

**I. PROJECT IDENTIFICATION**

<p><b>1. PROJECT TITLE</b>                  Agricultural Economic Research and Planning</p>	<p><b>APPENDIX ATTACHED</b>  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <span style="float: right;">35 p.</span></p> <p><b>2. PROJECT NO. (M.O. 1025.2)</b>                  664-II-110-237.1</p>
<p><b>3. RECIPIENT (specify)</b>  <input type="checkbox"/> COUNTRY <u>TUNISIA</u>  <input type="checkbox"/> REGIONAL <input type="checkbox"/> INTERREGIONAL</p>	<p><b>4. LIFE OF PROJECT</b>                  BEGINS FY <u>1967</u>                  ENDS FY <u>1978</u></p> <p><b>5. SUBMISSION ORIGINAL</b> <u>8/20/69</u>  <input type="checkbox"/> ORIGINAL <u>1 1/8/76</u>  <input type="checkbox"/> REV. NO. <u>AID/APP-469</u>                  CONTR./PASA NO. _____</p>

**II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS**

TD 0.420

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	F. OTHER COSTS \$	G. PASA/CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ US 1.00 (U.S. OWNED)		
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN	(2) COOP COUNTRY	
											(A) JOINT	(B) BUDGET
1. PRIOR THRU ACTUAL FY	2,036	1,650		341		30	15	1,568		-	733	
2. OPR FY 76	373	211		122		40	-	161		-	72	
3. BUDGET ** I.Q.	20	20		-		-	-	10		-	-	
4. BUDGET +1 FY 77	207	54		153		-	-	39		-	65	
5. BUDGET +2 FY 78	58	27		31		-	-	17		-	20	
6. BUDGET +3 FY												
7. ALL SUBO. FY												
8. GRAND TOTAL	2,694	1,962		647		70	15	1,795		-	890	

**9. OTHER DONOR CONTRIBUTIONS**

(A) NAME OF DONOR Food and Agriculture Organization	(B) KIND OF GOODS/SERVICES One Full-time advisor to the Director of the D/PAEEP plus consultant services.	(C) AMOUNT Estimated \$130,000
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**III. ORIGINATING OFFICE CLEARANCE**

1. DRAFTER Carl E. Ferguson	TITLE Agriculture Development Officer	DATE 1/14/76
2. CLEARANCE OFFICER Ullmont L. James	TITLE Director	DATE

**IV. PROJECT AUTHORIZATION**

**1. CONDITIONS OF APPROVAL**

PPS:RDCarlson  
 TRG:LMogannam  
 PSS:HRosenbaum  
 FMS:ADHullung

**2. CLEARANCES**

BUR/OFF.	SIGNATURE	DATE	BUR/OFF	SIGNATURE	DATE

**3. APPROVAL AAs OR OFFICE DIRECTORS**

SIGNATURE	DATE
TITLE	

**4. APPROVAL A/AID (See M.O. 1025.1 VI C)**

SIGNATURE	DATE
ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT	

PROJECT NO. 664-11-110-237.1

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## I. INTRODUCTION

This revised PP incorporates the changes proposed in a revision dated 1/21/75 which are still valid, and pertinent supplemental information provided in Annex to Revised PP both of which were previously submitted to AID/W. In addition it takes into account and incorporates the important recommendations of the AID/Minnesota/GOT Project Evaluation of September 1975, and subsequent discussions with the Government of Tunisia (GOT), and the Project Contractor, the University of Minnesota.

In summary, this revision (a) addresses the need for U.S. assistance to the Statistics Division of the D/PAEEP\*; (b) reflects phase-out of contractor's long-term staff, but provides for continuation of short-term consultants from the University of Minnesota, the USDA and other sources; (c) provides for training of 7 additional candidates to the M.S. degree, 5 in economics and 2 in statistics, and 2 to the Ph.D degree; and (d) extends the project termination date from FY 77 to the end of FY 78.

## II. SUMMARY

### A. Statistics

Reliable and timely agricultural data are required for research and planning. To date availability of valid data has been a weak element in the sector planning activities of the Ministry of Agriculture. This has been chiefly due to the inability of the National Institute of Statistics (NIS) to service adequately the numerous data-using organizations and D/PAEEP in particular. Hence, it has become necessary to establish the capability within the Ministry of Agriculture to gather, process and publish data vital to its research and planning efforts. USAID wishes to support this activity through the services of SRS/USDA consultants and training.

### B. Research and Planning

There is evidence that the D/PAEEP has become in recent years a more effective planning and research unit of the GOT Ministry of Agriculture capable of contributing higher quality economic analysis to agricultural sector planning. As the research and planning divisions of the D/PAEEP have matured, so have the demands upon them. Since the planning division is staffed largely by young recently-retained participants with limited experience, a source of short-term technical and professional guidance is needed to assist them in the initial planning and organization of their various applied research projects and undertakings. Therefore, the D/PAEEP believes that over the next 3 calendar years (CY's 76, 77 and 78) it will need a number of short-term experts to enable it competently to respond to the Ministry's requirements for sophisticated sector and annual planning documents. This will require the establishment of a program of competent research in key sub-sectors.

Once the sector model is transferred and satisfactorily installed, the D/PAEEP wishes to forego a continuing resident staff. Instead, the D/PAEEP in accordance with the recommendations of the evaluation team, opts for short-term assistance (either through the University Contract or USDA) designed to aid them to focus on preparing and

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\*Division of Planning, Economic Analysis and Evaluation of Projects

modifying the Agricultural Sector portion of the new 5 Year Plan. Through compilation of reliable data, use of its research experts, and sector modeling, the D/PAEEP intends to provide the Ministry with the necessary planning alternatives and recommendations to insure the best possible agricultural plan for Tunisia over the next five years.

### C. Training

Provision of **five** additional masters degree training programs and two Ph.D programs will further strengthen the D/PAEEP staff. These prospective candidates will specialize in agricultural economics with emphasis on research in accordance with the recommendations of the recent evaluation. Two additional M.S. programs will also be provided in statistics.

### D. Project Extension

Due to a slow start-up of the project, training goals will not be completed by the end of FY 1977 as initially planned. The additional inputs recommended by the project evaluation team, and requested by the GOT, in statistics, consultant services in agricultural economics and sector planning and degree training will require extension of the project by one full year, through FY 1978.

## III. RATIONALE AND BACKGROUND

### A. Research and Planning

Since independence in 1956, Tunisia has placed major emphasis on the agricultural sector in successive development plans. Food needs of an expanding population already substantially exceed present domestic production. Possessing limited soil and water resources, the GOT is thus obliged to plan its agricultural production carefully to achieve a proper balance between commodities required for domestic consumption and products which can successfully compete in the export market.

Tunisia now has a fair number of university-trained personnel in agriculture and possesses a modest capability to plan, initiate and manage agricultural production and marketing programs. Considerable progress has been made in technical agricultural training, particularly at the middle and lower levels. However, at the time the project was conceived and initiated the GOT did not have the capacity to organize and carry out formal economic analyses required to make rational choices with respect to selection of alternative development policies and instruments.

