

**SEMI-ANNUAL REPORT**

**September 30, 1991**

**Integrated Agricultural Development Project:  
Maryut Agroindustrial Complex in the  
Western Desert of Egypt**

**Submitted to the  
Agency for International Development**

**by the  
San Diego State University Foundation**

**In cooperation with the  
Albert Einstein Peace Prize Foundation**

**Please address all comments or inquiries to**

**Dr. Mohamed El-Assal  
Administrative Coordinator  
Maryut Project  
San Diego State University Foundation  
San Diego, California 92182**

## **OVERVIEW**

The Integrated Agricultural Development Project: Maryut Agroindustrial Complex in the Western Desert of Egypt (Maryut Project, Contract Number: ANE-0158-G-SS-9006-00) has become a major research and development center for a large agricultural and reclamation effort underway in Egypt's Western Desert.

This project is supported through the Regional Cooperation Program initiative by the Bureau for Europe and Near East of the Agency for International Development. As such, the Maryut Project is a trilateral cooperative program involving participants from the Arab Republic of Egypt, the State of Israel and the United States. The Regional Cooperation Program, since its inception, has essentially been a program to bring together Arab (exclusively Egyptian), Israeli, and American universities, government ministries and other institutions and individuals in joint activities that promote cooperation in scientific and technical fields of mutual interest. The Maryut Project exemplifies the spirit of such cooperative initiatives.

Research and development work is being carried out by Egyptian and Israeli scientists in the two corresponding countries, with consultation from their American counterparts. To support this work in Egypt, a research and development site was constructed alongside the Alexandria-Cairo main desert road, some 100 kilometers south of Alexandria. Work on the site began in October 1989. The project work in Israel is being conducted at three sites: The Volcani Center of the Agriculture Research Organization, the Faculty of Agriculture of the Hebrew University of Jerusalem in Rehovot, and the Institutes for Applied Research of the Ben-Gurion University of the Negev in Beer-Sheva.

---

This Semi-Annual Technical Report of the initial activities of the **Integrated Agricultural Development Project: Maryut Agroindustrial Complex in the Western Desert of Egypt** was prepared by the San Diego State University Foundation utilizing input from individuals from the Arab Republic of Egypt, the State of Israel and the United States of America.

## PROGRESS IN COMPARISON WITH GOALS AND WORK PLANS

Progress in comparison with goals and work plans established for the period and with those stated in the proposal upon which the program has been based, has been excellent. An overview follows:

Second-year project research activities at the Maryut site, have concentrated upon three areas of intensive agriculture: vegetables, fruit trees and ornamentals. The performance of five major vegetable crops--tomatoes, peppers, eggplants, melons and cucumbers--were studied in walk-through tunnels, low tunnels out-of-doors, and in open field. The objective of this work is to optimize the out-of-season production of these crops in an area which is climatically suitable for such production. Also during the second year at Maryut, four new crops were introduced: squash, green beans, watermelon and artichoke. The first three under were introduced under plastic protection; the final two crops were grown under open field conditions.

In addition, a number of agromanagement trials were conducted. These included: the effects of various sources of organic materials and their rates of application; fertigation trials, and post-harvest studies. During the second year of studies the plantation of fruit tree cultivars and species was nearly completed. To date, in fact, some 24 fruit species with a total of 90 cultivars, have been planted. This plantation will serve as a basis for evaluation of species and their cultivars for fruit tree plantations by farmers in the newly-reclaimed lands of Egypt's Western Desert.

Floriculture trials have been conducted with greenhouse-planted roses and flowers grown in open fields. A number of shrubs and trees for the production of decorative branches were planted at the Maryut site. Four varieties of lawn species are also being grown, as are a large variety of desert landscaping plants. These plantings are being introduced in preparation for the initiation of the desert landscaping garden.

