

AIRGRAM

DEPARTMENT OF AGRICULTURE

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TO - AID/W TOAID AP 882

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Reference Center
Room 1656 NS

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CARD 1015

278-11-110-140

AID
DATE SENT
3/28/68

FROM - ZIMAN

SUBJECT - Preliminary Project Proposal (PPP) for a Vegetable Research and Production Project (Jordan).

REFERENCE -

NE 4
AAPC 5
ARDS 2
NEDP 5
NEF 1
NEPL 2
NESA 2
NDEPC 5
WOF 1
WC 1

This airgram transmits the attached PPP for AID/W approval.

This proposed new project in irrigated agriculture is based on the experience of the East Ghor Rural Development project (278-16-900-113). The new project concentrates on a specific kind of agricultural output. Although the USAID is aware that the new project must be justified to Congress as part of the FY 1970 program, the USAID believes the initial phase (FY 1968-69) can be considered as either the last step in the East Ghor Rural Development project or the first step in this new project.

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OTHER AGENCY

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DRAFTED BY EBB:ghk	OFFICE Agriculture Div.	PHONE NO. 89	DATE 3.20.1968	APPROVED BY ECStark, J/MC
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AID AND OTHER CLEARANCES
FRG, RHEmer: (In draft)
CONT, TMSnook:

Final Clearance:
DIR, JFurari

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PRELIMINARY PROJECT PROPOSAL

COUNTRY - JORDAN

PROJECT NO. 278-11-110-140

Submission Date: March 15, 1968. Original - Yes.

U.S. Obligation Space : FY 1970 through FY 1974.

Physical Implementation Span : FY 1970 through FY 1974.

Gross Life of Project Financial Requirements : U.S. Dollars \$622,000

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PRELIMINARY PROJECT PROPOSAL (PPP)VEGETABLE RESEARCH AND PRODUCTION (278-11-110-140)A. Summary Description

GOJ has requested U.S. assistance for a new project designed to double the income derived from growing vegetables on the irrigated lands in Jordan. Income can be doubled in a relatively short time by:

1. Bringing more land under irrigation.
2. Increasing yields.
3. Developing optimum rotations and growing more crops per year.
4. Testing and promoting high value crops that are not presently being grown in Jordan.

Item 1 (Irrigation development) is primarily the responsibility of GOJ/Natural Resources Authority, and, although it is a factor that must be taken into account, it is not in the main thrust of this project.

Given the natural advantages of the Jordan Valley it is believed that several high value crops such as cut flowers, berries, avocados, ornamentals, sweet peppers, etc. could be grown and transported by air to Western European markets particularly during the winter months. There may also be an opportunity for commercial production of high quality vegetable seeds in the Jordan valley and this is to be explored.

In spite of a near ideal climate for growing fruits and vegetables, relatively good soils, and year-round availability of water, average yields are very low. More efficient growers in the East Ghor out-produce average growers by 3 to 4 times but still fall considerably short of potential maximum yields. In such an area and where frost is uncommon, three to four vegetable crops are possible. East Ghor farmers are growing less than 1½ crops per year.

The following table is indicative of the importance of vegetables in the agricultural economy of Jordan:

AGRICULTURAL INCOME a/

<u>Commodity</u>	<u>Value JD</u>	<u>Percentage</u>
Cereals	8,145,909	24.3
Fruits, Grapes & Olives	7,372,321	22.0
Livestock & Poultry	8,087,899	24.2
Vegetables	7,334,911	22.0
Melons	1,681,596	5.0
Forestry	193,096	5.0
Lentils & Sesame	632,668	2.0
	<u>33,448,400</u>	<u>100.0</u>

Efforts are underway to improve cereal grain production through the U.S. assisted Wheat Research and Production project (278-11-110-139) and the UN-FAO Dryland Farming project.

The UN/D. and WFP are promoting dry land production of fruits, grapes and olives. Local yields of citrus crops and banana are considerably better than vegetable yields and do not require special assistance at this time. In any event, there is some indication that citrus and bananas are in or approaching a situation of oversupply in the Mediterranean basin.

Little is being done to promote the livestock industry in Jordan, but in a country that is short of food and feed grains, where grazing is not restricted and where the Bedouin tradition remains, it is extremely difficult to improve livestock production in the time limits in which USAID has to work.