Areas where economic analyses could make substantial contributions to the agricultural development effort include production and price policy and planning, and market policy and planning. Tunisian policy makers and planners require a continuing flow of sound economic data and analyses in order to make accurate estimates of the response of producers, marketing agencies, and consumers to prices of products, prices of inputs, and to changes in price ratios. Economic research and analysis is required to provide information for the important commodities and for different production and marketing structures.

Additionally, a capacity for economic analysis is required to provide a basis for intermediate and long-term demand projections, agricultural infrastructure planning and agricultural credit institutions and policy. Although progress has been made in developing competence in agricultural economic analysis and planning, continuing U.S. inputs are

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foreseen in the area of research, with greater emphasis being placed on the establishment of vigorous long-term research programs in key sub-sectors such as price-marketing, production economics, and annual planning. USAID believes that during this final phase the most effective way to treat this element is through provision of short-term expertise and somewhat expanded training to include Ph.D and short-term work-study programs, in order to achieve the project purpose.

### B. Statistics

When the Agricultural Economic Research and Planning Project was initially launched it was assumed by both USAID and the Ministry of Agriculture that a reliable data base upon which sound research and planning could be developed would be provided by a new institute, the NIS, then in the planning stage. It was further assumed that project assistance in this area would be limited to helping the D/PAEEP set up an adequate information retrieval and library system.

In 1970, the NIS was set up under the Minister of Planning. It was supposed to meet the needs of the different ministries for statistics. All personnel, equipment and funds dealing with statistics gathering and processing were transferred to the Ministry of Planning, and the Ministry of Agriculture was left with only a small group to maintain liaison with the NIS and to do small surveys.

Because of the number of requests from numerous agencies wanting data and surveys, the NIS has been unable to provide on a timely and adequate basis the data needed by the Ministry of Agriculture for planning and other purposes. Until now the most common methods of data collection by the Ministry has been the lifting of published data appearing in existing reports and independent surveys. These were often inadequately designed and poorly executed. Consequently the different offices have in the past issued contradictory and inconsistent data. Other problems include delayed tabulation and data analysis, missing data, and the fact that data has been collected at irregular intervals rather than on a continuing basis. University of Minnesota resident experts experienced considerable difficulty over the past several years in carrying out timely research assignments due to the inadequacy and inconsistency of data available to them. Thus the Ministry decided, in accord with NIS, to develop its own data gathering and processing capability. The NIS and the D/PAEEP have signed an agreement authorizing the D/PAEEP to gather necessary data to include crop yields, acreages, farm size, production inputs, and seasonal labor supply and demand.

With respect to investment planning, data showing availability of resources, demand for products resulting from investment, projections of supply and demand and capital output ratios are required. Moreover the D/PAEEP, in its capacity as the entity in the Ministry of Agriculture responsible for developing and managing the annual economic budget, must be able to make accurate estimates and forecasts of production on planted and harvested acreages in order to determine food and feed import needs as well as export possibilities. Acreage and production data are vital in establishing more accurate import or export requirements and quotas for basic agricultural inputs including fertilizers, seed, feed, rains, etc. In addition, data by province would enable the GOT to prepare more accurate plans for distribution within the country of the basic production inputs. For example, the 1974 Livestock Enumerative Survey indicated that more than 40 percent of the farmers in the five northern provinces were not able to purchase enough cereals seed. The Office of Livestock is also interested in

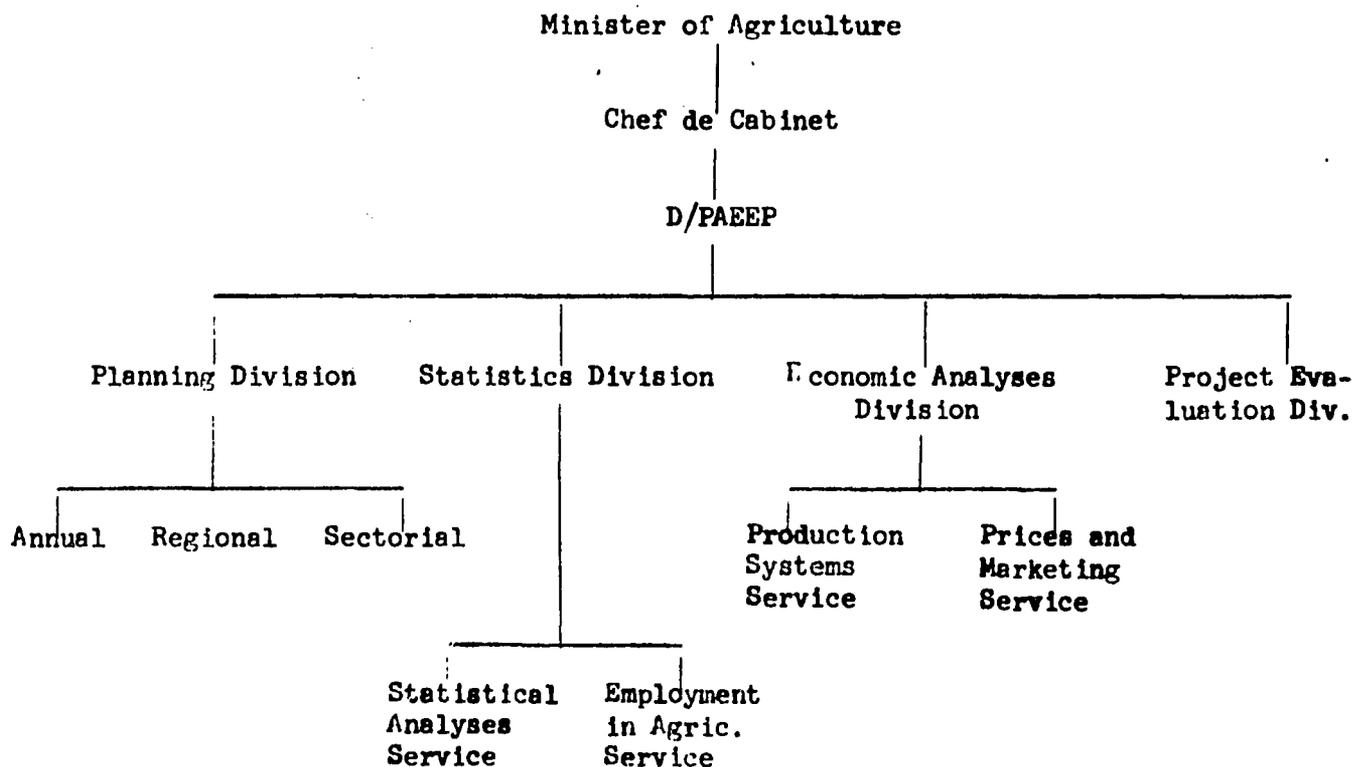
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obtaining periodic data on livestock numbers and distribution and feed and forage crops resources. With such information they can make sound plans for management of the livestock sector on a national and provincial scale.