Other major activities at the Maryut site were the installation of a buried drainage system, and the construction of a nursery for vegetables and annual flowers. This nursery is designed to supply the research site demands for high-quality seedlings, as well as a local demand for high-quality cultivars of promising species. Preparations have been underway for the connection of the site to the national electricity grid.

*Electrical connection was completed before Aug '91*

*) out of date!*

During the past growing season, some 30 graduate engineers trained at the Maryut site and at the Dokki Training Center in Cairo, on methods of intensive agricultural methods and techniques. This group will become the nucleus of a team of experts for future extension work to farmers in the newly-reclaimed lands in Egypt's Western Desert.

In Israel, a survey was conducted of native and domesticated flora to identify and collect propagation material suitable for the out-of-doors production of ornamentals and for desert landscaping. Propagation material of 600 potential species was collected in other countries and sent to Israel for studies. Research continued on a grafting of selected cultivars from the protocacae family on rootstock tolerant to high pit.

Other activities, included the introduction of ergugium plannum and lobelia fulgens, as well as studies on the use of annual native plants for environmental landscaping. Israeli scientists participating in the Maryut Project worked on the development of uncomplicated methods to assess the taste quality of tomatoes and melons. Studies also continued of the European market importation of out-of-season tomatoes from Mediterranean countries.

During this report period, a group of 12 participants from the Maryut Project--including site scientists and selected local Egyptian farmers--visited the International "Agri Tech" exhibition in Tel Aviv, as well as Maryut Project research sites in Israel. A group of Israeli scientists visited the Maryut site in Egypt and the Annual Meeting of the Maryut Technical Panel brought participants from Egypt, Israel and the United States in July, 1991.

During the second season of progress of the Maryut Project, a large volume of data were generated in Egypt and Israel. This Technical Report will present a concise summary of this data and conclusions resulting from the work conducted by Maryut scientists in three countries during the 1990-1991 season.

## **PERSONNEL CHANGES**

There were no personnel changes during the reporting period.

## **MEETINGS AND COLLABORATIVE ACTIVITIES**

A list of meetings and collaborative activities is included as Attachment 1. Individuals who attended, dates and purpose of the activities are also included on this list.

## **PROCUREMENT**

Attachment 2 lists procurement for the period.

## **PUBLICATIONS AND INTELLECTUAL PROPERTY RIGHTS**

No publications were reported during this period.

