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Consultancy Report

Quarterly Report: December 31, 1993 - February 28, 1994

Egypt: Farmer-to-Farmer Program
263-0225-G-00-4021-00

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FARMER TO FARMER PROGRAM

GRANT No. 263-0225-G-00-4021-00

QUARTERLY PROGRESS REPORT

DECEMBER 1, 1993 - FEBRUARY 28, 1994

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* The picture on the cover page is of Ahmed Mohamed El Sayed Mostafa, an extension agent, during a Participant Training Program in the USA (Pruing Group)

A. PLANS FOR THIS QUARTER

As mentioned in the previous quarterly report, USAID did not authorize ACDI to incur programmatic expenditures during the first quarter of the grant period (September 1 - November 30, 1993) because the grant agreement had not yet been finalized. With the signing of the agreement on December 1, 1993, ACDI planned to use this second quarter (December 1, 1993 - February 28, 1994) to launch start-up activities and to accelerate the implementation of FtF program components as follows:

1. Start-Up

- Hire New Staff
- Establish New Office in Ismailia
- Procure Equipment and Vehicles
- Develop MIS
- Select Participant Selection and MOA Linkages Committees
- Develop Implementation Plan
- Develop Annual Workplan
- Finalize selection of commodities to be targeted by FtF
- Finalize selection of regions to be targeted by FtF
- Assign FtF Field Assistants to specific commodities and regions

2. Farmer Selection

Identify 200 core group farmers
Identify 2,000 non-core group farmers

3. Volunteer Technical Assistance

The initial target for the end of the quarter was for 20 volunteer assignments to be completed. Due to delays in project start-up, however, this was reduced to 6 volunteers in the following commodities:

- Tomato Post Harvest Handling
- Tomato Pathology
- Beekeeping
- Beekeeping Diseases
- Cooperative Development
- Fish Diseases

4. Participant Training

Conduct participant training programs in the US for 5 farmers and extension agents in Pruning techniques.

5. Technology Advancement

Conduct 75 training sessions as a half year target (30 by U.S. volunteers, 45 by field assistants and core group farmers). Topics to be covered were determined by the volunteers' specializations.

6. Linkages

Establish contacts with MOA officials, ARC's (especially fruit and vegetable research centers), and Deans of Faculties of Agriculture.

7. Monitoring

- Begin data collection and entry
- Conduct monitoring visits

B. PROGRESS ACHIEVED DURING THIS QUARTER

During this quarter, six U.S. volunteers completed technical assistance assignments in Egypt and one group of participant trainees visited the USA. The FtF Program also completed most of the start-up activities planned for the quarter. It worked to expand the activities and number of the core group and non core group farmers, developed MIS data collection instruments, facilitated USAID program monitoring visits, and expanded linkages with MOA activities and universities.

1. Start Up:

- Hire New Staff: The program recruited five new members to fill the following positions:
  - Assistant Program Director
  - VOCA Program Coordinator
  - Two Field Assistants
  - Secretary

  There are still three positions which will be filled during the next quarter, which are Participant Training Coordinator, Field Assistant and Secretary.

- Establish New Office in Ismailia: The new office in Ismailia was established, and staff met with the MOA officials in the governorate.

- Procure Equipment: Three computers were procured and 6 UPS.

- Develop MIS: A local consultant was hired to design a management information system that will be more responsible to program purpose and objectives and easier for staff to use . Data collection forms were prepared, the program was installed, and data entry begun.

- Select Participant Selection Committee: ACDI's liaison to the MOA, a consultant with the Foreign Relations Department, identified 9 individuals for the Participant Selection Committee.

- Finalize selection of commodities and regions to be targeted by FtF: The FtF staff developed a list of commodities and districts to be targeted, including justification of the commodities and regions selected. This list is presented in the Implementation Plan.

- Assign FtF Field Assistants to specific commodities and regions: To ensure that the targeted commodities and regions receive sufficient attention from the program, each of the 12 Field Assistants have been assigned to specific commodities and districts.

2. Farmer Selection:

During this quarter the FtF Program selected 288 core group farmers, in the following commodities:

- 89 Fruit Farmers
- 83 Vegetable Farmers
- 31 Beekeepers
- 20 Poultry Breeders
- 31 Sheep & Goat Farmers
- 14 Fish Breeders

The above core group farmers represent 12 governorates. 400 initial visits were made by Field Assistants to reach this number of core group farmers.