The above represent only a few of the uses which would be made of data obtained through establishment of the new statistics unit. In addition, valid agricultural data are needed for considering certain institutional reforms in such areas as credit, marketing, subsidies, prices, technical assistance and communications. To summarize, when this project was initially approved, it was assumed that more rational and systematic retrieval and codification of data obtained through NIS could serve the planning and research needs of the D/PAEEP. It is now clear that the D/PAEEP must develop its own statistics gathering capability if effective research, analysis and planning is to be carried out on a timely and accurate basis.

C. Administrative Organization

The organizational location of the D/PAEEP in the Ministry and its composition is as follows:



The current staff of the Statistics Division of the D/PAEEP consists of the Chief, a statistician trained in Morocco at the School of Applied Statistics and Economics; an economist who recently returned from the University of Minnesota with an M.S. degree; and five medium level technicians who have had training in statistics. An additional 17 junior technical college level graduates were added to the staff in July 1975. All have served as interviewers. Most of them have been assigned to provincial offices where they will supervise interviewers. The main source of interviewers for field surveys will be agricultural personnel of Regional Agricultural Development Centers.

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The data survey carried out in May and June 1975 was supported by personnel and transportation facilities from the following agencies.

Regional Agricultural Offices, Cereals Office, Livestock Office, Society of Citrus and Fruit Producers, Lakhmes Irrigation Office, and the Badrouna Irrigation Office.

Given the recent installation of the new computer at the NIS it should not be necessary to rely on external assistance for data processing. However, the services of a systems analyst on a consultant basis will be required, as noted in V.I. below, to advise on programming the data of the December 1975 survey and base survey of 1976 on the NIS computer.

Although staffing is not complete, the Planning and Economics Divisions each have a nucleus of well trained economists with limited experience. These Divisions will be further strengthened upon the return and assignment of the 6 M.S. candidates still studying in the U.S. The Project Evaluation Division is still in the planning stage.

Personnel of the Planning Division consists of the Chief, an economist trained at the University of Minnesota; three other returned participants (M.S. level); and three technical assistants who have had some training in agricultural economics.

#### Division

The Economic Analyses/Division includes two returned participants (M.S. level) and two technical assistants. A Division Chief has not yet been formally designated.

### IV. PROGRESS TO DATE

#### A. Research and Planning

During the first few years of the project the contractor engaged in two major lines of action. First, a small team of U.S. agricultural economists - four when at full strength - carried out studies which were selected on the basis of their value as impressive demonstrations of the role of economic analyses in development planning and other kinds of policy making in the Ministry of Agriculture. Thirteen reports of special economic studies and analyses carried out by the individuals of the Minnesota team have been approved and published. A concurrent undertaking was training in agricultural economics in the U.S. of a significant number of Tunisians to the M.S. level. **A third and final task which has been added** during the last few years, is to assist in on-the-job training of the returned participants for the purpose of developing a viable functioning organization, capable of meeting the requirements of the Ministry of Agriculture.

Fifteen young Tunisians, possessing the B.S. or equivalent degree from a Tunisian institution, have received M.S. degrees in agricultural economics at the University of Minnesota. An additional 6 participants are studying for M.S. degrees at Minnesota or at other U.S. universities and four are under recruitment. Of 22 participants who have studied or are currently studying on the M.S. program in the U.S., only one to date has failed. Participant training has covered a range of specializations including agricultural planning, marketing, credit, economic analyses, sectorial analysis, etc. All participants, on their return to Tunisia, have been assigned to the D/PAEEP, the DFCCI\* or DGR\*\* in positions corresponding to their level of training.

\*Division of Finance, Credit & International Cooperation

\*\*~~Division of Rural Engineering~~

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A real beginning has been made toward the development of a Tunisian staff capable of delivering, independently, required economic analysis for planning. A nucleus of a system for the delivery of such research and planning has been formed, largely from returned participants, and professionally creditable work has been performed, such as an improved "Budget Economique" and a policy paper on farm labor legislation.

#### B. Statistics

The D/PAEEP, as noted above, has been authorized by the Minister of Agriculture to establish a modern agricultural data gathering system. As a first step in developing this capability, the D/PAEEP, with the aid of two consultants from the SRS/USDA planned and recently carried out an agricultural data survey in six provinces of Northern Tunisia. The survey used scientific sampling techniques based on maps and aerial photographs for sample selection and on the ground interviews by trained enumerators. The calendar for the accomplishment of this first survey undertaken by the D/PAEEP was carried out essentially as planned with only one week of slippage in each of the last two events.

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The personnel involved in the survey included:

- 1 overall supervisor
- 3 field coordinators
- 3 office staff for editing and assembling materials
- 15 field supervisors
- 45 field enumerators

The only U.S. inputs to this survey were 6 man/weeks of consultant services by two specialists of the SRS/USDA. Since a computer capable of handling the data obtained had not yet been installed at the NIS, it was necessary to process the data in the SRS/USDA.

#### V. PROJECT EVALUATION

The recent joint evaluation conducted in September 1975 concluded that the project is basically successful. The pace of institutional development is slower than ideal but is within the range of acceptability. The evaluation team felt that the project purpose can be achieved and recommended continued support to basic elements of the project.

The committee's recommendations were as follows:

##### A. Training

(1) Ph.D level - The availability of Ph.D level personnel in the University of Tunis and INAT\* for cooperative research with the D/PAEEP should be determined. If such personnel are available, they should be drawn into the research and planning processes of D/PAEEP. If not available, steps to train up to 5 persons at Ph.D level should be taken within the project.

(2) Masters Degree Training - Training under University of Minnesota Plan B program (i.e. without thesis preparation) is not satisfactory for Tunisian needs. An additional 5 candidates should be trained under the project.

(3) Specialized Training ("Recycling") - The team recommended a program of short-term specialized training to improve the planning and analytical competence of D/PAEEP staff.

##### B. Professional Assistance in Research and Training

(1) Short-Term - D/PAEEP now has the capacity to profit from short-term consultant assistance in solving research problems and in skills transfer. Such consultants should be sought in the University of Minnesota and in other universities and research agencies that can meet specified needs.

(2) Long-Term - The team recommended that strengthening of D/PAEEP capabilities can best be achieved through a combination of short-term consultants and several types of specialized training. They recommended, therefore, that long-term resident experts not be included in the project extension.

\*National Agronomic Institute

c (3) Sector Modeling - This aspect was not a part of the review because of the present state of development of the Tunisian Sector Model. However, the team supports the concept developed by the University of Minnesota with assistance of FAO in Rome.

#### C. Supporting Facilities and Specialized Technical Assistance

(1) Data Processing and Computer Terminal - The growing number of returned participants is creating a need for certain facilities and supporting personnel to increase the productivity of the D/PAEEP staff. The team recommended that items such as a key punch machine, card sorter and computer terminal should be acquired. A part-time librarian, and funds for acquisition of pertinent reference materials should be provided.