**ATTACHMENT 1**

**MEETINGS AND COLLABORATIVE ACTIVITIES**

MARCH 31, 1991 - SEPTEMBER 30, 1991

EL-MENSHAWY, A.	5/1/91	EL-MENSHAWY, A.	\$718.00 VALENCIA, SPAIN	5/1/91	PER DIEM / CALAR II-MARYUT STEERING COMMITTEE MTGS.
GO TRAVEL	3/30/91	EL-MENSHAWY, A.	\$540.00 VALENCIA/ALMERIA	4/30/91	LODGING (PAID BY PROJECT)
GO TRAVEL	4/15/91	EL-MENSHAWY, A.	\$618.00 CAIRO/VALENCIA	5/1/91	HALF AIRFARE/CALAR II-MARYUT STEERING COMMITTEE MTGS
HUSSEIN, A.	5/1/91	HUSSEIN, A.	\$1,234.00 CAIRO/VALENCIA	5/1/91	AIR TICKET / MARYUT STEERING COMMITTEE MEETING
GO TRAVEL	4/12/91	HUSSEIN, A.	\$245.00 VALENCIA, SPAIN	4/30/91	PER DIEM / MARYUT STEERING COMMITTEE MEETING
MAHFOUZ, M.	4/30/91	HUSSEIN, A.	\$422.00 VALENCIA/ALMERIA	4/30/91	LODGING (PAID BY PROJECT)
EL-BELTAGY, A.	4/30/91	MAHFOUZ, M.	\$1,777.00 CAIRO/VALENCIA	4/12/91	AIR TICKET / MARYUT STEERING COMMITTEE MEETING
GO TRAVEL	4/12/91	MAHFOUZ, M.	\$454.00 VALENCIA, SPAIN	4/30/91	PER DIEM / MARYUT STEERING COMMITTEE MEETING
DESSOUKI, M.	4/30/91	MAHFOUZ, M.	\$540.00 VALENCIA/ALMERIA	4/30/91	LODGING (PAID BY PROJECT)
		MAHFOUZ, M.	\$600.00 VALENCIA, SPAIN	4/30/91	*
		EL-BELTAGY, A.	\$450.00 VALENCIA/ALMERIA	4/30/91	PER DIEM / CALAR II-MARYUT STEERING COMMITTEE MTGS.
		EL-BELTAGY, A.	\$540.00 VALENCIA/ALMERIA	4/30/91	LODGING (PAID BY PROJECT)
		EL-BELTAGY, A.	\$889.00 CAIRO/VALENCIA	4/30/91	HALF AIRFARE/CALAR II-MARYUT STEERING COMMITTEE MTGS
		DESSOUKI, M.	\$450.00 VALENCIA, SPAIN	4/30/91	PER DIEM / CALAR II-MARYUT STEERING COMMITTEE MTGS.
		DESSOUKI, M.	\$540.00 VALENCIA/ALMERIA	4/30/91	LODGING (PAID BY PROJECT)
		DESSOUKI, M.	\$889.00 CAIRO/VALENCIA	4/30/91	HALF AIRFARE/CALAR II-MARYUT STEERING COMMITTEE MTGS
		DESSOUKI, M.	\$600.00 VALENCIA, SPAIN	4/30/91	*
GO TRAVEL	4/16/91	HOUSTAFA, M.	\$1,432.00 CAIRO/PHOENIX	6/15/91	AIR TICKET / SCIENTIFIC VISITATION, CASA GRANDE, AZ
WALLACH & CO. INC.	5/7/91	HOUSTAFA, M.	\$201.00 CASA GRANDE, AZ	6/15/91	HEALTH INSURANCE
ARIZONA MOTEL	5/14/91	HOUSTAFA, M.	\$538.00 CASA GRANDE, AZ	6/15/91	ONE MONTH LODGING
ARIZONA MOTEL	8/9/91	HOUSTAFA, M.	\$538.00 CASA GRANDE	7/16/91	ONE MONTH LODGING
HOUSTAFA, M.	6/16/91	HOUSTAFA, M.	\$837.00 CASA GRANDE	6/15/91	PER DIEM FOR ONE MONTH
HOUSTAFA, M.	7/8/91	HOUSTAFA, M.	\$612.00 ALBUQUERQUE, NM	6/23/91	REGISTRATION FEE, LODGING, ETC./INTERNATIONAL CONFER
HOUSTAFA, M.	7/8/91	HOUSTAFA, M.	\$843.00 CASA GRANDE, AZ	7/16/91	OF AGRICULTURAL ENGINEERS
					PER DIEM FOR ONE MONTH (TO AUG. 15TH)

\* Consulting Fees

**ATTACHMENT 2**

**PROCUREMENT**

**MARCH 31, 1991 - SEPTEMBER 30, 1991**

139086	6/91	International Moving Service	Shipping/Equip & Supplies to Maryut	\$10,114.00
140978	7/91	International Moving Service	Air Freight-Equip & Supplies	\$725.00
136311	5/91	May 23, 1991 Shipment/Egypt/Maryut	Shipping/Handling/Insurance	\$10,114.00
137928	4/91	Idea Man	100 Baseball Caps	\$268.00
138500	4/91	National Academy Press	Alternative Agriculture/paperbound	\$40.00
			Understanding Agriculture	\$26.00
			State Tax	\$5.00
	4/91	Unipub - For El-Beltagy	Shipping Charge	\$3.00
			S/Worth Partnership/Higher Ed in Ag	\$56.00