Vegetables are also one of the major exports of Jordan as shown in the following table:

LEADING EXPORTS b/

<u>Commodity</u>	<u>Export Value (In JDs)</u>	<u>Percentage</u>
Phosphate	2,641,000 <u>c/</u>	33.7
Vegetables	2,286,000	29.1
Fruits	478,000	6.1
Cigarettes	443,000	5.7
Melons	392,000	5.0
All other	<u>1,602,000</u>	<u>20.4</u>
	<u>7,842,000</u>	<u>100.0</u>

a/ An average of 1963 and 1964.

b/ Three year average (1964-65-66).

c/ The current figure is higher and likely to be in the JD4,000,000-5,000,000 range.

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Jordan continues to expand land areas under irrigation. Work is continuing on a 20 kilometer extension of the East Ghor canal that will service an additional 20,000 dunums (5,000 acres) in the Jordan valley. Ground water development is proceeding rapidly; Wadi Dhuleil area is developing and may eventually be as large as 30,000 dunums (7,500 acres). In the South, particularly in the Shobak, El Jafr, and Wadi Utum areas large reservoirs of underground water have been found that could irrigate an estimated million dunums (250,000 acres) of land. Surveys that would match land resources with this water resource have yet to be done, but it is known that several very large areas can be exploited. Dams on the Yarmouk and Zerqa rivers likely will be built within the next decade that will dramatically expand the land under irrigation in the lower Jordan valley. At the present time there is a minimum of 367,000 dunums in blocks of 1,000 dunums or more under irrigation and 80 percent of this is on the East Bank. By 1974 this is almost certain to exceed 450,000 dunums.

Although the main thrust of the project would be centered upon vegetable production on the irrigated lands of Jordan, there would be a significant side effect that would materially benefit the dry-land production of vegetables.

Achievement of project objectives would have a significant effect on Jordan's balance of trade. Production income would be increased by approximately JD7,500,000 (equivalent to \$21,000,000) per year with roughly \$15,000,000 going into yearly exports.

There are other advantages to this project. The land area planted in vegetables is relatively small and manageable and would involve a relatively small number of farmers. The area is readily accessible by good roads and permits easy travel for technicians, extension workers, etc. and ready access to markets.

Although planning a number of irrigation schemes, some of which are already underway, GOJ has exploited the less expensive irrigation areas such as the East Ghor. Each succeeding irrigation scheme is likely to be more expensive per land unit brought under irrigation. Cost benefit ratios can be improved only by increasing yields, growing more crops per year and growing more high value crops as envisaged in this project. In other words, the economic feasibility of future irrigation projects in Jordan will, in considerable measure, depend upon the success of this project.

Initial emphasis is to be upon such inputs as seed, fertilizer, plant protection (herbicides and insecticides), planting and harvesting methods and other management practices. While there is a need for expanded research in vegetable production, there is a large reservoir of known technology that can be quickly disseminated to local farmers.

In view of the importance of vegetables to agricultural income and exports and the sizeable gains that can be achieved, vegetable crops appear to provide one of the best opportunities for increasing food production and income in Jordan in the shortest time interval.

TABLE I
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NON-CAPITAL PROJECT FUNDING (OBLIGATIONS IN \$ 000)

PPP Date: March 15, 1968
Original
Project No. 278-11-110-140
Project Title: Vegetable
Research & Production

Fiscal Years	Ap	L/G Total	Personal Services			Participants		Commodities		Other Costs
			AID	PASA	CONT	U.S. Agencies	CONT	Dir. U.S.		
Prior through Act FY										
Oper. FY 1970		147.5	60.0 ^{a/}		20.0 ^{b/}	37.5			30.0	
Budget FY 71		147.5	60.0		20.0	37.5			30.0	
B+1 FY 72		130.0	60.0		20.0	30.0			20.0	
B+2 FY 73		125.0	60.0		20.0	30.0			15.0	
B+3 FY 74		72.0	30.0		20.0	22.0			-	
Total Life		622.0	270.0		100.0	157.0			95.0	

^{a/} Full time.
^{b/} TDY consultants

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Fiscal Years	AID-Controlled Local Currency		Other Cash Contributions Cooperating Country (000 of \$ Equiv.) <u>£</u>
	U.S.- Owned	Country- Owned	
Prior through Actual FY			
Oper. FY 70			75
Budget FY 71			80
B+1 FY 72			90
B+2 FY 73			100
B+3 FY 74			120
Total life			465

These are preliminary, rough estimates of costs for salaries, day laborers, operational equipment and supplies, fuels, oils and greases, and other operational expenses. Experiment stations, office space, laboratory facilities, and vehicles are also GOJ responsibilities.