(2) Statistics Improvement - The scope of work for the review team did not include this phase of D/PAEEP activity. However, the team recommended that the technical assistance proposed in the project extension be approved.

### VI. COURSE OF ACTION

#### A. Statistics

In light of the evaluation committee's recommendations, USAID and GOT are proposing the following scenario for the remaining life of project, i.e. until termination at end of FY 78.

##### 1. Participant Training

###### a. M.S. Training

Two participants will be programmed in FY 1976 or 1977 in a series of courses leading to the M.S. degree in statistics. The participants would return to the D/PAEEP and fill a key roles in the Statistics Division.

###### b. Additional Training

Four months of training in data handling and processing would be given to six B.S. level members of the Statistics Division. The training would include 6-8 weeks in class room lectures in Washington, D.C. followed by 6-8 weeks in the SRS/USDA and/or SRS field office. Three trainees would depart in FY 77 and three in FY 78.

##### 2. Consultant Services

The timing of consultant services to be provided by the SRS/USDA and the total estimated cost for the December 1975 sub-sample, the 1976 base survey, and the subsequent two sub-sample surveys to be taken in 1976 are projected in the following table:

PLANNED SCHEDULE OF STATISTICS CONSULTANTS

<u>Technicians</u>	<u>Dec. 75 Sub-Sample</u>	<u>1976 Base</u>	<u>July 76 Sub-Sample</u>	<u>Dec. 76 Sub-Sample</u>	<u>Estimated Total Cost</u>
Project Leader (GS/15-4)	None	Feb. 5-12	5 days/Apr.	10 days AID/W	3,432
Math Statistic. (GS/13-2)	Nov. 4-21 Jan. 7-23 +10 days AID/W	Feb.22-Mar.8 Apr. 15-30	June 15-30	25 days	8,827
Math Statistic. (Obj. Yield) (GS/13-2)	None	20 days AID/W Apr.20-May 15 June 30-Jul.10	None	None	5,096
Systems Analyst (GS/13-2)	Nov. 4-21 Jan. 7-23 +10 days AID/W	Mar. 1-8 Apr. 1-8	10 days June	25 days AID/W	7,553
Systems Analyst (GS/12-1)	Nov. 4-21 Jan. 7-23 +10 days AID/W	None	None	None	2,738
Mapping Stat. (GS/9-2)	Nov. 4-26 Jan.20-Feb.2 +10 days AID/W	None	None	None	1,961
Programming (\$125/day)	Jan.7-Feb.6 +20 days AID/W	Mar. 1-20 Apr. 10-30	None	None	9,125
	Data Processing				\$ 9,000
	Personnel Benefits 8.6%				\$ 2,545
	Leave factor 20%				\$ 5,921
	Within U.S. and International Per Diem (\$150/trip)				\$ 3,900
	Overhead 25%				\$15,025
	Miscellaneous				<u>\$ 3,756</u>
				<b>TOTAL COSTS</b>	<u><u>\$78,879</u></u>

Following is a summary of the work to be carried out by the above consultants.

### Math. Statistician

- Nov. 4-21, 1975 Review data edit specifications for December sub-sample; instruct and assist in parameter preparation for the generalized edit of software to be used for the December data; assist in selecting the sample from the 75 Base Survey; consult on field organization and manpower determinations.
- Jan. 7-23, 1976 Review and edit results of test data; assist in editing of December data; instruct and assist in parameter preparation for generating data and summary programs; assist in developing questionnaire for base survey; review survey indicators.
- Feb. 22 -  
March 8, 1976 Review, edit results of test data for base survey; assist in parameter preparation for summarization of the base survey.
- Apr. 15-30, 1976 Assist in summarization procedures related to base survey; help develop questionnaire for July sub-sample; assist in designing and selecting sub-sample for July.
- June 15-30, 1976 Review and assist in parameter preparation for edit and summarization procedures for July sub-sample.

### Mapping Statistician

- Nov. 4-26, 1975 Initiate stratification for remaining area in the two southern governorats; review stratification completed by the Ministry of Planning including adjusting frame for revised governorat boundaries
- Dec. 9-20, 1975 Initiate sample selection for the base survey. Instruct staff in maintenance and problem segment procedures.
- Jan. 20 -  
Feb. 2, 1976 Review sample selection procedures; instruct and assist in preparing selected segments for survey use.

### Systems Analyst

- Jan. 7-23, 1976 To continue working with personnel from NIS and the Ministry of Agriculture in running and maintaining the software for the generalized edit software; assist with summarization software as needed; assist in developing new software if required.
- Mar. 1-8, 1976
- Apr. 1-8, 1976  
(opt)

### Programmer

- Jan. 7 - Feb. 6, 76 160 man/hours in U.S. to develop software and work with personnel of NIS computer center in setting up and debugging software connected with summarization. This includes the data generator software package, 4202 summary system, the analysis summary system, and a sample select system.
- Mar. 1-20, 1976
- Apr. 10-30, 1976

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Math. Statistician (Objective Yield)

- Apr. 20 - Assist in selecting sample, training school, and setting up laboratory procedures for conducting a final pre-harvest and post-harvest objective yield program.  
May 15, 1976
- June 20 - Review objective yield laboratory procedures, assist in summarization procedures. The summarization will probably consist of manual procedures and can be automated at a later date by the Tunisians if they feel the need for automation.  
July 10, 1976

Intensive consultation by SRS/USDA specialists during the planning and implementation of the base and sub-sample surveys shown in the table above will provide training in the several specialized techniques and methods involved in a modern agricultural data information gathering system including the design of area sampling frames, selection and preparation of sample segments, estimation of sources of non-sampling error, development of survey questionnaires, training of enumerators. Information obtained from these surveys will be furnished to the Research and Planning Division for assimilation in their research efforts and subsequent inputs to the Sector Model. Such up-to-date information should result in improved sector policy recommendations in national planning documents as well as provide some of the data required for long-term economic research projects in the D/PAEEP.

3. Commodities

\$40,000 is programmed to assist the Statistics Division in obtaining equipment essential to achieving the goals of this element of the project. Ten surplus military jeeps with spare parts costing an estimated \$30,000 will enable field enumerators to gain access to the more remote agricultural areas. The ten all-terrain vehicles will supplement the present motor pool of some 40 vehicles provided by the GOT. In addition, lab equipment including a head (grain) thresher, scales, balances etc. costing an estimated \$10,000 will enable the Statistics Division to undertake objective yield sampling.

D. Research and Planning

The actions remaining until project termination at the end of 1978 are as follows:

1. Participant Traininga. M.S. Training

The original PP provided for training a total of 25 to the M.S. level. To date 21 have been or are in training and the remaining four are under recruitment.

b. Additional M.S. or Ph.D Training

Additional training of up to 5 M.S. and 2 Ph.D candidates is planned and is consistent with recommendations of the evaluation team. It is believed that the D/PAEEP occasionally will be able to draw upon INAT for professional services but that a minimum of two Ph.D economists are needed as fulltime members of the Planning Division.

