. Job descriptions were compiled for the Irrigation Agronomy Counterpart, Water-lift Counterpart and Liaison/Survey Counterpart. These descriptions will form the basis of the relevant sections of the Water Plan for these activities.

3. The Workplan is being drafted.

4. The Liaison/Survey Counterpart completed the data gathering exercise in Minia governorate.

5. Appointment of the Irrigation Agronomy and Water-lift Counterparts was confirmed, and Mr. El Fayoumi and Mr. Osman will commence duties February 1, 1982.

Minia Field Trip Report (Amr Marei)

A meeting was held in the Directorate of Agriculture, Minia Governorate, on Sunday December 6, 1981. Present were:

Eng. Mohamad Said El Gamal	Undersecretary of Agriculture, Minia Governorate
Eng. Aly Youssef Seda	Director, Agricultural Affairs, Minia Governorate
Eng. Shawky Ishak Khalil	Assistant Agricultural Director, Minia Governorate
Eng. Amr Hussein Marei	Representative, Agricultural Mechanization Project
Eng. Mahmoud Ibrahim Abd-Maaboud	Representative, Soil Amelioration Authority

Ways and means of compiling data on agricultural lands for soil amelioration purposes were discussed, including the need for survey maps at the village level as references for soil amelioration studies in Minia Governorate.

Details of actual agricultural areas were offered by the Director of Agricultural Affairs. Cultivated lands amount to 436,898 feddans, in nine districts:

1. El Edwa Markaz: 29 villages on 27,564 feddans
2. Maghagha Markaz: 38 villages on 44,605 feddans
3. Bani Mazar Markaz: 41 villages on 55,491 feddans
4. Matay Markaz: 26 villages on 31,390 feddans
5. Samalut Markaz: 48 villages on 62,685 feddans

6. El Minia Markaz: 43 villages on 59,772 feddans
7. Abu Qurqas Markaz: 49 villages on 53,515 feddans
8. Malawi Markaz: 51 villages on 65,778 feddans
9. Deir Mawas Markaz: 29 villages on 36.098 feddans

The following field trips were made by Engs. Shawky Ishak Khalil, Amr Hussein Marei, and Mahmoud Abdel Maaboud:

1. Dec. 7: Edwa, Maghagha and Beni Mazar
2. Dec. 8: Matai, Samalut and Minia
3. Dec. 9: Abu Qurqas, Malawi and Deir Mawas

Soil amelioration processes that will be carried out require survey maps of 1:10,000 scale and accurate data on a number of parameters:

1. Alkaline soils requiring gypsum application
2. Lands with drainage problems and high water table level
3. Land that needs subsoiling
4. Lands of different levels requiring leveling
5. Any additional information affecting soil amelioration projects

On Dec. 9 a meeting was held with the Agricultural Directors of the nine markaz, to whom Minia Governorate Director of Agricultural Affairs Eng. Anly Youssef Seda explained the importance of accurate and speedy compilation of the data required. The markaz Agriculture Directors are:

1. Edwa: Eng. Sayed M. Soliman
2. Maghagha: Eng. Ezzat Abdel Mohsen
3. Beni Mazar: Eng. Rashad El Fouly
4. Matai: Eng. Ibrahim A. El Wardani
5. Samalut: Eng. Gamal M. Khallaf
6. Minia: Eng. Hamdy M. Khalifa
7. Abu Qurqas: Eng. M. Abdel G. Mohamed
8. Malawi: Eng. Ahmed M. Abdel Hady
9. Deir Mawas: Eng. Hosny Aly Mahfouz

Activity Report
February 1982
Submitted by: Erroll Coles

During the Period:

1. The greater part of the month was spent in preparing the Workplan.

2. The Irrigation Agronomy counterpart began his suties. His initial activity will be to conduct a survey of pumps available on the market. Following this, he will familiarize himself with the EWUP program and their irrigation methodology in order to draw up a comprehensive irrigation extension training program.

3. The Water-lift counterpart commenced his duties at the beginning of February. He will be responsible for advising farmers on pump purchases and bank credit, after familiarizing himself with the market and with the results of the pump survey by the I.A. counterpart. He will attend a short course on pumps in March at an Alexandria company.

4. A questionnaire was prepared for the farm survey personnel, with an explanation of the use of pumps and credit facilities.

Activity Report
March 1982
Submitted by: Erroll Coles

During the Period:

1. Parts I and II of the workplan were drafted. Part I is an introduction to the land improvment activities and attempts to define priorities in the research field, while Part II concerns the research proposals. Part III will cover the land improvement implementation program and Part IV, the irrigation agronomy and waterlifting activities.

2. Other activities included reviewing work on the pump survey and drawing up a proposal for a training session for extension personnel at Sakha for an introduction to water management and irrigation methodology.

3. Mr. James McClung joined the Soil Improvement project and his primary activity will be finalization of the Minia survey.

4. The office facilities at Giza are in the final stage of preparation.

Irrigation Agronomy Section:

1. The pumps survey has been completed.

2. Training materials are being prepared. Discussions were held with EWUP to see if some of their specialists might give short lectures on water management and irrigation methodology at the extension training sessions.

Waterlifting Section:

1. The data from the pump use questionnaire have been received and are being processed. When complete, the results will be analyzed by the Planning and Evaluation section.

2. The pump technology course was successfully completed at the DAS Center, Alexandria.

3. Lecture materials for the extension training course are being prepared.

Liaison/Survey Section:

1. The course for mechanics is underway.

2. Selection of tractor drivers and other personnel for training have been informed of their selection; their program will begin in late April or early May.

3. Tabulation of the data from the Minia governorate survey should be completed by late April.

A.5. SERVICE CENTER AND VILLAGE WORKSHOP SUBPROJECT

A.5.1 SERVICE CENTER SUBUNIT

Activity Report
January 1982
Submitted by: Graham G. Sparrow
Eng. Youssef F. Stefanos

During the Period:

1. Last month an architect drew up a plan for the type of service center that would meet present needs and allow future expansion at minimum expense. Basically, it was designed for the plot of land in Itay El Barud that Tanta Motors has agreed to develop. It appears that Tanta Motors have already had discussions with a contractor with regard to building a center for them, along quite similar lines. We are still awaiting a reply to our letter from the MOA to the Town Committee in regard to the land.

2. The two prospects we had for the service center at Abu Hommos have fallen through but we have found another promising prospect and have had several discussions with him.

3. At the end of the month it was learned that the Itay El Barud land would not be available, and Tanta Motors will be informed upon Mr. Abed Freikha's return from Italy.

4. We have sent letters to importers who at present are not directly involved with the project describing the terms and conditions of the approved letter of understanding and inviting them to present ideas or proposals in which the Service Center Subproject may be able to assist.

Report on the Development of Itay El Barud Service Center

As the area of Sheikh Ahmed, situated 2 km west of Itay El Barud, has been made an agricultural mechanization testing base by the MOA, the Service Center Development subproject would have liked to develop its first Service Center there.

After the inauguration ceremonies of the Agricultural Mechanization Project and introduction of the Extension Subproject by the Minister of Agriculture the Service Center Development subproject members were approached by members of the Town Committee of Itay El Barud and offered, verbally, a piece of land in Itay El Barud for construction of a service center. Mr. Kamel Khouesky showed us five parcels of land we might consider but at the end of the day we were told that four of those would not be available. The remaining piece, located on the east side of the Cairo-Alexandria highway, was approximately one feddan and ideally located. We were given the official survey drawings and at various meetings afterward it was agreed that this parcel of land could be leased by someone wishing to establish an agricultural service center, through our project, on a long term (99 year) lease at nominal rent.

We then solicited for interested parties. Tanta Motors agreed to develop this site with our help as the first modern agricultural service center to market service, spare parts and sales to the farming community in the area. We then applied officially on behalf of Tanta Motors to the Itay El Barud Town Committee for exact terms and conditions and for the necessary legal documents to be drawn up.

Since that time we have been in contact with Mr. Kamel Khouesky, requesting a reply to our letter which was promised to be at the beginning of January. Receiving no reply, we visited Mr. Khouesky's office on January 28 and found that a letter had been written but not sent. The reply was quite disappointing: it appears that this land belongs to the Town, but to an investment project. At this meeting Mr. Khouesky stated that it could be purchased at prevailing prices, one million Pounds, or rented a 4% per annum of the land value. We replied that LE 1 million was too high and he said this could be reduced. The letter offered an alternative site of 6 feddans which could be leased at LE 300 per annum per feddan. This site had been offered to the project earlier but was withdrawn as the Town Committee were not the legal owners. In fact, it belonged to the Department of Land Reform and is actually owned by local farmers.

We said that we feared his suggestions might lead to a similar outcome and consequently more lost time, so we would, regrettably, have to explore an interest shown by another party for Kafr El Zayyat. Itay El Barud would then be just on the fringe of the area served. We suggested that if he could give us some firm data on an alternative site actually owned by the Town, we would be glad to acquire it if acceptable to Tanta Motors.

We have concluded that we must direct our energies now to more serious proposals in other areas where the project is involved.

Activity Report
February 1982
Submitted by: Graham G. Sparrow
Eng. Youssef F. Stefanos

During the Period:

1. There has been greatly increased activity this month in the private sector regarding regional service centers. We have received another two proposals, bringing the total to 10.

2. We attended meetings with the four Delta governorate banks to discuss staffing of the regional loan committees and agreed on the procedures to be adopted in processing loan applications.

3. One of the major difficulties confronting the private sector at this time is lack of ownership of a suitable parcel of land. Given a reasonable geographical location, we have been shown land that is "owned" in the downtown areas of a town, or land that is in too rural an area and in the latter case often in a confined situation, i.e., having natural boundaries such as a railroad or a canal, which would not only be too distant for the farming community but would be difficult of access (long detour for RR or canal crossings). Also, the costs of getting services such as electricity and water to such distant areas are too high..