3. U.S. Volunteers Technical Assistance:

Six US. Volunteers, recruited by ACDI's sub-contractor, Volunteer in Overseas Cooperative Assistance (VOCA), provided technical assistance and conducted training sessions in different commodities as follows:

Name	Assignment	Date
Mr. Arden Kashishian	Tomato Post Harvest Specialist	12/11/93-01/04/94
Dr. Thomas Wellborn	Fish Disease Specialist	01/04/94-01/21/94

Dr. Fred Zeitoun	Tomato Nurseries Specialist	01/05/94-02/01/94
Mr. Michael Sayres	Beekeeper	01/25/94-02/25/94
Dr. Daniel Pesante	Bee Disease Specialist	01/25/94-02/25/94
Mr. Eugene Ingalsbe	Cooperative Development Specialist	02/03/94-03/04/94

These volunteers conducted a total of 72 farm visits and 47 training sessions which were attended by 1,255 farmers and extension agents.

Following is a brief summary of their activities, which covered over 10 Egyptian governorates:

Tomato Production

Two US. volunteers provided technical assistance related to tomato production: Mr. Arden Kashishian, Tomato Post Harvest Specialist, conducted 9 farm visits and 5 training sessions in five governorates (Alexandria, Beheira, Gharbia, Giza and North Sinai), and Mr. Fred Zeitoun, Tomato Nurseries Specialist, conducted 18 farm visits and 10 training sessions in 9 governorates.

Main Topics & Problems Discussed:

Mr. Kashishian emphasized that correctly identifying a problem is the first step in solving it. One of the problems frequently discussed during his assignment was the high pH in soil and water. Mr. Kashishian recommended that adding sulphur to the soil will lower the pH, improving root growth and producing stronger plants. To address the water pH problem, which may limit the effectiveness of chemicals used, he suggested using buffers in the water, which neutralizes water.

Mr. Kashishian also stressed the importance of knowing the compatibility of fruits and vegetables shipped together, since some may transfer certain diseases. Also in order to avoid any fruit rot he recommend keeping beds dry so that no moisture touches the fruit.

Mr. Kashishian mentioned that early control will provide protection that will last into the growing season since post harvest problems start from the beginning of planting. However, he cautioned farmers to avoid over-spraying pesticide, saying "Double dosage does not mean double kill."

Problems addressed by Dr. Zeitoun included the following:

- White Fly
  - cover nurseries with screens to keep insects from entering
  - use yellow sticky plastic sheets as traps
  - introduce biological control through the use of parasitic insects (wasps) or bioinsecticides (fungus)
  - mix pesticide with any insect growth regulator such as Enstar

- Poor Flower Development and Flower Dropping
  - increase the use of potassium and composed organic fertilizer
  - reduce nitrogen applications
  - increase pollination through introduction of bees or through mechanical means

- Early Blight and Fungus Diseases
  - remove plastic more frequently to reduce humidity

- Plant Density
  - increase plant density from 4,000-5,000 plants per feddan to 8,000-10,000 plants per feddan.

Aquaculture

Dr. Thomas Wellborn, Fish Disease Specialist, visited 5 governorates (Fayoum, Alexandria, Matrouh, Beheira and Damietta), where he conducted 14 farm visits and 5 training sessions.

Main Topics & Problems Discussed:

Dr. Wellborn recommended the following changes to reduce fish diseases:

- Keep ponds under closer observation so that sick fish can be identified and collected for examination.

- Administer Terramycin (antibiotic) with corn oil rather than water at a ratio of 250 ml for every kg of food; this will minimize the leeching of the drug into the water.

- Control unusable or bad algae by applying Cuso4 carefully, aiming to achieve an appropriate level of algae for the necessary water oxygen availability.

- Consult university fish nutritionists to address nutrition problems that are specific to Egypt and the feed available here.

- Smooth the bottom of the pond to facilitate netting.

Apiculture

Dr. Daniel Pesante, Beekeeping Diseases Specialist, and Mr. Michael Sayers, Beekeeper, worked as a team in six governorates. They conduct 31 farm visits and 10 training sessions.

Main Topics & Problems Discussed:

Dr. Pesante and Mr. Sayers addressed the following issues:

- Varroa
  - switch to Apistan and use it correctly

- Weak Colonies
  - replace bad comb with new, good combs
  - add capped brood frames from another, stronger colony
  - leave enough space for the queen to lay eggs
  - change queens frequently (every year) to obtain higher numbers of eggs

- use Egyptian queens, since they are very good, and imports are not necessary

- Parasites
  - reduce chemical control and increase hygiene to control parasites naturally: "Open the colony and let the bees tell you what you have to do," said Dr. Pesante.