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c. Work Study Program ("Recycling")

The OIT or other U.S. Agency sources (e.g. USDA) or outside contractors will be called upon to arrange for intensive U.S. work-study programs to sharpen the skills and capabilities of young Tunisians who are working in specific areas of agricultural economic research or planning. These areas may include but will not necessarily be limited to:

Production analysis techniques  
Price analysis  
Marketing analysis  
Annual planning

A total of 5 work-study programs are planned for FY 1977, and 4 for FY 1978.

2. Advisory Support

a. Long-Term

With the return of Tunisian participants to the D/PAEEP the function of the Minnesota team has been transformed. Less emphasis has been placed on carrying out individual studies and more time has been spent in advising and assisting counterparts in economic analysis. Consequently the work of the team has been oriented more and more toward practical training of Tunisians, i.e. on-the-job training. The team's ability to serve effectively in this capacity was predicated upon the D/PAEEP's willingness to allow the returned participants to concentrate on long-term research in those key areas which were compatible with the expertise of the resident team members. Unfortunately the embryonic and understaffed D/PAEEP has not been able to concentrate full-time on long-term economic studies, as it has received ever increasing requests from the Ministry for short-run economic analysis and planning. This trend likely will continue through the compilation and publication of the 5th Plan, by which time the D/PAEEP will have coalesced past and present research, planning and statistics activities into a sound but somewhat qualitative agricultural sector planning document for the 5th Plan. Recognizing the subjective nature of their analytical work to date, the D/PAEEP intends (upon completion of the Plan) to initiate intensive long-term research programs that will be geared to providing the Ministry with increasingly pragmatic policy guidance in those priority areas which the 5th Plan indicates. To adequately respond to this need the D/PAEEP is seeking from USAID the services of short-term experts who can more effectively than long-term resident staff respond to specific technical problems as they occur.

The present long-term staff consists of only two agricultural economists; one a specialist in sector modeling, the other in agricultural credit. The D/PAEEP feels, and the USAID concurs, that once the sector model, now physically in FAO Rome, is transferred to Tunis and some on-the-job training is given to a recently returned M.S. participant who received training in that field, there will be no further requirement for the full-time services of a U.S. agricultural sector model advisor. Transfer of the model and training of the returned participant will be accomplished by June 30, 1976 the planned date for terminating the sector modeling position.

With respect to the Agricultural Credit specialist, the GOT has requested termination of this assistance by March 31, 1976. Since a major credit policy review is now underway in the Ministry of Agriculture, and organizational problems have not been resolved with respect to the location of credit policy analysis and planning, USAID concurs that a full-time specialist is no longer advisable. Short-term assistance in this field can be considered at a later date during the last three years of the project. The phase-out of long-term services is in keeping with the original PP time frame which called for no full-time resident staff beyond FY 1976.

b. Short-Term

With the exception of the sector model consultant whose services will be provided by the University of Minnesota, the USAID envisions that services of consultants and specialists required during the remaining life of the project will be provided by other sources, possibly to include the Economic Research Service of the U.S. Department of Agriculture under a PASA. The GOT has specifically requested that the ERS be considered as a source of short-term assistance during the final phase, due in part to the excellent cooperative relationship established with the SRS/USDA to date, and given the operational nature of applied research problems faced by the D/PAEEP, USAID concurs and has already requested AID/W assistance in establishing a link with the ERS under this project. Experts' services will be oriented toward assisting the staff of D/PAEEP to establish long-run applied research programs in those areas where the needs and priorities are clearly justified and the nature, type of each consultancy well defined.

Table 1 - U.S. INPUTS

	<u>FY 68-74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>I.Q.</u>	<u>FY 77</u>	<u>FY 78</u>
<b><u>Personnel</u></b>						
<b>1. <u>University of Minnesota</u></b> <b>(M/Mos.)</b>						
<b>a. <u>Full-Time Staff</u></b>						
Agri. Economist (Prior Years)	299					
Agri. Economist (Prod.)		12	3			
Agri. Economist (Credit)		12	12 <sup>1/</sup>	3	3	
Agri. Economist (Sector Model)		12	12			
<b>b. <u>Campus Backstopping</u></b>						
		17	17	3 <sup>2/</sup>	3	
<b>c. <u>Participant Training</u></b>						
M.S. degree, Ag. Econ.	433	90	40	4		

1/ Incumbent will depart post 3/31/76 but must be budgeted for full year beyond date of departure.

2/ The extent of campus backstopping, if any, beyond FY 1976 will be determined during negotiations between the contractor and AID.

**Table 1 (continued)**

	<u>FY 68-74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>I.Q.</u>	<u>FY 77</u>	<u>FY 78</u>
<b>2. <u>SRS/USDA</u><sup>1/</sup></b>						
<b>a. <u>Personnel (M/Mos.)</u></b>						
Project Leader	-	1	1		-	-
Math. Statistician	-	1	3		1	-
Systems Analyst	-	-	2		1	-
Mapping Statistician	-	-	2		-	-
Math. Statistician (Obj. Yields)	-	-	1		-	-
Programmer	-	-	3		-	-
<b>b. <u>Participant Training (Mos.)</u></b>						
Statistics (short-term)			12		12	
<b>3. <u>ERS/USDA</u><sup>2/</sup> (or other source)</b>						
<b>a. <u>Personnel (M/wks)</u></b>						
Sector Analysis			(2) 6 <sup>3/</sup>		(2) 6	(1) 2
Annual Planning			(1) 3	(1) 3	(1) 2	(1) 2
Marketing				(1) 4	(3) 6	(1) 4
Production				(1) 4	(3) 8	(1) 4
<b>4. <u>To be Arranged Through AID/OIT, USDA or Other Sources</u></b>						
<b>a. <u>Participant Training (M/Mos.)</u> (Work Study Programs)</b>						
Sector Analysis					(1) <sup>4/</sup> 2 1/2	(1) 2 1/2
Annual Planning					(1) 2 1/2	(1) 2 1/2
Price Analysis & Marketing					(2) 5	(1) 2 1/2
Production Analysis					(1) 2 1/2	(1) 2 1/2
Economics Seminars and Conferences (International)					(3) 1 1/2	(3) 1 1/2
<b>b. <u>Participant Training (M/Mos.)</u> (Degree Programs)</b>						
M.S. Degree, Ag. Economics and Statistics			132		132	-
Ph.D Degree, Ag. Economics			24		24	12

Table 1 (continued)

- 1/ Statistical Reporting Service, U.S. Department of Agriculture
- 2/ USAID proposes that the Economic Research Service, U.S. Department of Agriculture supply these services under a PASA.
- 3/ Number of consultant visits are shown in parenthesis.
- 4/ Number of programs are shown in parenthesis.