4. We met Mr. Shazly, Undersecretary of the MOA in Beheira Governorate. He gave us four letters to the managers of the Agricultural Departments of Itay El Barud, Abu Hommos, Abul Matamir and Mahmoudiya. At Itay El Barud and Abu Hommos these letters were helpful. Although neither the Department of Agriculture or the Department of Land Reform could offer any suitable sites, they have supplied us names of owners of land who wish to sell.

5. Mr. Khouesky, chairman of the local unit at Itay El Barud, did explain that as our project is dealing with the private sector, it is not considered a government-related project and it is therefore difficult to be of help. Even the letter from the MOA concerning the parcel at Itay El Barud and signed by Dr. Ali Hossary failed to convince him or the town committee. However, the manager of the Agricultural Department in Itay El Barud promised to survey any suitable land which is or might be for sale. This would assist Tanta Motors to develop a center in the area.

6. It must be noted that both the banks and Mr. Shazly were very pleased with the selection of Tanta Motors for the Itay El Barud center and the Hammamy family for the Abu Hommos center.

7. In the coming month we will be having detailed discussions with interested parties to finalize a loan agreement. It would be helpful to have with us two assistants from a university, with some knowledge of agricultural engineering and perhaps commercial experience.

8. At the end of the month we received the first outline from Tanta Motors as to size and cost along with a list of suggested machines and approximate prices. We expect to receive a similar outline next month from DIABCO and Saad El Aguizy.

Activity Report
March 1982
Submitted by: Graham G. Sparrow
Youssef F. Stefanos

During the Period:

1. Most of the month was spent finalizing loan agreements with 4 of the 16 proposals we have received. Three of these 4 proposals are located, as planned, with Beheira Governorate:

   a) Itay El Barud (Tant Motors Co.)
   b) Abu Hommos (Hammamy family)
   c) Mahmoudia (Abdu Khir'allah & Co.)

and the fourth in Qaliubia:

   d) Qaliub (Egyptrac Co., Saad El Aguizy)

A suitable parcel of land was chosen for each of the four locations. Only one of these is owned by the applicant and the other applicants are negotiating to purchase land at reasonable prices. This is the only difficulty that may reduce the number of loan recipients.

2. Meanwhile, intensive discussions with the 4 applicants continue concerning building size and design, equipment and machines, etc. The total cost estimation was received from Hammamy (Abu Hommos).

3. In addition to the four proposals now in hand, we have 12 others and have had preliminary discussions with 9 of them, five of which are in the project target governorates:

   a) Nubaria, Beheira (Egyptrac Co., Saad El Aguizy)
   b) Tanta, Gharbia (Tanta Motors Co.)
   c) Beni Mazar, Minia (Tanta Motors Co.)
   d) Sharkia governorate (Diabco)
   d) Minia governorate (Diabco)

The other four proposals are, unfortunately, not within our target governorates. We cannot say they are rejected but for the present we are concentrating on the target governorates Their priority may improve pending the development of the subproject as a whole.

Three more letters of intent have been received in the month and the applicants will be visited next month.

4. On March 22 a cheque for LE 1,247,520 ($1.5 million) for the Service Center Fund was deposited at the PBDAC during a meeting at the bank attended by Mr. Shepley, Mr. Zaki, and Service Center subproject members.

5. We attended a meeting with the Bank Chairman in Zagazig, Sharkia Governorate, and the bank in Damanhur to introduce Mr. Hammamy for more detailed financial discussions.

6. We had an interesting meeting with Nasr Automotive Co. in Cairo to find out what their present and future activities are and how some sort of cooperation could be arranged. They were willing to supply spare parts

and technical service information directly to acceptable new service centers, but were not in a position presently to supply new tractors as their production is fully committed. We believe that this position may change once the service centers prove themselves.

7. Ten people from the Testing Station have been interviewed in order to select two to join the subproject and receive training.

8. Much time has been spent assisting in the location of suitable sites for service centers. The MOA has been most helpful and this help is highly appreciated, and has been fruitful.

9. We welcome the recent appointment of Dr. Ahmed El Sahrigi, the new Project Director, and Dr. Zakaria El Haddad, Project Coordinator, with whom we had constructive meetings attended by Dr. Gaiser and Dr. Abu Saba. The most important decision was that concerning and size and effectiveness of the Executive and Advisory committees. The present single six-man committee should benefit everyone concerned.

A.5 SERVICE CENTER AND VILLAGE WORKSHOP SUBPROJECT

A.5.2 VILLAGE WORKSHOP SUBUNIT

Activity Report
General Review,
1 Jan. - 31 March 1982
Submitted by: R.E. Snyder
Wagdy Metry

During the Period (Jan.-March)

1. We continued to make calls on small workshops throughout Beheira Governorate. In the early part of the period it was an uphill effort to even generate some interest among small shop owners. We had numerous meetings scheduled with potential loan recipients who never showed up for the meetings or were not in their shops when we came on scheduled visits. During the last 6-8 weeks, however, there has been something of a turn-around: we have had several people, whom we had only met on one occasion, come to the office to discuss loans further.

2. We have the money in the bank and several clients are interested in loans to improve their shops or to develop new repair facilities, and we foresee the pace increasing.

3. Four trainees were sent to Mamoura Training Center on March 2. One has since dropped out, but the others are there and are enthusiastic. They are interested in going on to the Mechanics Level II course as soon as they complete the current Mechanics Level I. One of our staff visited the training center to monitor the trainees' progress.

3. We tried to get three of our staff into an English language training program beginning April 15 but failed due to lack of information and poor communications.

4. Another man has been added to our staff in anticipation of expanding our operations and implementing other phases of our project. He is currently receiving orientation and training at Beheira Co. and will remain for 10-12 weeks. We thank Dr. Abu Saba and Mr. Gishi for their cooperation in this.

4. One of our staff has been collecting data on importers and dealers to eventually assemble a catalog of locations of farm machinery, machine tools and spare parts sales available throughout Egypt.

5. We have begun work on Performance Standards for Small Shops. The small workshops will be surveyed and graded on their quality, repair capabilities and personnel.

6. We have started a maintenance program to train maintenance personnel in the field and in cooperatives in operating, maintenance, repairs and preparation for storage.

Activity Report
February 1982
Submitted by: R.E. Snyder
Wadgy Metry

During the period:

1. We have concentrated on making loans to shops we feel are good prospects judging from previous contacts, and consequently, few new contacts have been made. We have found that in order to conclude a loan, we may have to lead the shop owner through every step, as most of them are quite unfamiliar with these processes.

2. Eng. Metry has made new contacts in Cairo with machinery dealers he knew when in the machinery sales business.

3. The PBDAC banks were visited Feb. 14-20. The banks have a good understanding of what we are trying to do and are expected to be very helpful.

4. We have encountered some resistance to the training program by workshops at the village level. Most shop owners wish to have only their own family members trained. They fear that if they train their mechanics and helpers, they will go off to start their own shops or leave for higher pay. In our haste to make loans, we have obviously neglected training, a situation to be remedied as soon as possible.

5. Our machinery technician, Mr. Abd El Hamid, arranged and escorted a tour for a group of extension trainees through some workshops and spare parts shops in Tanta and Damanhur. We need feedback from the Extension group to advise us how to continue or alter future tours. Abd El Hamid is also assembling a catalog of names and addresses of shops where shop machinery and tools can be purchased.

6. We have delivered a set cf drawings of the R&D agriculture trailer to Dr. Ali Nashaat in hopes he can obtain a manufacturing license, and also a set to Tanta Motors for their comments.

Activity Report
March 1982
Submitted by: R.E. Snyder
Eng. Wagdy Metry

During the Period:

1. Most of the month was spent contacting potential loan recipients and we expect that at least two loans can be finalized in April, totalling approximately LE 60,000.

2. A second engineer, Anwar Nada from Mr. Naggar's staff, has been selected to train a possible counterpart. We have received verbal approval from Dr. Zakaria El Haddad and Nada's training should begin immediately.

3. An agreement has been made with Dr. Abu Saba and Abd El Salam El Geshi to allow my counterparts to spend some time at Beheira Co. workshop in Alexandria to familiarize themselves with machine shop practices.

4. Two of the staff visited the industrial trade fair in Cairo and have begun to collect data on various importers. This will be cataloged to form a guide to types of machinery and parts and where to find them.

5. We have begun to develop Performance Standards for Small Workshops. The plan is to give repair shops a MOA certified rating according to their capabilities. A shop's capabilities will be judged on five basic factors including the following:

   a) tools and equipment in the shop;
   b) personnel and their training;
   c) capability to make adjustments and repairs;
   d) capability to do machine work
   e) capability to do blacksmithing and welding work.

   Shops will be able to upgrade their rating by adding new or improved equipment and tools, training personnel, hiring more qualified personnel, etc.

6. We have begun to develop maintenance programs for tractor drivers and farm machinery maintenance personnel, and have asked the Training section for their comments on what has been accomplished to date.

Problems:

1. Shortage of transportation is beginning to slow down our programs. Also, the access road to the Tractor Testing Station in Alexandria is in deplorable condition and getting worse daily. Without an operable telephone at the Station, much time is lost in communicating with our numerous clients between Cairo and Alexandria.

2. Of the four trainees sent to Mamoura Training Center this month, two have quit and gone home, partly due to our mistakes in selection and haste. It would be helpful if the LE 2/day pocket money promised were given on a regular basis, weekly or bi-weekly.

A.6 LOCAL FARM EQUIPMENT MANUFACTURING PROGRAM

Activity Report
February-March 1982
Submitted by:
Richard Berky

During the Period:

1. Activities began on the 6th of February. The Manufacturing Advisor, after three days of orientation and meetings with MOA officials and USAID, traveled to Alexandria with the Project Training Officer, visiting Sheikh Ahmed enroute.