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II. Setting

Jordan has chronic and serious difficulties with balance of payments and the situation has been aggravated by events following the June 1967 war.

At the time of this writing, the West Bank of the Jordan River is under Israeli occupation. In this area are Jerusalem, Hebron, Jericho, and Nablus which previously served as magnets to draw large numbers of tourists to Jordan thus providing a major source of foreign exchange. Most of these earnings for the time being are lost to Jordan.

Due primarily to higher rainfall, the West Bank was one of the more productive agricultural areas in Jordan and for the time being this production is lost. This area produced most of the olives, and a significant part of vegetable and melon crops of Jordan. Jordan appears to have little, if any, alternative but to develop its agriculture on the East Bank to the maximum extent in the shortest time.

The Ministry of Agriculture has a few horticulturists, soil scientists, plant protection specialists, and other technicians, experiment stations and other research facilities. For the most part, Research and Extension programs are not clearly defined and objectives frequently lack specificity. U.S. assistance would act as a catalyst and focus attention on the major vegetable crops. With minimum U.S. assistance, GOJ can do this job by mobilizing its human resources and assigning priority to the project.

In requesting U.S. assistance the Minister of Agriculture reassured the USAID Mission Director as to the importance his Government attaches to this proposed project and expressed GOJ ability and willingness to meet self-help criteria in terms of personnel, financing and other essential resources.

III. Strategy

In preliminary terms the basic strategy will be to select three to five of the major vegetable crops ^{a/} for intensive study and, building around these major crops, develop crop rotations that appear to have the best economic advantage. The Ministry of Agriculture has done considerable work on crop rotations but the studies are deficient in that related agro-economic studies have not been made. This project will focus efforts and attention on the selected vegetable crops to determine optimum rotations, varieties, row spacing, plant population, planting dates, fertilizer application, plant protection measures and harvesting methods and disseminating this information to farmers. Production bench-marks for the East Ghor were .

^{a/} At the present time four vegetables (tomatoes, eggplant, cauliflower and green peppers) account for approximately 80 percent of vegetable production.

set in a production and income study made by USAID's Mr. Abdul Wahhab Ahmad ^{a/} in August, 1967. Using this study as a base it is planned to expand the scope to include other major irrigation areas and by periodically updating the studies, annual production increases can be determined with reasonable accuracy. Export data, including vegetable exports is accumulated and recorded by GOJ Statistics Department.

IV. Planned Targets, Results and Outputs

The long range objective of the project is to double the income derived from growing vegetables in Jordan. Annual quantitative targets will be needed. These can be established by annual surveys such as Abdul Wahhab's study, or by using other measurements techniques. The technique to be employed will be determined in the initial phase of this project.

The successful marketing of the increase will pose problems and new initiatives and expanded efforts should be undertaken to develop new markets in Western Europe and develop further markets in the more affluent Arab States such as Kuwait, Saudi Arabia and Bahrain. For several years the UN/DP has had a team of experts assisting the GOJ Marketing Department in such an effort and the UN plans to continue this assistance for at least two more years. UN/DP presently is formulating a project that will include a food technology and testing laboratory and a pilot (non-commercial) fruit principally citrus, processing plant.

The UN/DP-assisted Industrial Center attached to the GOJ Ministry of National Economy is developing plans for a vegetable canning plant in the private sector. A new Marketing Law has been promulgated in which the Marketing Department is also authorized to organize a joint stock company to establish a vegetable canning plant.

In its first operating season last year, the Wadi Yabes Cooperative Vegetable Grading and Packing Plant was unsuccessful. This year, trial lots of vegetables are being processed to test price differentials for graded vegetables in several Arab markets. There are several major problems yet to be resolved before this plant can operate successfully but perhaps with some modification and re-direction it can be made to succeed.

It is believed that U.S. assistance to this project will not be needed for more than five years. After developing specifics of improved production programs, the training of GOJ technicians and convincing some

^{a/} "Agricultural Production and Income in the East Ghor Irrigation Project - 1967".

of the more influential farmers, the GOJ will be able to continue and expand this program without further U.S. assistance.

V. Course of Action

Ongoing U.S. assistance is planned to start in FY 1970 following the Congressional Presentation. In the meantime, there are a number of things that can and should be done. For that reason this Section begins in this FY.