Table 2 - ULS. INPUTS (\$000)

	<u>FY 68-75</u>	<u>FY 76</u>	<u>I.Q.</u>	<u>FY 77</u>	<u>FY 78</u>	<u>Total</u>
<b>1. <u>Minnesota Contract</u></b>						
Technical Services	1,588	79	-	13	-	1,680
Participant Training	341	21	-	3	-	365
Commodities	30	-	-	-	-	30
Other	15	-	-	-	-	15
<u>Sub-Total</u>	<u>1,974</u>	<u>100</u>	<u>-</u>	<u>16</u>	<u>-</u>	<u>2,090</u>
<b>2. <u>PASA</u></b>						
a) Technical Services (SRS)	32	79	-	-	-	111
Commodities	-	40	-	-	-	40
b) Technical Services (ERS)	-	8	10	26	17	59
<u>Sub-Total</u>	<u>32</u>	<u>127</u>	<u>10</u>	<u>26</u>	<u>17</u>	<u>210</u>
<b>3. <u>Project Direct Costs</u></b>						
Participant Training*	-	96**	-	150	31	277
Minnesota	22	24	2	-	-	48
PASA	8	26	8	15	10	69
<u>Sub-Total</u>	<u>30</u>	<u>146</u>	<u>10</u>	<u>165</u>	<u>41</u>	<u>394</u>
<u>TOTAL</u>	<u>2,036</u>	<u>373</u>	<u>20</u>	<u>207</u>	<u>58</u>	<u>2,694</u>

\* Participant training will be associated with the PASA for statistics assistance (SRS/USDA), and with a PASA for assistance in agricultural economics (ERS USDA) or other sources.

\*\*Actual FY 76 new direct participant requirements are \$122,000. The difference of \$26,000 will be obtained through deobligation action of FY 76 PIO/T to exclude four new start contract participants.

Table 3 - TUNISIAN INPUTS

	<u>FY 68-75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>
<u>Personnel (M/Mos)</u>				
Directors of D/PAEEP and DFCCI	106	24	24	24
Agric. Economists (M.S.) <sup>1/</sup>				
Research and Planning } Statistics }	248	120 48	156 <sup>2/</sup> 36	156 36
Assistant Economists		25	35	40
Technical Assistants		5	6	8
<u>GOT Contribution to U.S. Assistance Projects (\$000)* (Trust Fund)</u>	733	72	65	20

<sup>1/</sup> Returned participants. At present 16 participants have received the M.S. degree and are assigned in the D/PAEEP or sister "Direction" the DFCCI.

<sup>2/</sup> Figures based upon assumption that at least 16 returned M.S. participants remain in either D/PAEEP or DFCCI through FY 78, with the balance taking related assignments in the Divisions of the Ministry.

\* Calendar Year basis (e.g. FY 75 = CY 74). Rate of exchange used:  
\$1.00 = TD 0.430

ANNEX "A"LOGICAL FRAMEWORKA. Program or Sector Goal1. Goal Statement

The development of effective Tunisian agriculture sector policies to achieve sustained agricultural growth.

2. Measurement of Goal Achievement

Improved policy making response at ministerial and higher political levels to the achievements of organizations concerned with applied agricultural economic research, analysis and planning.

3. Assumptions for Achieving Goal

(a) The Government of Tunisia (GOT) remains committed to the development of the institutions necessary to carry out this function.

(b) GOT policy makers allow and respond to research and policy debates within the bureaucracy without dictating policy.

B. Project Purpose

To assist the Ministry of Agriculture to develop a central institutional capacity, principally in the D/PAEEP for data accumulation, applied agricultural economic research and planning (AAERAP), necessary for determining GOT policy and strategy in the agriculture sector and for planning development programs.

1. Conditions Expected at the End of Project

a. A Tunisian staff capable of delivering, independently, required applied agricultural economic research, analyses and planning for the agricultural sector.

b. The project purpose will be achieved when:

(1) The D/PAEEP utilizes scientific and in-depth research based on valid data to prepare reports and planning documents in quantity, professional quality and timeliness to meet needs of the Ministry of Agriculture.

(2) Plans, programs and policies adopted by the Ministry of Agriculture show a recognizable and major input by the D/PAEEP.

(3) The GOT recognizes the D/PAEEP as a center of excellence in AAERAP as demonstrated by requests for agricultural economic studies and plans to the D/PAEEP in preference to other agencies.

ANNEX "A"

(4) The Statistics Division of the D/PAEEP is recognized as the official source of agricultural statistics and serves as the major source for agricultural sector forecasting.

2. Important Assumptions for Achievement of Purpose

a. The GOT, AID and University of Minnesota agree to the project purpose, the design and implementation.

b. The **D/PAERP, Ministry of Agriculture retains the primary responsibility in the Government for applied agricultural economic research, analysis and planning.**

c. The Ministry of Agriculture will provide sufficient resources to meet objectives.

d. Returning trainees will be appointed to appropriate professional positions and given sufficient incentive to encourage effective participation in economic analysis, research and planning.

C. Project Outputs

1. Kind and Magnitude

Kind

Magnitude

a. Formally established, functioning and effective units or services, for conducting applied agricultural economic research, analysis and planning having the following characteristics:

(1) Organization and staffing plan with established functions.

(2) Qualified Tunisian staff employed and properly assigned, and adequate in number to cover needs in AAERAP.

(3) On-going program of economic research, analysis and planning, as appropriate to the unit or service concerned, geared to meet the programming, policy and planning needs of the Ministry of Agriculture.

b. **A modern agricultural data collection system established and functioning.**

a. The units and services referenced in par. 1 of Outputs will be verified by the evidence of:

(1) Organization and staffing plan and functions for AAERAP approved and recorded in an official GOT document.

(2) Approximately 32 Tunisians trained to the M.S. level and 2 Tunisians trained to the Ph.D.

(3) Capacity of AAERAP in D/PAEEP meets the programming, policy and planning needs of the Ministry of Agriculture.

b. **Capacity to record and be able to retrieve data and information concerning the agricultural sector of Tunisia as necessary for AAERAP, as indicated by:**

### Magnitude

#### b. (continued)

(1) A National yearly enumerative survey including:

- labor employment
- credit and marketing
- areas planted in important crops
- yields of the major crops and live-stock products.

(2) National bi-annual sub-sample surveys which support and update above and provide trends and capacity for corecasting.

#### 2. Important Assumptions for Achievement of Outputs

a. There will be a central unit or service (D/PAEEP) in the Ministry of Agriculture devoted to the functions of AAERAP.

b. The work of D/PAEEP will include a reasonable balance between long-term research efforts, shorter term studies and analysis, and planning.

c. D/PAEEP will establish permanent positions to employ trained Tunisian agricultural economists.

d. FAO continues to participate and cooperate in sector model work.

e. Short-term consultants from SRS/USDA make technology transfer within the allotted time frame of 1 1/2 years.

f. The D/PAEEP is able to obtain sufficient long-term support from NIS to implement data surveys (vehicles, and computer **services**).

g. All divisions of the D/PAEEP work at full capacity utilizing the agriculture sector model and the Country-wide data collection system.