2. One week was spent for personal installment, orientation and a study of the facilities available.

3. Arrangements were made for temporary counterparts and transport and an industry survey in the Alexandria area was begun. Five workshops in the area were visited to get ideas about their operating costs and the potential as suppliers of raw materials. In each case, a contact was located for return visits and discussions in depth.

4. In Cairo again, preliminary discussions were held concerning program organization. A training program was designed and sources of budget, scheduling and participant training plans were worked on with the training office.

5. Industry-wide state-of-the-art surveys were begun, beginning with New Baharia, Helwan, Tanta, Damanhour, and areas adjacent to the Desert and Agricultural Cairo-Alexandria highways. A systems diagram was prepared on the supply, demand and delivery systems for raw materials, and assessments made of mill supplies and credit facilities.

ANNEX B

ECONOMIC AND FINANCIAL DATA REQUIREMENTS

Agricultural Mechanization Project
Data Requirements for Economic and Financial Evaluation

	Description	Purpose	Method of Collection	Responsible Organization
1	Crop production cost/income data for all crops	-Linear program models to evaluate income effects of current farm production systems vs. improved technologies. -Identification of mechanization targets of opportunity.	Farm Management Survey	Economic & Financial Planning Sub-Unit
2	Quantification of economic and financial operating costs of existing farm tractor population	-To be used in Internal Rate of Return and Crossover discount analysis of alternative mechanized farm operations	Tractor Cost Surveys of cooperatives and custom operators.	- Economic & Financial Planning Sub-Unit. - Evaluation Sub-Unit.
3	Measurement of tractor operating and ownership costs	-To check validity of data in (2), above. -Econometric modelling of hourly costs (dependent) variable) as a function of age, operating conditions, tractor make, and tractor model(independent variables). -Modelling will be done to: (1) provide a quantitative basis for recommending specific tractor options to farmers and custom operators, (2)provide emperical evidence for long range policy recommendations for GOE tractor procurements and distributions	Randomized surveys of existing tractor population and selected prototypes using scientific instrumentation to measure horsepower, fuel/lubricant consumption, engine performance, etc.	- Research & Development Unit. - Extension Unit. - Soil Improvement Unit - Planning & Evaluation Unit.

Agri. tural Mechanization Project
Data Requirements for Economic and
Financial Evaluation (cont.)

	Decripti ..	Purpose	Method of Collection	Responsible Orgainzatio
4	Capital Cost and lifespan data for alternative farm implements used under Egyptian operating conditions	To evaluate cost flow streams of for Internal Rate of Return and Cross-over Discount analysis of alternative machine powered farm equipment that will be evaluated and introduced by the project	-Research experiments -Field trials -Manufacturer's specifications	-Research and Development Unit. -Extension Unit
5	Mechanized treatment and yield correlation data for all key farm operations(eg. seedbed preparation, planting, cultivation, harvesting and threshing).	For regression modelling of treatment/correlation effects to quantify marginal yield output and/or cost savings from mecahnization. Model coefficients will be used as technical coefficients in the experiemental runs of the stratified linear program models to evaluate income effects of mechanization.	Project research activities	Research&Development Unit
6	Traditional irrigation methods cost data.Data wil include interest/ depreciation of equipment, marginal feeds requirements costs of animal power and milk and meat output losses from animal use on on-farm irrigation devices.	To evaluate the economic and financial opportunity costs of on-farm irrigation by animal powered irrigation devices. The data will be used to quantify cost savings through introduction of mechanical irrigation devices and as a basis f comparing the rates of return and income effects of alternative mechanical irrigation means.	Random survey of Sakkia costs throughout Project areas	Economic and Financial Planning Sub-Unit.

Agricultural Mechanization Project
Data Requirements for Economic and Financial Evaluation (cont.)

	Description	Purpose	Method of Collection	Responsible Orgainzatio
7	Cost quantification of selected mechanized pumping alternatives. Data will include all variable and fixed costs of selected alternatives for Sakkia replacement	-Econometric modelling of hourly costs and/or costs per feddan(dependent variable) as a function of age, lift, pump make, and pump model(independent variables). -Quantification of cost savings resulting from Sakkia replacement. -Providing a quantitative basis for recommending specific pump options to farmers and providing an emperical basis for long range policy recommendations for GOE pump procurements and distributions.	Procurement and running under controlled conditions alternative equipment to measure fuel/lubricant consumption, frequency/types/costs of maintenance, useful life,etc.	Water Lifting Sub-Unit.
8	Treatment times and field efficiencies related to all farm machinery alternatives investigated and evaluated by the Project.	Will calculation of cost/feddan values from hourly cost values derived from 1-4, above.	Time Project machinery operations with stopwatch and record.	-Research & Development Unit. -Extension Unit -Soil Improvement Unit.

Ann.B

Agricultural Mechanization Project
Data Requirements for Economic and Financial Evaluation (cont.)

	Decription	Purpose	Method of Collection	Responsible Orgainzation
9	Calorific values/metric ton of all grains and fodder produced in Egypt and international prices of all Egyptian farm in puts and output	To allow shadow pricing in the economic evaluations	IBRD, UNDP, FAO current publications	Economic and Financial Planning Sub-Unit.
10	Quantification of labor availability in the 23 randomly selected villages	For labor constraint boundry in linear program models	Demographic surveys	Evaluation Sub-Unit.
	Quantitative analysis of draft animal availability in the 23 random villages	For animal power constraint boundry in LP models	Demographic survey	Evaluation Sub-Unit.
11	Machine power availability in the 23 random villages	For machine power constraint boundry in LP models.	Demographic surveys	Evaluation Sub-Unit.
12	Quantitative assessment of credit availabilities in the 23 random villages	For capital and credit constraint boundry in LP models.	-Demographic surveys -Farm management surveys -Bank rural credit policies	-Evaluation Sub-Unit -Economic & Financial Planning Sub-Unit.
13	Assessment of crop distribution limitations	For crop distribution constraint boundry in LP models.	Farm Management Survey	Economic & Financial Planning Sub-Unit.
14	Measurement of all on-farm consumption in quantities and prices	To quantify, crop, livestock and feed consumption equilibrium conditions in LP models	Farm Management Survey	Economic & Financial Planning Sub-Unit.

ANNEX C

EVALUATION OF

FARM MANAGEMENT SURVEY DATA-QUALITY

Table

Analysis of Randomly Selected Farm Management Survey Data from Gharbia and Qalubia

Regression Number	y=f(x) Regression Variables	Regression Coefficients a,	,b	c	Number of Obs.	Degrees of Freedom	R^2	Type of Regression
1.	-Cost in £E (y)	-0.189	0.493	0.062	25	24	0.97	Multiple Linear
	-Quantity of long term berseem seeds in kgs. (x_1)							
	-Land area planted to long term berseem in kerat (x_2)							
	-Cost in £E (y)	0.162	0.529	-	25	24	0.98	Linear
	-Quantity of long term berseem seeds in kgs.(x)							
	-Long term berseem in kgs. (y)	0.111	1.166	-	25	24	0.836	Linear
	-land area in kerat planted to long term berseem (x)							
4.	-Berseem seeding costs in £E (y)	-0.046	0.630	-	25	24	0.857	Linear
	-Land area in kerat sown to long term berseem							

Table

Analysis of Randomly Selected Farm Management Survey Data from Gharbia and Qalubia

Regression Number	y=f(x) Regression Variables	Regression Coefficients a,	,b	c	Number of Obs.	Degrees of Freedom	R^2	Type of Regression
5.	-Cost in £E (y) -Quantity of phosphorus fertilizer application for long term berseem (x_1) -land area fertilized in kerat	1.786	0.175	0.140	18	17	0.626	Multiple Linear
6	-Phosphorus fertilizer cost in £E (y) -Quantity of phosphorus fertilizer in kgs.	0.496	0.932	-	18	17	0.797	Power
7.	-Quantity of phosphorus fertilizer applied for long term berseem applied in kgs. (y) -Land area planted to long term berseem in kerat(x)	4.288	0.753	-	18	17	0.721	Linear

Table

Analysis of Randomly Selected Farm Management Survey Data from Gharbia and Qalubia

Regression Number	y=f(x) Regression Variables	Regression Coefficients a,	b	c	Number of Obs.	Degrees of Freedom	R^2	Type of Regression
8	-Cost of phosphorous fertilizer used for long term berseem (y) -Land area fertilized in kerat (x)	2.536	0.272	-	18	17	0.725	Linear
9	-Tractor rental cost (y) -Operating hours(x)	2.223	1.064		35	34	0.902	Power

REGRESSION ANALYSIS OF RANDOMLY SELECTED OBSERVATIONS FROM THE FARM MANAGEMENT SURVEY IN QALUBIA AND GHARBIA GOVERNORATES. THE REGRESSION PLOTS Y=F(X) WHERE Y IS COST IN LE X1 IS SEED QUANTITY IN KGS, X2 IS LAND AREA IN KERAT. THE CROP COSTS EVALUATED ARE FOR LONG TERM BERSEEM FOR THE AGRICULTURAL SEASON 1981-1982.