A. GOJ

FY 1968

1. Designate a Project Manager.
2. In consultation with USAID/J, develop a staffing pattern and begin identifying GOJ technicians.
3. With the West Bank temporarily under Israeli occupation and the momentary loss of the Wadi Far'a Vegetable Experiment Station, develop a plan to devote a part of Deir Alla Experiment Station to this project or convert one or more of the 30 dunum Training/Demonstration Units in the East Ghor to a vegetable station.
4. Accumulate at a central point in the Ministry of Agriculture, all reports, studies, etc. made on vegetable production in Jordan.
5. In consultation with USAID/J, select 7 vegetable growers and 3 GOJ technicians to be sent to the U.S. on short-term observation training to study modern production methods.
6. Select 3 to 5 vegetable crops to be given priority for research studies, and in the fall of this FY, expand research efforts and tests.
7. Develop a JFY 1969 ^{a/} budget for this project.
8. Appoint a coordinating committee with representatives from Research, Extension and Marketing Departments, Natural Resources Authority

a/ Begins January 1, 1969.

and the Jordan Development Board to advise and assist in the implementation of this project.

9. Continue marketing studies being made by GOJ Marketing Department with UN/DP assistance.

B. U.S.

FY 1968 (Initial Phase proposed for funding under East Ghor Rural Development Project).

1. Recruit a TDY U.S. Advisor for 30-60 days to make a preliminary study of vegetable production in Jordan, review this document, assess possibilities for achieving project objectives, and advise USAID/J as to the kind and nature of U.S. assistance needed to support this project.

\$10,000

2. In this FY provide funds to send 7 farmers and 3 GOJ technicians to the U.S. for short-term observational training. \$30,000.

FY 1969

A. GOJ

1. Expand research efforts aimed at improving vegetable yields and production.

2. In consultation with Research technicians and more efficient growers, the Agricultural Information Section will prepare and distribute one or more extension bulletins that include specific recommendations for growing of one of the major vegetable crops.

3. Agricultural Extension Department will organize two or more field days for vegetable growers. Group visits to farms of more efficient growers may be more effective than visits to GOJ experiment stations.

4. Schedule and conduct regular meetings of the coordinating committee.

5. Assign personnel to fill vacant positions in staffing patterns developed in FY 1968.

6. Designate the area/s to be used as a vegetable experiment station/s and in consultation with USAID/J, list the personnel required, equipment and supplies needed to implement this project.

7. Develop a JFY 1970 budget for this project that will include those items that are available in Jordan.

8. In consultation with USAID/J, determine the kind and number of GOJ technicians needed to carry out this kind of program over the next decade and plan training programs designed to satisfy the need for trained personnel.

9. In consultation with the farmer participant group and USAID/J review project objectives and accomplishments and revise objectives, targets and plans as necessary.

B. U.S.

Provide funds for two TDY advisors to review this program, provide technical guidance to GOJ technicians and advise USAID/J as to the kind of U.S. assistance that is needed to support this project. \$20,000

FY 1970

A. GOJ 8/

1. Continue and expand research efforts.
2. Continue and expand extension programs including developing, publishing and distributing extension bulletins and conducting farmer field days.
3. Continue to provide funds in the GOJ budget for project activities.
4. Continue to hold regular meetings of the coordinating committee.

B. U.S.

1. Provide the full-time services of a U.S. Vegetable Research Advisor. This Advisor to work with one group of GOJ technicians on selected crops presently grown in Jordan.

Working with another group of GOJ technicians begin testing a comprehensive range of high income crops, vegetables, flowers, etc. that

8/ FY 1970 GOJ Course of Action will be set out in more specific details in subsequent presentations to AID/W.

presently are not being grown in Jordan.	\$30,000
2. Provide the full-time services of a U.S. Extension Horticulturist to assist counterparts in developing and promoting extension programs to increase yields and income.	\$30,000
3. Provide the services of a TDY consultant (Agricultural Economist) to design and initiate economic studies of various vegetable crops and rotations. Consultant to return in FY 1971 and in subsequent years if needed.	\$10,000
4. Provide the services of a TDY consultant (Agricultural Information Specialist) to advise and assist counterparts in design and content of extension bulletins, and other communications media. Consultant to return in FY 1971 and in subsequent years if needed.	\$10,000
FY 1970 total for Personnel Services	<u>\$80,000</u>
5. Provide project commodity assistance for seeds, specialized tillage and planting machinery, laboratory equipment, etc. Exact make up to be decided when surveys of available equipment have been made and in accordance with the recommendations of the TDY consultants.	\$30,000
6. Provide funds for participant training in the U.S. Training subject matter fields to be determined in FY 1969.	\$37,500