#### 3. Indicators of Progress Toward Achieving Project Purpose

a. Project evaluation team favorably endorsed progress toward target, stating that development of central research and planning capability was essentially on schedule.

b. Fourteen returned participants with M.S. degrees are presently doing professional level work in the following areas: Sector modeling, production economics, marketing, annual budgeting, credit, sector planning and agricultural data surveys.

ANNEX "A"

c. The sector model is undergoing final testing under guidance of the FAO in Rome. Transfer of the model to Tunis is planned for February 1976.

d. One enumerative survey including the items under C, 1, b (Magnitude) above has been completed, although focusing only on the Northern provinces.

D. Project Inputs (Remaining Life of the Project)

1. Kind and Magnitude

University of Minnesota

a. The University will provide the services of one agricultural economist qualified in sector modeling until June 30, 1976. The production economist left the project in September 1975 to accept other employment. He will not be replaced. The services of the agricultural economist (credit) who also serves as University representative will terminate March 31, 1976. Thus as of July 1, 1976 the services of all the full-time contract personnel will cease in accordance with the recommendations of the recent project evaluation.

b. Approximately 6 weeks of consultant services in sector modeling.

c. Professional backstopping, and administrative support of the project.

Statistical Research Service, U.S. Department of Agriculture

a. Short-term consultant services in connection with on-going agricultural data collection activities of the D/PAEEP.

b. Work-study programs in the U.S. to provide specialized training in agricultural statistics.

Economic Research Service, U.S. Department of Agriculture\*

a. Approximately 50 man/weeks of consultant services in FY 76 and FY 77 and FY 78.

b. An estimated 90 man/weeks of work-study programs either in the ERS or appropriate U.S. educational institutions to develop research skills of D/PAEEP economists. These will be largely ex-participants but may include others in key positions who have not had U.S. training.

USAID (Direct Funding)

a. Arrange through OIT/AID/W and/or USDA for training of nine M.S. candidates in agricultural economics, 2 M.S. candidates in mathematics and statistics and 2 Ph.D candidates in agricultural economics.

\* or other source

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ANNEX "A"

## b. Commodities as follows:

- 10 vehicles, plus spare parts (4 wheel drive, U.S. Army surplus jeeps or equivalent) for use by field enumerators of the Statistics Division.
- Thresher (grain) for obtaining objective yield samples.
- Scales, balances and other small equipment for Division of Statistics.

2. Objectively Verifiable IndicatorsUniversity of Minnesota

- a. The services of the sector modeling economist now in residence will continue until June 30, 1976, and the agricultural economist until March 31, 1976.
- b. Graduate programs at the University of Minnesota, designed to meet the needs of each M.S. candidate in relation to his expected role in the D/PAEEP (Table 1).
- c. Planned schedule of consultant services to meet needs of the D/PAEEP. (See schedule in table 1).

Statistical Research Service/U.S. Department of Agriculture

- a. A sub-sample survey extended to include most of Tunisia's agricultural lands by 2/1/76.
- b. Utilization of NIS hardware and transfer of SRS software to it.
- c. A national base survey in early 1976 incorporating all major sub-sectors including credit, employment.
- d. Trained field staff functioning in all provinces.
- e. Objective yield testing at 200 sites by 8/1/1976.
- f. A sub-sample based upon above enumerative survey completed by 12/31/76.
- g. Two M.S. candidates (statistics) return by end FY 1977.
- h. Six short-term programs (statistics) completed by end FY 1977.

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ANNEZ "A"Economic Research Service/U.S. Department of Agriculture\*

- a. Consultant specialists provide a total of 50 weeks of services during 18 separate visits in FY 76, FY 77 and FY 78. Areas of consultation include sector analysis, annual planning, marketing and production.
- b. A total of fifteen work-study programs for D/PAEEP staff (mostly returned participants) completed in FY 77 and FY 78.

Direct USAID Inputs

- a. Nine M.S. degree participants in agricultural economics start in FY 76 and end FY 77 and complete programs in FY 78.
- b. Two M.S. degree participants in mathematics and statistics start programs in FY 77 and complete them in FY 78.
- c. Two Ph.D participants start programs in FY 76 and complete them in FY 78.

3. Important AssumptionsUniversity of Minnesota

- a. The USAID provides required financial and policy support.
- b. The University responds adequately to provide inputs needed to accomplish objectives.
- c. The GOT provides sufficient number of qualified candidates for graduate training on a suitable time table.

SRS/U.S. Department of Agriculture

- a. Consultants successfully transfer programs to NIS computer.
- b. D/PAEEP is able to recruit and train sufficient personnel and obtain adequate vehicle support from other GOT agencies to carry out field work.

Economic Research Service/U.S. Department of Agriculture\*

- a. The D/PAEEP continues to strengthen its organization by assigning returned participants in specific functional areas.
- b. Suitable consultants can be found to provide required services.
- c. The D/PAEEP nominates candidates for work-study programs as scheduled.

\* or other source

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ANNEX "A"

Direct USAID Inputs

- a. Continued USAID financial support is available.
- b. The D/PAZEP designates qualified candidates for M.S. and Ph.D training.

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## ANNEX "B"

Implementation Schedule and Key to Project NetworkFY 76

As a result of project evaluation, the role and composition of the University of Minnesota contract services have been modified.

- 1 - (Jan) An AID - University of Minnesota contract amendment negotiated and signed. This contract will provide for phase-out of remaining two University of Minnesota resident advisors, one in March, the other in June 1976. The University of Minnesota will provide the short-term services of Dr. Terry Roe to aid in the transfer of the Sector Model to Tunisia. Following the model's transfer, University of Minnesota will discontinue any further advisory assistance. Short-term consultancies will be arranged through other means, e.g. PASA with ERS/USDA.
- 2 - (Jan) PP revised, in accordance with evaluation recommendations and forwarded to AID/W. PP funds continuing SRS/USDA statistics activities and requests search for the source of the approximately 30 man weeks of specialized technical services to be provided through FY 77. Areas of expertise needed include annual planning, price and market analysis and production economics.
- 3 - (Jan) Although not specifically reviewed, the evaluation nevertheless recommended continuing AID inputs to the Statistics Division. Revised PP supports already informally approved first phase funding of SRS consultancies to aid in helping the Statistics Division undertake the December ~~sub-sample~~ survey.
- 4 - (Jan) Edit and summarize the survey's findings.
- 5 - (Dec) The final four M.S. participants **selected and entered** language training.
- 6 - (Dec) M.S. participant, **specialized in sector modeling, returns and .....**
- 7 - (Jan) Is assigned to the planning division of D/PAEEP. On-the-job training with Minnesota resident staff member will eventually qualify him for responsibility and leadership of the sector model following its transfer to Tunisia from FAO Rome.
- 8 - (Feb) Dr. Roe arrives and assists for two weeks in the preliminary preparations for the model's transfer.
- 9 - (Feb) PIO/T to provide funding for completion SRS consultants services through December 1976 forwarded to AID/W. PIO/C for equipment essential to field surveys, e.g. head thresher and all-terrain vehicles, prepared.