DATA SET 1: 1 1 3

X(I)
20.0000
24.0000
12.0000

(Y)

DATA SET 2: 1 1 3

X(I)
9.0000
8.0000
4.5000

(Y)

DATA SET 3: 1 1 3

X(I)
24.0000
16.0000
16.0000

(Y)

DATA SET 4: 1 1 3

X(I)
24.0000
16.0000
16.4000

(Y)

DATA SET 5: 1 1 3

X(I)
96.0000
24.0000
48.0000

(Y)

DATA SET 6: 1 1 3

X(I)
16.0000
16.0000
8.0000

(Y)

DATA SET 7: 1 1 3

X(I)
13.0000
12.0000
7.5000

(Y)

DATA SET 8: 1 1 3

X(I)
10.0000
5.0000
5.0000

(Y)

DATA SET 9: 1 1 3

X(I)
13.0000
12.0000
7.5000

(Y)

DATA SET 10: 1 1 3

X(I)
39.0000
36.0000
21.5000

(Y)

DATA SET 11: 1 1 3

X(I)
7.0000
6.0000
3.5000

(Y)

DATA SET 12: 1 1 3

X(I)
13.0000
8.0000
6.5000

(Y)

DATA SET 14:

I	X(I)
1	4.0000
2	4.0000
(Y)	2.0000

DATA SET 15:

I	X(I)
1	3.0000
2	4.0000
(Y)	1.5000

DATA SET 16:

I	X(I)
1	13.0000
2	15.0000
(Y)	6.5000

DATA SET 17:

I	X(I)
1	20.0000
2	18.0000
(Y)	9.0000

DATA SET 18:

I	X(I)
1	1.0000
2	1.0000
(Y)	.5000

DATA SET 19:

I	X(I)
1	16.5000
2	20.0000
(Y)	8.2500

DATA SET 20:

I	X(I)
1	33.0000
2	34.0000
(Y)	16.5000

DATA SET 21:

I	X(I)
1	6.0000
2	6.0000
(Y)	3.7500

DATA SET 22:

I	X(I)
1	16.0000
2	15.0000
(Y)	9.1700

DATA SET 23:

I	X(I)
1	26.0000
2	24.0000
(Y)	14.2500

DATA SET 24

I	X(I)
1	51.0000
2	51.0000
(Y)	28.5000

DATA SET 25:

I	X(I)
1	78.0000
2	77.0000

VAR	MEAN	VARIANCE
X(1)	23.8600	518.9900
X(2)	19.4000	286.5833
X(3)	12.7728	147.4532

CORRELATION MATRIX

	1	2	3
1	1.000		
2	.777	1.000	
3	.992	805	1.000

MULTIPLE CORRELATION = .986

ANALYSIS OF VARIANCE

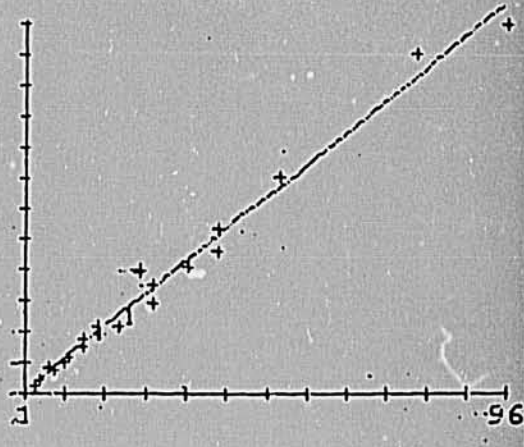
SOURCE	DF	SS	MS	F
TOTAL	24	3538.9		
REG	2	3490.3	1745.1	789.9
X(1)	1	3479.7	3479.7	1575.0
X(2)	1	10.6	10.6	4.8
RESID	22	48.6	2.2	

COEFFICIENTS -

I	B(I)	VARIANCE	TVALUE
0	-0.189		
1	0.493	0.000	23.270
2	0.062	0.001	2.189

SEL-
ECTED
IN UNITS OF $ AND PLOTTED IN THE
FUNCTION Y=F(X), WHERE Y IS COST
IN $ AND X IS QUANTITY OF
LONG TERM BERSEEM SEEDS IN KGS
IS PLOTTED BELOW TO ILLUSTRATE
MAGNITUDE OF CORRELATION AND
GOODNESS OF FIT.

J	X(I)	Y(I)
1	26.0000	12.0000
2	9.0000	4.5000
3	24.0000	16.0000
4	24.0000	16.4000
5	96.0000	48.0000
6	16.0000	8.0000
7	13.0000	7.5000
8	16.0000	5.0000
9	13.0000	7.5000
10	39.0000	21.5000
11	7.0000	3.5000
12	13.0000	6.5000
13	39.0000	18.5000
14	4.0000	2.0000
15	3.0000	1.5000
16	13.0000	6.5000
17	20.0000	9.0000
18	1.0000	0.5000
19	16.5000	8.2500
20	33.0000	16.5000
21	6.0000	3.7500
22	16.0000	9.1700
23	26.0000	14.2500
24	51.0000	28.5000
25	78.0000	44.5000



AXIMUM DEGREE REGRESSION= 1

ASIC STATISTICS
****
EANS,VARIANCES,CORRELATION
MEAN= 23.8600
AR(X)= 510.9960
MEAN= 12.7728
AR(Y)= 147.4532
MINIMUM MAXIMUM
1.0000 96.0000
.5000 48.0000
XY = .9916

ANOV: LINEAR REG-CODE 1

SOURCE	DF	SS	MS	F
TOTAL	24	3538.9		
REG	1	3479.7	3479.7	999.9
RESID	23	59.2	2.6	

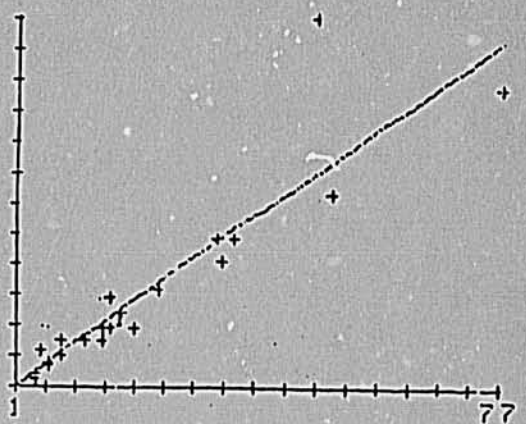
R SQUARE = 0.983

THAT = 0.3624 + 0.529 X

Ann.C, 97

E L[illegible] ANALYSIS TO VARIFY
[illegible]ITY [illegible] SEEK MANAGEMEN
T SURVEY IR [illegible] FOR MALAYSIA.
THE REGRESSION [illegible] WHERE
X IS SEED QUANTITY IN KGS AND
Y IS PLANT AREA IN HECTARE FOR LONG
TERM FORECAST.

I	X(I)	Y(I)
1	24.0000	26.0000
2	8.0000	9.0000
3	16.0000	24.0000
4	16.0000	24.0000
5	48.0000	96.0000
6	16.0000	16.0000
7	12.0000	13.0000
8	5.0000	10.0000
9	12.0000	13.0000
10	36.0000	39.0000
11	6.0000	7.0000
12	8.0000	13.0000
13	33.0000	39.0000
14	4.0000	4.0000
15	4.0000	3.0000
16	15.0000	13.0000
17	18.0000	20.0000
18	1.0000	1.0000
19	20.0000	16.5000
20	34.0000	33.0000
21	6.0000	6.0000
22	15.0000	16.0000
23	24.0000	26.0000
24	51.0000	51.0000
25	77.0000	78.0000



AXIMUM DEGREE REGRESSION= 1

ASIC STATISTICS
****
EANS,VARIANCES,CORRELATION
MEAN= 20.3600
AR(X)= 318.8233
MEAN= 23.8600
AR(Y)= 518.9900

MINIMUM	MAXIMUM
1.0000	77.0000
1.0000	96.0000

XY.= .9142

ANOV: LINEAR REG: CODE 1

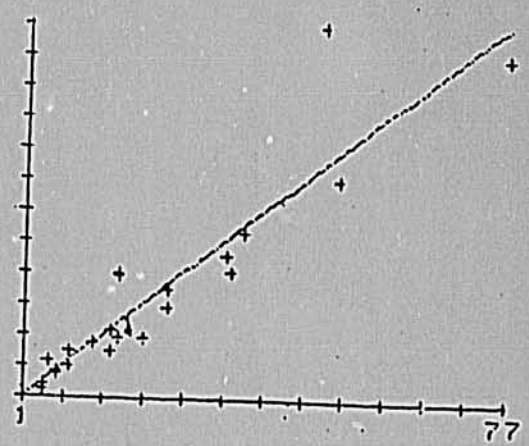
SOURCE/DF	SS	MS	F
TOTAL 24	12455.8		
REG 1	10410.7	10410.7	117.1
RESID 23	2045.6	88.9	

R SQUARE = 0.836

YHAT = 0.111+ 1.166 X

REGRESSION ANALYSIS TO VARIFY DATA QUALITY FROM FARM MANAGEMENT SURVEY IN GHARBIA AND DALUBIA. THE REGRESSION IS Y= F(X) WHERE Y IS COST IN LE AND X IS LAND AREA IN KERAT FOR LONG TERM BERSEEM SEEDING.

I	X(I)	Y(I)
1	24.0000	12.0000
2	8.0000	4.5000
3	16.0000	16.0000
4	16.0000	16.4000
5	48.0000	48.0000
6	16.0000	8.0000
7	12.0000	7.5000
8	5.0000	5.0000
9	12.0000	7.5000
10	36.0000	21.5000
11	6.0000	3.5000
12	8.0000	6.5000
13	33.0000	18.5000
14	4.0000	2.0000
15	4.0000	1.5000
16	15.0000	6.5000
17	18.0000	9.0000
18	1.0000	0.5000
19	20.0000	8.2500
20	34.0000	16.5000
21	6.0000	3.7500
22	15.0000	9.1700
23	24.0000	14.2500
24	51.0000	28.5000
25	77.0000	44.5000



MAXIMUM DEGREE REGRESSION= 1

BASIC STATISTICS
****
MEANS,VARIANCES,CORRELATION
X MEAN= 20.3600
VAR(X)= 318.8233
Y MEAN= 12.7728
VAR(Y)= 147.4532

MINIMUM	MAXIMUM
1.0000	77.0000
.5000	48.0000

SXY = .9258

ANOV: LINEAR REG:CODE 1

SOURCE/DF	SS	MS	F
TOTAL 24	3538.9		
REG 1	3033.2	3033.2	138.0
RESID 23	505.7	22.0	

R SQUARE = 0.857

YHAT = -0.046+ 0.630 X

REGRESSION ANALISIS OF RANDOMLY SELECTED OBSERVATIONS FROM THE FARM MANAGEMENT SURVEY IN QALUBIA & GHARBIA GOVERNORATS, TO EVALUATE CORRELATION BETWEEN COST,QUATITY & LAND AREA OF PHOSPHORUS FERTILIZER APPLICATION FOR LONG TERM BERSEEM
Y =(X1,X2)
WHERE
Y IS THE COST IN LE
X1 IS THE UNITS QUANTITY IN KGS
X2 IS THE LAND AREA IN KERAT

DATA SET 1	1		X(I)
	1		20.0000
(Y)	2	3	24.0000
	3		9.0000
DATA SET 2	1		X(I)
	1		26.0000
(Y)	2	3	8.0000
	3		8.0000
DATA SET 3:	1		X(I)
	1		23.2500
(Y)	2	3	16.0000
	3		12.0000
DATA SET 4:	1		X(I)
	1		62.0000
(Y)	2	3	48.0000
	3		14.0000
DATA SET 5	1		X(I)
	1		13.0000
(Y)	2	3	16.0000
	3		2.5000
DATA SET 6:	1		X(I)
	1		7.7500
(Y)	2	3	12.0000
	3		1.6000
DATA SET 7:	1		X(I)
	1		38.7500
(Y)	2	3	36.0000
	3		21.0000
DATA SET 8:	1		X(I)
	1		7.7500
(Y)	2	3	6.0000
	3		4.0000
DATA SET 9	1		X(I)
	1		7.7500
(Y)	2	3	8.0000
	3		4.0000
DATA SET 10:	1		X(I)
	1		23.2500
(Y)	2	3	33.0000
	3		10.1000
DATA SET 11	1		X(I)
	1		11.5000
(Y)	2	3	18.0000
	3		4.0000
DATA SET 12:	1		X(I)
	1		15.5000
(Y)	2	3	20.0000
	3		8.5000

	1	
	2	
(Y)	3	6.060

DATA SET 14	I	X(I)
	1	7.7500
	2	6.0000
(Y)	3	3.0000

DATA SET 15	I	X(I)
	1	15.5000
	2	15.0000
(Y)	3	4.7500

DATA SET 16:	I	X(I)
	1	23.2500
	2	24.0000
(Y)	3	9.0000

DATA SET 17:	I	X(I)
	1	31.0000
	2	51.0000
(Y)	3	15.0000

DATA SET 18:	I	X(I)
	1	62.0000
	2	77.0000
(Y)	3	23.5000

VAR	MEAN	VARIANCE
X(1)	23.1944	276.6364
X(2)	25.1111	351.8693
X(3)	9.3583	35.8071

CORRELATION MATRIX

1	1.000		
2	.849	1.000	
3	.859	.852	1.000

MULTIPLE CORRELATION = .791

ANALYSIS OF VARIANCE

SOURCE	DF	SS	MS	F
TOTAL	17	608.7		
REG	2	481.7	240.8	28.4
X(1)	1	448.9	448.9	53.0
X(2)	1	32.8	32.8	3.9
RESID	15	127.0	8.5	

COEFFICIENTS

I	B(I)	VARIANCE	TVALUE
0	1.786		
1	0.175	0.006	2.175
2	0.140	0.005	1.966

SELECTION ANALYSIS OF RANDOMLY
SELECTED OBSERVATIONS FROM THE
FARM MANAGEMENT SURVEY IN QALU-
BIA & GHARBIA GOVERNORATES .THE
REGRESSION Y=F(X) WHERE Y IS COST
PER FEDDAN AND X IS THE UNIT QUANTI-
TY OF THE LONG TERM BERSEEM
PHOSPHORUS FERTILIZER IN KGS.

I	X(I)	Y(I)
1	26.0000	9.0000
2	26.0000	8.0000
3	23.2500	12.0000
4	62.0000	14.0000
5	13.0000	8.5000
6	7.7500	1.6000
7	38.7500	21.0000
8	7.7500	4.0000
9	7.7500	4.0000
10	23.2500	10.1000
11	11.5000	4.0000
12	15.5000	8.5000
13	15.5000	8.5000
14	7.7500	3.0000
15	15.5000	4.7500
16	23.2500	9.0000
17	31.0000	15.0000
18	62.0000	23.5000

MAXIMUM DEGREE REGRESSION= 1

BASIC STATISTICS
****
MEANS,VARIANCES,CORRELATION

MEAN=	23.1944
VAR(X)=	276.6364
MEAN=	9.3583
VAR(Y)=	35.8071

MINIMUM	MAXIMUM
7.7500	62.0000
1.6000	23.5000

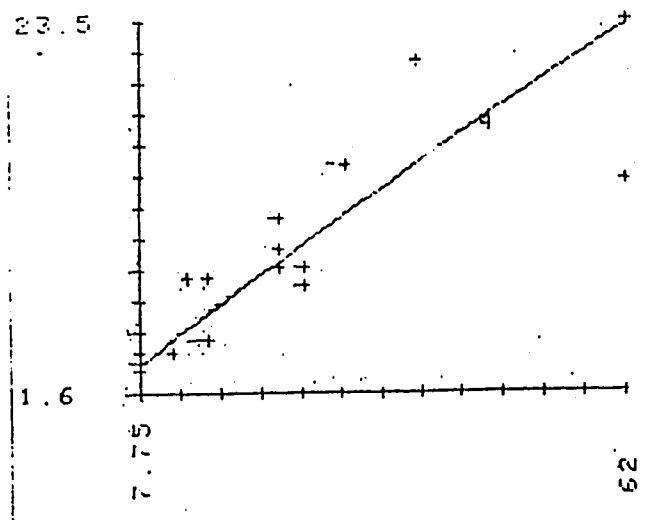
COV = .8588

ANOV: POWER: CODE 4

SOURCE/DF	SS	MS	F
TOTAL 17	8.3		
REG 1	6.6	6.6	62.8
RESID 16	1.7	0.1	

R SQUARE = 0.797

YHAT = 0.496X ^ 0.932



... ANALYSIS OF ANNUAL
...LECTED OBSERVATIONS FROM THE
...PM MANAGEMENT SURVEY IN CHILO-
...N & GHARBIA GOVERNORATES. THE
UNCTION Y=F(X) WHERE Y IS THE
NIT QUANTITY OF LONG TERM DEP-
LLM PHOSPHORUS FERTILIZER IN
GS AND X IS THE LAND AREA IN
LKAT

I	X(I)	Y(I)
1	24.0000	26.0000
2	8.0000	26.0000
3	16.0000	23.2500
4	48.0000	62.0000
5	16.0000	13.0000
6	12.0000	7.7500
7	36.0000	38.7500
8	6.0000	7.7500
9	8.0000	7.7500
10	33.0000	23.2500
11	18.0000	11.5000
12	20.0000	15.5000
13	34.0000	15.5000
14	6.0000	7.7500
15	15.0000	15.5000
16	24.0000	23.2500
17	51.0000	31.0000
18	77.0000	62.0000

ANOV: LINEAR REG:CODE 1-

SOURCE/DF	SS	MS	F
TOTAL 17	4702.8		
REG 1	3391.1	3391.1	41.4
RESID 16	1311.7	82.0	

R SQUARE = 0.721

YHAT = 4.288+ 0.753 X

AXIMUM DEGREE REGRESSION= 1

ASIC STATISTICS

****

EANS,VARIANCES,CORRELATION

MEAN= 25.1111

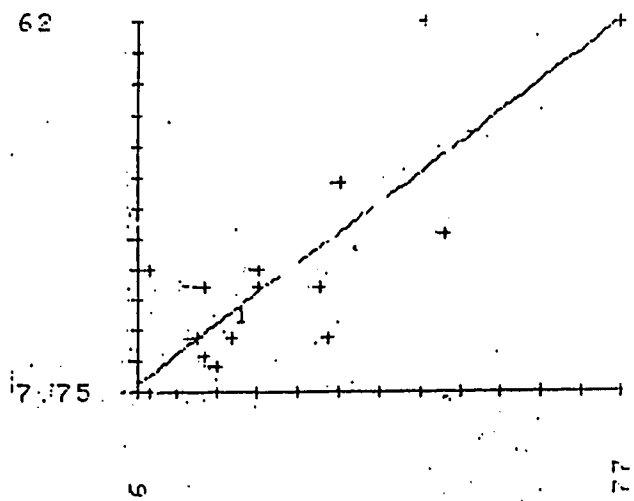
AR(X)= 351.8693

MEAN= 23.1944

(Y)= 276.6364

MINIMUM	MAXIMUM
6.0000	77.0000
7.7500	62.0000

Y = .8492



REGRESSION ANALYSIS OF MANUAL
ECTED OBSERVATIONS FROM THE
A MANAGEMENT SURVEY IN UKLU-
A GHANAIA GOVERNMENTALS THE
CTION Y=F(X) WHERE Y IS THE
T OF PHOSPHORUS FERTILIZER
LONG TERM BERSEEM IN LE AND
S THE LAND AREA FERTILIZED
KERAT.