ANNEX "B"EX 76 (continued)

- 10 - (Mar) PIO/T for 5 man months of short-term consultant services by ERS/USDA in CY 76.
  - 11 - (Feb-July) First of planned 20 man weeks of SRS consultant services to Base Survey begins in February with the arrival of the project leader.
  - 12 - (May) SRS consultant introduces objective yield sampling in the survey. provided .....
  - 13 - (Apr) the head thresher and vehicles have arrived.
  - 14 - (June-July) The Base Survey, July Sub-sample, will be completed and .....
  - 15 - (July) data transferred to the computers provided that .....
  - 15a - (June) NIS computer time will have been contracted for by D/PAEEP.
- NOTE: D/PAEEP already has budgeted funds sufficient to rent computer for approximately 1 month's time.
- 16 - (Feb) FAO assists in transfer of sector model to Tunisia.
  - 17 - (Mar) Dr. Stickley, credit advisor, departs.
  - 18 - (Apr) PIO/P's funding four M.S. candidates forwarded to AID/W.
  - 19 - (May) PIO/P's for five M.S. and two Ph.D candidates and initial revolving program of 20 man/months under arrangement of OIT forwarded to AID/W.
  - 20 - (Aug ) Five M.S. candidates in agricultural economics and two M.S. candidates in statistics depart.
  - 21 - (Aug) Three short-term participants depart for 3-4 months each of specialized training in the SRS/USDA.
  - 22 - (Sept) Two Ph.D candidates and 2 candidates for M.S. in statistics depart.
  - 23 - (Apr-May) Short-term consultant in annual planning arrives to provide assistance leading to .....
  - 24 - (June) a fully adapted, refined and functioning sector model capable of servicing annual planning requirements.
  - 25 - (May-June) Dr. Roe and Dr. Norton of WB under FAO arranged consultancy arrive to assist in model refinements and review.

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ANNEX "B"FY 76 (continued)

- 26 - (June) Four M.S. candidates depart and four M.S. return and are assigned, most probably, to assist in last minute modifications preparatory to publication of 5th Plan.
- 27 - (June-July) With transfer of sector model and completion training of Tunisian counterparts, resident advisor will depart.
- 28 - (Aug-Sept) Three consultants in annual planning, production economics and pricing-marketing analysis arrive to assist in .....
- 29 - (Sept) establishing rigorous programs of long-term research in their respective fields.
- 30 - (Sept) Consultant assistance to aid on-going D/PAEEP efforts to collate past research and statistical data for use in sector model and annual planning.

FY 77

- 31 - (Nov) Enumerative Base Survey completed and published.
- 32 - (Nov) Two consultants in Marketing (3 weeks) and Production Economics (3 weeks) arrive .....
- 33 - (Dec) to review progress, provide guidance on on-going research programs. Ideally they will have access to key data provided through enumerative survey in order to refine research activities and if requested by GOT help assimilate said data and make .....
- 34 - (Jan) inputs for modifications to 5th Plan and preparation of annual plan.
- 35 - (Dec) Two M.S. participants (Minn. contract) return and are assigned to research/planning activities.
- 36 - (Dec) Five participants holding M.S. degrees depart for short-term work-study programs. Three short-term statistics participants return and are assigned to Statistics Division.
- 37 - (Dec) SRS consultants arrive to assist in December sub sample survey. This marks final SRS/USDA consultant visit.

- EVALUATION -

is tentatively planned in February 1977. Purpose of evaluation will be to review progress and achievements in statistics, research and performance sector model. Results of evaluation will influence future course of action these areas, principally the nature and duration of future consultancy efforts.

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ANNEX "B"FY 77 (continued)

- 38 - (Mar) Based upon outcome of evaluation, PIO/T will be forwarded to AID/W for purpose funding 6 man/months consultancies in CY 77.
- 39 - (May) Tentative date for arrival of three consultants specializing in sector analysis (3 weeks), price-marketing analysis (3 weeks) and production economics (3 weeks). The former will assist in .....
- 40 - (June) review sector model, providing technical guidance on incorporation of forecasting into the model.
- 41 - (June) The latter evaluates progress on-going research programs, makes modifications and establishes additional programs in keeping with evaluation's recommendations.
- 42 - (May-June) Five M.S. participants who have returned from short-term work-study programs assist/participate in above activities.
- 43 - (May) It is anticipated that Statistics Division initiates without further technical assistance, its CY 77 base survey. There might be need for one short-term consultancy to aid in expanding objective yield base pending evaluation's recommendations this area.
- 44 - (June) Issue PIO/P for remaining short-term study programs (approx. 12 m/mos. statistics and 6 m/mos. in pricing and production economics) forwarded to AID/W.
- 45 - (July) Three short-term participants depart.
- (Aug)
- 46 - The following consultants arrive: annual planning (2 wks), sector analysis (3 wks), marketing (2 wks) and production economics (2 wks), in order to provide technical guidance to MOA and their comprehensive review of research and planning. Specifically .....
- (Aug)
- 47 - the former two will assist on-going efforts to incorporate statistical data of the completed base, and sub-sample surveys, as well as introduce forecasting into the new annual plan.
- (Aug)
- 48 - The latter two will review research programs and where possible provide technical guidance in collating research for inclusion in forth-coming plans as well as utilize current data and planning projections for modifying future research.
- (Oct)
- 49 - MOA using refined sector model will have drawn upon statistical and research data to update 5th Plan and introduce forecasting into forthcoming annual plan.

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ANNEX "B"FY 78

- 50 - (Oct.-Nov. '77) Three short-term participants return and final four participants depart for work-study programs.
- (Nov)
- 51 - A total of twelve man weeks of consultant services in Sector Analysis and annual planning, marketing and production economics will be needed in second quarter of FY 78 to assist MOA in reviewing planning, research efforts and making final adjustments for D/PAEEP's assuming full responsibility for independent work in these areas.
- 52 - In mid CY 78, research, planning efforts will be reviewed and new programs  
+ 53 - modified/established.
- 54 - (Sept. '78) Four M.S. participants return and all University of Minnesota support to project ceases.
- 55 - (Sept. '78) With return of seven M.S. participants, two in statistics and five in agricultural economics, as well as two Ph.D's, the final AID inputs to D/PAEEP and MOA under existing project will have been realized.

"F" The D/PAEEP should possess an institutional capacity for data accumulation, applied agricultural economic research and planning, for determining GOT policy and strategy in the agriculture sector and for planning development programs.



FY 77

FY 78