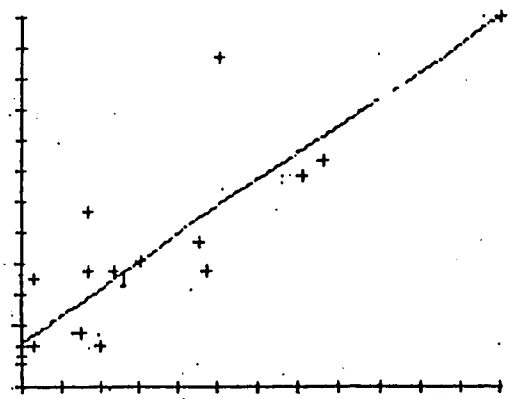
I	X(I)	Y(I)
1	24.0000	9.0000
2	8.0000	8.0000
3	16.0000	12.0000
4	48.0000	14.0000
5	16.0000	8.5000
6	12.0000	1.6000
7	36.0000	21.0000
8	6.0000	4.0000
9	8.0000	4.0000
0	33.0000	10.1000
1	18.0000	4.0000
2	20.0000	8.5000
3	34.0000	8.5000
4	6.0000	3.0000
5	15.0000	4.7500
6	24.0000	9.0000
7	51.0000	15.0000
8	77.0000	23.5000

ANOV: LINEAR REG:CODE 1

SOURCE/DF	SS	MS	F
TOTAL 17	608.7		
REG 1	441.6	441.6	42.3
RESID 16	167.1	10.4	

R SQUARE = 0.725

YHAT = 2.536+ 0.272 X



XIMUM DEGREE REGRESSION= 1

SIC STATISTICS
****
ANS,VARIANCES,CORRELATION
MEAN= 25.1111
R(X)= 351.8693
MEAN= 9.3583
R(Y)= 35.8071

MINIMUM	MAXIMUM
6.0000	77.0000
1.6000	23.5000

Y = .8517

ANNEX D

MECHANIZATION ISSUES IN EGYPT

MECHANIZATION ISSUES IN EGYPT*

Dr. Peter Reiss

There have been numberous criticisms leveled against attempts to mechanize agriculture in Egypt. I would like to mention some of the more prevalent accusations and briefly discuss two of them in particular. People have charged that while agricultural mechanization may create some new positions, it will displace agricultural laborers, causing net unemployment. A second criticism is that the nature of the small landholdings in Egypt makes mechanization an inappropriate objective. Mechanization may also exacerbate village inequities, further concentrating the means of production in the hands of an already wealthy elite. Related to this issue is the idea that mechanization may reduce the self-sufficiency of farm households by making them increasingly dependent on machine owners. Yet another criticism is that since mechanization is properly suited to large plots, landowners will make concerted efforts to displace land renters, increasing the number of landless poor. Finally, it is noted that mechanization is likely to take draft animals out of plowing and water-lift activities, leading to an increase in household dairy production and thereby increasing the working demands already placed on women.

While all these points are serious, possible labor displacement and inappropriateness due to fragmented landholdings are given greater weight in most discussions of agricultural mechanization and so will be addressed here.

There is little doubt that agricultural mechanization displaces laborers. Studies in other countries indicate that, on the average, five workers are displaced with every tractor. And to date, mechanization in Egypt has largely taken the form of tractorization, with water-lift and threshing following behind. Other estimates suggest that with full mechanization the number of man-hours required for particular crops drops dramatically.

*Presented to USAID, Cairo, 17 February 1982.

Man-hours per feddan for wheat falls from sixty to two, and for cotton from ninety to four, during an entire cropping season. Therefore, one must seriously consider the issues before introducing or expanding mechanization efforts in countries with a demonstrated labor surplus.

What remains unclear in the Egyptian context is the nature of the labor market, particularly as it related to agriculture. Every report on the labor situation in Egypt seems to produce different findings. It would seem, however, that the issue cannot be resolved with a simple determination of a labor surplus or shortage. From the available data, which are often in conflict, it would appear that there is at least a shortage of agricultural workers during peak periods. Migration to urban centers and to nearby Arab countries may have drawn off nearly twenty percent of the labor force in agriculture. Educational opportunities, military service, and the frequent guarantee of government employment further reduce the labor pool.

Therefore, at present, mechanization appears to be filling a real need in replacing the disappearing workers. However, certain hard questions will have to be answered and translated into policy in the future. If mechanization is replacing laborers during peak periods, will it also displace them during the slack ones? And, a related question: Will new technologies which are useful for solving labor problems in defined activities be transferred to other operations where, at present, no shortage exists? Will it force ever greater numbers of agricultural workers out of rural areas into the cities and overseas employment? Speaking of overseas employment, what is its future for Egyptians?

Trends in international migration suggest that Arab countries are already shifting to Asian unskilled workers and will do so increasingly in the future. Asians entering in teams under labor contracts are

easier to recruit and control. Skilled Egyptians will continue to be needed, but they do not form a part of the agricultural labor pool that is being considered here.

An additional question is, Can the government continue to give higher degrees to the young in such large numbers and offer government positions as a reward?

The most important question then is, Is Egypt mechanizing agriculture for a present situation which may change in the near future?

That question may be partially answered by stating that agricultural mechanization in Egypt is inevitable. It results not only from a strong government commitment but from the desire of individual farmers to do so. And, barring strict obstructionist policies imposed by the government, mechanization efforts will grow in the future.

However, the disturbing facts of an expanding population and a likely reduction in employment opportunities remain. As a result, migration from rural areas to Cairo will increase and/or employment will have to be found in rural areas. I would suggest that the development of rural employment will have to be a primary objective of the government. And in this sense, employment and mechanization may come together with positive benfits.

It is widely recognized that mechanization will brings savings to farmers and earnings to machine owners. What then would be required to encourage them to invest their savings and earnings in income-generating and labor-employing projects in rural areas? In the past and at present, rural earnings have often found their way into the urban centers. Money has often been used for construction. While Egypt is experiencing a building boom at present, these booms are often short-lived. Therefore, can a plan be designed to turn this money from urban consumption and investment back to the rural areas?

A second issue, which I can only briefly mention, is land fragmentation in Egypt where the overwhelming number of farms have fewer than three feddans. One may attempt to resolve the apparent conflict between farm size and machinery by actively pursuing a policy of using only the smallest and most mobile machines. A second strategy might also be productive: if one posits that small landholdings involve a management rather than strictly a machinery problem, one's attention would be focused on designing acceptable plans which would encourage farmers to form voluntary associations for the efficient exploitation of their land. The issue then becomes an organizational one. While some efforts have failed in the past, under the proper conditions and with suitable incentives, they may succeed in the future.

I have tried to indicate that while agricultural mechanization can certainly produce certain undesirable effects, it need not necessarily. What is required is an innovative approach which will turn a potentially negative situation into a clearly positive one.

ANNEX E

ACCOUNTING AND PROCUREMENT PROCEDURES

ANNEX E.1

ACCOUNTING AND PROCUREMENT INSTRUCTIONS FOR THE SERVICE CENTER CREDIT FUND

ACCOUNTING AND PROCUREMENT INSTRUCTIONS FOR THE SERVICE CENTER CREDIT FUND

Ann.E.1

I Program Authorization :

On October 3, 1981 a Letter of Understanding was executed between the Ministry of Agriculture and the Principal Bank for Development concerning lending criteria, recipient selection and duties and responsibilities related to implementation of the Service Center Credit Fund to be financed by the Ministry of Agriculture /USAID Agricultural Mechanization Project through AID Grant Number 263-0031.

II Funding

An amount of $5,000,000 US in equivalent local currency (£E) obligated in the Project Agreement Between The Arab Republic of Egypt and the United States of America for Agricultural Mechanization, executed on September 15, 1979 is to be provided in periodic installments to the Principal Bank for Development and Agricultural Credit (PBDAC). The PBDAC has opened a special account for receipt and disbursement of the these funds. The account title and number are as follows.

Bank Name: Principal Bank for Development and Agricultural Credit

Account Name : Agricultural Mechanization Project/Service Centers Credit

Account Number: 1670

III Purpose

The funds which will be distributed to the governorate banks of Beheira, Gharbia, Sharkia, Qalubia and Minia on an as needed basis shall be used to make private sector loans in accordance with the criteria set forth in the October 3, 1981 Letter of Understanding for farm equipment service center expansion and/or new development. The funds will be used for procurement of shop equipment, spare parts and buildings.

IV Definitions

a) Source : The source of a commodity is the country or territory from which a commodity is shipped to Egypt except that:

1) When commodities are shipped to Egypt from a free port or bonded warehouse in the form in which received therein, source means the country or territory from which the commodity was shipped to the free port or bonded warehouse.

2) If the commodity is located in Egypt at the time of purchase for the project, the source means Egypt

b) Origin: The origin of the commodity is the country in which such commodity was mined, grown, or produced through manufacturing, processing or assembly. A produced commodity shall be deemed to have its origin in the country in which it was produced if, as a result of manufacturing, processing or assembly is such a country, a commercially recognized new commodity is produced that is substantially different in basic characteristics or in purpose or utility from any of its imported components.

c) Componentry: "Components" are goods that go directly into the production of a produced commodity.

V The Shelf Item Rule

a) General

With respect to procurements under the Service Center Credit Fund, procurement of commodities purchased in Egypt but having their origins in countries other than Egypt, as well as commodities having their origins in Egypt, will be allowed without approval by AID or the Ministry of Agriculture under the AID "Shelf Item Rule". Under this rule, "Shelf Items" are defined as imported or locally manufactured goods that are normally imported and/or kept in stock in the form in which they are imported or manufactured for sale to meet general demand in Egypt for that item. They are not goods which have been specifically manufactured for use in an AID financed project.

b) Limitation of the Shelf Item Rule

1) Under the rule, if Shelf Items have their origin in the United States or included in AID Geographic Code 935, they can be procured in unlimited amounts up to the total amount authorized for each loan and their is no value limitation on any individual item. AID Geographic Code 935 includes all countries except for the Soviet Union, Albania, Bulgaria, Czechoslavakia, German Democratic Republic, Estonia, Hungary, Latvia, Lithuania, Romania, Poland, Vietnam, North Korea, People's Repiblic of China, Mongolia, Laos, Cambodia and Cuba.

2) Shelf items produced in or imported or containing components from countries not included in AID Geographic Code 935 are ineligible for financing from the Service Center Credit Fund

VI Procurement Record Keeping

Compliance with the source and origin requirements of the Service Center Credit Fund will require that accurate records be maintained. The required record format is shown below. Each of the five governorate banks administering the Service Center Credit Fund must prepare and retain in the Fund files a statment specifying the source and origin of all procured commodities and statements which specify that no procurements were made of goods and services having their source and origin in countries not included in AIF Geographic Code 935. The required format below incorporates all of these requirements

Form I SOURCE AND ORIGIN CERTIFICATION Bank _____ Loan File No _____

Item	Quantity	Price per Unit	Total Price	Source (country)	Origin (country)

I hereby certify that no procurements were made of goods or services having their source and origin outside of AID Geographic Code 935

Signed _____

VII General Procurement Standards

All procurements of commodities shall be made in accordance with good commercial practice, shall be at reasonable prices and shall be in a manner consistent with local law and practice. This means that there shall be competitive bidding with awards made to the lowest bidder who is within specifications.

Loan recipients shall receive equipment and construction services in lieu of cash. The Governorate Regional Loan Committee described in Section 5.0, Page 7 of the Letter of Understanding shall administer all procurements for each of the approved loans .

VIII Procurement Procedures

Approved loan recipients will be issued an official letter from the governorate bank informing them of the loan approval and detailing the approved procurements..For example, the letter will cite the types of equipment and spare parts to be purchased, the types and dimensions of buildings to be constructed, etc. Specifications ~~will~~ of equipment and buildings will be attached.

The recipient will then take the letter and specifications to several suppliers to receive quotes in the form of pro-forma invoices.

The pro-forma invoices will be returned to the Regional Loan Committees for evaluation and procurement approval. The Committees meeting in plenary session will evaluate the specifications of the offered items against the original specifications drawn up in the approval letter and evaluate the base bid prices. Awards will be made to the lowest bidder within specification. The evaluations shall be made in the following format.

Bank _____

Form II Bid Evaluation Loan File No. _____

Item _____

Specifications (List singly)	Compliance (check)	Non-compliance (check)	Qty	Unit Price	Total Price

Once approved by the Regional Loan Committees, the governorate banks shall notify the PBDAC in Cairo, which will in turn disburse the approved funding to the special accounts opened at the governorate banks to finance the approved loans.

Procurement disbursements from these special governorate bank accounts shall be made directly to the awarded suppliers/ contractors, who will deliver the commodities and/or construction services to the approved recipients. The governorate banks will obtain vendors receipts for all purchases which shall include reference to the loan file numbers and be placed in individual dossiers for each loan.

IX Loan File Documentation Requirements

Each governorate bank shall appoint an accountant to work full time in the administration of the special accounts. This appointee shall serve as the financial advisor and executor of the Regional Loan Committees. He shall be provided with office and file space and there shall be opened for each loan project a separate file containing the following documents:

a. Approved loan application form
b. Financial feasibility study of the project
c. Form I- Source and Origin Certification
d. Form II-Bid Evaluation
e. All vendor's pro-forma invoices
f. All vendor's receipts for any disbursements
g. Monthly expenditure reports (Form III) periodically

These files are subject to and will be audited/by the Agricultural Mechanization Project and by the USAID.

X Monthly Expenditures Reporting

There shall be prepared for each loan a monthly expenditure report to be kept in the loan file. This report shall appear in the following format:

Bank_____

Form III - Monthly Expenditure/Receipts Report

Loan File No. _____

Month _____

Line Item	Expenditures Budget	Expenditures During Month	Expenditures TO Date	Remaining Balance

Receipts Loan Amount	Principal Repaid	Interest Repaid	Remaining Balance

Bank statements of the special accounts in each governorate shall be submitted with the monthly reports.

Copies of these monthly loan reportsshall be sent to the PBDAC in Cairo and to the Agricultural Mechanization Project at the Ministry of Agriculture.

Quarterly, the PBDAC shall consolidate the monthly reports covering all active loans with copies sent to the Agricultural Mechanization Project and to the PBDAC. The format of the quarterly report should be as follows:

Quarterly Financial Statement
Service Center Credit Fund

Reporting period (Dates) _____

Governorate	No of Loans During Reporting Period	Total Expenditure During Reporting Period	Total Cumulative Expenditure
	_____	_____	
	Total	_____	
		Total	_____

Cumulative receipts from AID _____

Remaining balance _____

Total Principal Receipts	Total Interest Receipts	PBDAC Administrative Fee	Total Repayments to Special Account

Attach bank statement for special account showing account activity during reporting period.

ANNEX E.2

ACCOUNTING AND PROCUREMENT FOR MANAGEMENT OF AID FURNISHED LOCAL CURRENCY FUNDS

Agricultural Mechanization Project
Ministry of Agriculture

ACCOUNTING AND PROCUREMENT FOR
MANAGEMENT OF AID FURNISHED LOCAL CURRENCY FUNDS

I Background

Now that the Agricultural Mechanization Project execution is moving from the planning and inception stage to the operational and implementation phase, it is now appropriate to outline procedures and requirements for procurement and accounting for USAID supplied local currency.

You will recall from your study of the Project Paper that each Subproject has been allocated a budget to cover local as well as foreign currency operational expenditures. For the most part, the budget line items contained therein are expressed in broad definitial categories for long range planning purposes. At this point, it is now appropriate to rework these budget figures into detailed annual and quarterly budgets which will be used to request disbursement of funds from AID and to serve as a fiscal monitoring tool of Project performance.

Inherent in this over-riding requirement to establish operational budgets is the need for an integrated accounting and procurement system that will permit us to document our requests for periodic advances of Project Funds from AID, follow systematic procurement procedures and policies and document all local currency expenditures in an orderly auditable manner consistent with sound business and public accounting practices. The sections below detail pertinent requirements and practices that should be followed by each of the Sub-projects that will be receiving and expending project funds.

II Subproject Budgets

Annual planning budgets are shown on pages IX-1 through IX-6 of the Project Paper. As these are not broken down between foreign and local currency components, the local currency component of each subproject is presented below by broad category for information:

PROJECT LOCAL CURRENCY BUDGET

($US 000's)

Sub-project	Line Item	1980	1981	1982	1983	1984	1985
Planning/ Evaluation	Vehicle operations	-	3	3	3	3	2
Service Center Development	Vehicle Operations	-	3	3	3	3	-
	Credit Fund[1/]	-	1500	-	1500	2000	-
Soil Improvement	Vehicle Operations	-	2	2	2	2	1
Research & Development	Shop equipment/ Lab equipment/ Prototype farm machinery	-	1000[2/]	-	-	-	-
	Applied Research		100	200	400	200	100
	Building renovations		70				
	Vehicle operations		3	3	3	3	2
Extension	In-country training	20	140	140	140	140	140
	Vehicle operations		8	8	8	6	2
	Water-lifing Credit[1/]		500	1000	500	-	-

[1/] These funds will be received and disbursed through the PBDAC and will be managed by the Bank.

[2/] These funds can be used for in-country procurement under 935 waiver authority in addition to being eligible for procurment of items from free world source and origin as well as from the United States.

As a first step toward preparing the necessary documentation for release of Project local currency funds, subproject Counterparts with the

assistnace of their expatriate advisors should prepare from these general budgets detailed annual and quarterly budgets. In so doing, the planning budgets for 1980, 1981 and 1982 should be consolidated into a one-year budget for 1982, broken down quarterly (every three months). The detailed budgets should show types, quantities and estimated prices for commodities to be procured. The budgets should also show training costs to include numbers and categories of trainees, training period and training period costs for each category, related transportation costs, room and board, etc. Vehicle operating budgets should be prepared showing estimated kilometers to be traveled at an average cost of LE 0.15 per kilometer. Any construction line items should show estimated bills of quantity, unit costs and total costs as appropriate. Complete details and costs of all activities to be carried out under the Applied Research Activity should be shown. In developing your individual Sub-project Budgets for 1982, please feel free to bring your working drafts to the attention of the Economic and Financial Planning Sub-unit which is prepared to help you in finalizing your budget preparations. Budgets are not required for the credit funds as they are being allocated directly to the PBDAC according to a prearranged schedule.

III Quarterly Statements of Cash Need

We have been informed that the Ministry plans to open up a special account at a local bank for receipt and disbursement of AID local currency funds. Before any monies can be deposited by USAID to this account, it is required that the Project develop a first quarterly statement of cash need. This document will be compiled by the Economic and Financial Planning Subunit from the individual statements of cash need prepared by the various Sub-projects. The first Quarterly Statement of Cash Need covering the period January 1, 1982 to March 1982 and second statement covering the period April 1, 1982 to June 1982 should be prepared from the quarterly budgets of each Sub-project according to the illustrative format in Appendix A.

Should you require any assistance in preparing your initial cash need statements, please address your questions to the Economic and Financial Planning Subunit. Subsequent cash need statements for the following quarter should be prepared and submitted to the Economic and Financial Planning Subunit by the first day of the month of the preceeding quarter to allow ample time for Ministerial clearance and AID processing.

IV Procurement Regulations

All procurement of commodities shall be in accordance with good commercial practice, shall be at reasonable prices and shall be in a manner consistent with local law and practice.

Procurement of any items of equipment shall be done through competitive bidding. There shall also be a competitive procedure used for the procurement of large quantities of expendable items. Small quantities of expendables can be procured from single source without competitive procedures being followed. Where competitive bidding is required, tenders shall be awarded to suppliers whose offers are within specifications and lowest in price.

a. The Shelf Item Rule: with respect to procurements under the AID financed local currency, procurement of commodities purchased in Egypt but having their origins in countries other than Egypt, as well as commodities having their origins in Egypt will be allowed without approval of AID under the AID "Shelf Item Rule." Under this rule, "Shelf Items" are defined as imported or locally manufactured goods that are normally imported and/or kept in stock in the form in which they are imported or manufactored for sale to meet general demand in Egypt for that item. They are not goods which have been specifically manufactured for use in an AID financed project.

b. Limitation of Shelf Item Rule: Under the rule, if Shelf Items have their origin in the United States or are included in AID Geographic Code 935, they can be procured in unlimited amounts up to the total amount authorised for each loan and there is no value limitation on any individual item. AID Geographic Code 935 includes all countries except for the Soviet Union, Albania, Bulgaria, Czechoslovakia, German Democratic Republic, Estonia, Hungary, Latvia, Lithuania, Romania, Poland, Vietnam, North Korea, People's Republic of China, Mongolia, Laos, Cambodia and Cuba.

Shelf items produced in or imported from or containing components from countries not included in AID Geographic Code 935 are ineligible for financing from the Service Center Credit Fund.

V Procurement Record Keeping

Compliance with the source and origin requirements of the Service Center Credit Fund will require that accurate records be maintained.

The required record format is shown below. Project Accountants must prepare and retain in the AID financed local currency files a statement specifying the source and origin of all procured commodities and statements which specify that no procurements were made of goods and services having their source and origin in countries not included in AID Geographic Code 935. The required format below incorproates all of these requirements.

FORM I SOURCE AND ORIGIN CERTIFICATIONS

ITEM	Quantity	Price/Unit	Total Price	Source (Country)	Origin (Country)

I hereby certify that no procurements were made of goods or services having their source and origin outside of AID Geographic Code 935.

SIGNED_____

VI Procurement Procedures

a. For items that must be competitively bid: Sub-project counterparts with the assistance of their respective expatriate advisors will prepare detailed specifications for items to be procured. The specifications will be officially transmitted to several suppliers with requests for offers to be submitted to the Project Procurement Committee by a specified date. The Committee will evaluate the specifications of the offered items against the original specifications prepared by the Sub-projects and evaluate the base bid prices. Awards will be formally made in writing to the lowest bidder within specifications. The evaluations will be made in the following format.

BID EVALUATION FORM

SUPPLIER_____ ITEM_____

Specifications (List singly)	Compliance (check)	Non-compliance (check)	Quantity	Unit Price	Total Price

---

SIGNED_____

When awards have been made, Sub-projects will liaise with the Project Accounting Unit to arrange for disbursement of funds by check or cash.

b. For items that do not require competitive bidding: Sub-projects will take their specifications to a local supplier, obtain a pro-forma invoice and present it to the Project Accounting Unit for disbursement of funds.

VII Accounting Procedures

There should be maintained a complete record of all receipts, disbursements, Source/Origin Certificates, Bid Evaluations for each Sub-project. These records should be kept separately on a monthly basis in "Classeur" type files for each Sub-project. A complete file consists of the following documents:

a) Annual budgets
b) Quarterly statements of cash need
c) Original specifications of items procured
d) Official correspondence inviting suppliers to submit tenders
e) All tenders submitted
f) Vendor's pro-forma invoices
g) Bid evaluation forms
h) All original receipts from vendors
i) Official notifications of award to vendors
j) Copies of monthly fiscal reports

In addition to the document files, there shall also be maintained for each Sub-project a receipt and expenditure log book with the following:

a) Record of all cash and check disbursements from the Project Accounting Unit
b) Description of all expenditures
c) Date of expenditures
d) Record of all amounts spent
e) Method of payment (check or cash)

The log book shall be divided into separate sections: a) one for receipts and expenditures by check, and b) a separate section for receipts and expenditures by cash.

The document files and log books shall be kept by the Project Accounting Unit but it is the responsibility of each Sub-project to insure that files and log books are maintained according to the above requirements.

The Economic and Financial Planning Subunit will provide assistance to the Project Accounting Unit and to the Sub-projects in setting up the accounting

records and will conduct periodic internal audits to insure that the record system is being properly documented and maintained.

VIII Monthly Fiscal Reports

It is the responsibility of each Sub-project to prepare monthly fiscal reports in the sample format (Appendix B). These reports will list all line items of the current annual budget, expenditures made during the reporting period and cumulative expenditures to date. Copies of the report will be placed in the Sub-project's document file and a copy sent to the Economic and Financial Planning Subunit for information.

STATEMENT OF CASH NEED* FOR

(Sub-project Title)

Description	Feb. 82	March 82	April 82	Advance Summary
Beginning cash balance	13,651.30	-	-	X
Receipt (anticipated)	-	17,250.00	19,150.00	X
Total available	13,651.30	17,2[illegible].00	19,150.00	13,651.30
FOR				
1. Housing	3,850.00	3,850.00	3,850.00	X
2. Packing household effects	-	-	-	X
3. Per diem	700.00	700.00	2,500.00	X
4. Vehicle operating	3,800.00	3,800.00	3,800.00	X
5. Train travel	300.00	300.00	300.00	X
6. Local office staff	2,500.00	2,500.00	2,800.00	X
7. Office supplies	500.00	500.00	500.00	X
8. Office equipment	300.00	300.00	300.00	X
9. Contract typing	-	400.00	400.00	X
10. Customs clearance, ins.	800.00	800.00	800.00	X
11. Local printing	200.00	200.00	200.00	X
12. Communications	300.00	300.00	300.00	X
13. Training, special	2,300.00	2,300.00	2,400.00	X
14. Transportation	1,000.00	1,000.00	1,000.00	
TOTAL	16,550.00	17,250.00	19,150.00	52,950.00
Ending Balance	(2,898.70)	-	-	X
Required for next month	17,250.00	19,150.00	X	X
Additional needed or if positive amount or equal to "0" then "0"	(20,148.70)	(19,150.00)	X	(39,298.70)
				ADVANCE

*Rounded to nearest LE 100.00

The undersigned hereby certifies that the amount required above as an ADVANCE reflects a sum which is necessary for the successful implementation of this Sub-project during the period in question.

BY: (Signature of Sub-project Counterpart)

TITLE: (Name of Sub-project)

DATE:

SPECIMEN

Agricultural Mechanization Project
AID Grant Number 263-0031
Ministry of Agriculture
Arab Republic of Egypt

Month:_____

FISCAL REPORT

(Name of Sub-project)

The following is a summary of the Fiscal Report Number 5 in Local Currency related to the referenced Sub-project.

Line Item	Budget	Expenditure Nov. 1, 1981- Jan. 31, 1982 LE	Total to Date LE
1. Research	235,980.00	12,987.00	41,581.00
2. Training	2,412.00	-	-
3. Travel	64,620.00	2,256.48	4,452.48
4. Vehicle operating expenses	53,800.00	4,578.00	11,403.82
5. Train travel	7,728.00	172.32	384.57
6. Local office staff	166,620.00	6,941.00	24,950.00
7. Office supplies	18,000.00	932.54	4,539.80
8. Office equipment	12,000.00	1,526.25	5,847.40
9. Contract typing	12,000.00	200.00	350.00
10. Custom clearance, insurance	16,400.00	1,076.75	3,394.72
11. Local printing	9,000.00	620.50	1,232.45
12. Communications	30,000.00	698.04	3,033.93
13. Room & Board, Specialists	70,000.00	7,000.00	30,333.33
14. Transportation	-	2,059.82	2,664.62
TOTAL	698,560.00	41,048.70	134,168.12

ANNEX F

TRACTOR AND IRRIGATION PUMP POPULATIONS IN QALIUBIA AND MINIA GOVERNORATES, INCLUDING THRESHERS IN MINIA 1980.

COLLECTED BY THE SERVICE CENTER SUBPROJECT

AGRICULTURAL TRACTORS & IRRIGATION MACHINES DISTRIBUTION IN: QALIUBIA GOVERNORATE,1980.

		TRACTORS						IRRIGATION MACHINES								
	Markaz	Ind.	Coops.	Gov.	Total	% of Gov. Total	Order	Ind.	Coops.	Gov.	Total	% of Gov. Total		TOTAL	% of Gov. Total	Order
1	Benha	240	24	13	277	21.9	3	254	4	19	277	16.0	3	554	18.5	3
2	Kafr Shokr	34	6	2	42	3.3	7	99	2	-	101	5.8	6	143	4.7	7
3	Toukh	307	20	21	348	27.5	1	559	31	25	614	35.4	1	962	32.1	1
4	Qaliub	261	24	33	318	25.2	2	352	5	18	375	21.6	2	693	23.1	2
5	Kanater Khairiya	55	6	15	76	6.0	5	68	-	6	74	4.3	7	150	5.0	6
6	Shebin El Kanater	106	24	12	142	11.2	4	174	2	5	181	10.5	4	323	10.8	4
7	Khanka	45	8	9	62	4.9	6	87	2	22	111	6.4	5	173	5.8	5
	TOTAL	1048	112	105	1265	100.0		1592	46	95	1733	100.0		2998	100.0	

AGRICULTURAL TRACTORS, IRRIGATION MACHINES & THRESHERS DISTRIBUTION IN MINIA GOVERNORATE, 1980

No.	Markaz	AGRICULTURAL TRACTORS						IRR. MACHINES			THRESHERS					
		Ind.	Coop.	Gov.	Total	% Gov. Total	Order	Qty.	% Gov. Total	Order	Qty.	% Gov. Total	Order	Total	% Gov. Total	Order
1	Maghagha	209	27	13	249	10.4	5	357	7.3	6	134	8.3	6	740	8.3	6
2	El Edwa	102	19	1	122	5.1	8	339	7.0	7	99	6.1	8	560	6.3	7
3	Beni Mazar	309	30	6	345	14.4	3	565	11.6	5	212	13.1	4	1122	12.6	4
4	Matai	153	20	11	184	7.7	7	175	3.6	9	117	7.2	7	476	5.4	9
5	Samalut	450	51	-	501	20.9	1	873	17.9	2	304	18.7	1	1678	18.9	1
6	Minia	262	36	50	348	14.6	2	754	15.5	3	264	16.3	2	1366	15.4	3
7	Abu Qurqas	218	50	12	280	11.7	4	932	19.1	1	235	14.5	3	1447	16.3	2
8	Mallawi	161	44	39	244	10.2	6	590	12.1	4	167	10.3	5	1001	11.3	5
9	Deir Mawas	90	22	7	119	5.0	9	285	5.9	8	90	5.5	9	494	5.5	8