- Feeding
  - use one part sugar in one part of water (30% sol.)

Cooperatives

Mr. Eugene Ingalsbe's assignment represented the first FtF technical assistance visit focused exclusively on cooperative development. He visited 7 governorates and conducted 16 training sessions.

Main Topics and Problems Discussed:

The main objective of this assignment was to meet with new associations that have been formed largely as a result of the FtF program, as well as with other associations and farmers who are interested in establishing or strengthening cooperative efforts. Mr. Ingalsbe addressed the following issues during his training sessions:

- how to establish an association
- member services: provision of inputs and/or marketing of products
- election of a board, and board rights and duties
- hiring a director and staff
- legal requirements
- possibilities of offering credit to members

4. Participant Training Program:

On January 19, 1994, the first group of participants, comprised of four farmers, an extension agent, and an ACDI escort/interpreter travelled to the United States to study pruning techniques for grapes and deciduous fruit trees. The participants also learned new methods for farm management, pollination, and post harvest handling.

The training took place in the Fresno and Davis counties of California, where the participants worked with VOCA volunteers, growers, extension agents, processors, and researchers. Eta Nahapetian, FtF Training Coordinator at ACDI/Washington, accompanied the group for two weeks in California.

In Washington, the group attended an orientation session at their hotel. They also attended an introductory session to U.S. culture, and met with Dr. Ibrahim Antar, Minister Counselor, Agricultural Affairs, at the Egyptian Embassy.

Walter Krause, a U.S. VOCA volunteer, arranged the first two days of the program in California. He taught the participants several new pruning methods for apples, nectarines, peaches, and plums. He also demonstrated two grafting methods. Another VOCA volunteer and retired extension agent, Curtis Lynn, spent one day with the participants visiting area grape growers.

Representatives from University of California, Davis arranged two days of meetings with researchers and extension specialists in entomology, posology, post harvest handling, viticulture, plant pathology, and Integrated Pest Management. The participants were exposed not only to new pruning methods, but to the latest research in a variety of disciplines.

The participants spent two days with Arden Kashishian, Tomato Post Harvest Specialist volunteer, at Callo Orchards, the largest orchard in California, and at raisin and citrus processing facilities.

The group had the opportunity to practice their pruning techniques at the University of California, Kearney Agriculture Center. Since the Center was planning on pulling out the trees of a 20-year old apple research plot, the participants had the opportunity to practice freely on the trees. At the end of the week, they practiced on a commercial grape vineyard with a Madeira County farm advisor. The group also worked with other extension agents and a soil conservationist from the Soil Conservation Service.

The training left a strong impact on the Egyptian participants. Every one of them stated what methods they will apply to their farms, when they arrive home.

Dr. Mohammed Shehata, head of the Fruits and Nursery Department in the privately owned 1,000 feddan El-Roda Farm, will first attempt to modify the pruning system on the farm's apple and peach trees. Shehata will change from the vase system of pruning to the perpendicular V. Many of the trees will be too old to modify, but he will try to retrain the new and younger trees. He will also double the density of the orchard from 300 trees per feddan to 600 trees per feddan. Shehata believes he has the necessary finances and nursery stock to implement his plan. He expects a significant increase in production with the new pruning method.

Ahmed Moustafa, an extension agent in Mamoura, Alexandria, will recommend the V-Shape and Double V-Shape pruning systems to the growers in his district. This method requires no wire or wood so it will not be expensive to implement. By using the two V Shapes, Moustafa predicts that growers will be able to double their trees per feddan from an average of 200 to 400 per feddan and will make better use of sunlight. Production and profits are therefore expected to increase.

Mahmoud Idris, manager of a 50 feddan drip irrigated farm, stated that he will not change the shape of his trees already trained in the Vase Shape. However, he will train his new plantings of peaches on the Perpendicular V system.

Ahmed Zeitoun, owner and manager of a 25 feddan flood irrigated farm, would like to try the girdling/scoring methods he saw on apples and peaches in the U.S. He will experiment with the timing on a small number of trees to see which best suits his varieties and markets. He will recommend that his colleagues try the Perpendicular V and Double V training systems in peaches and apples. He himself would like to try the Taturra System for apples. Zeitoun knows that the wires will be expensive, but he expects higher production with this system.

Khalid El Gawahergy, owner and manager of a 93 feddan drip irrigation farm, has decided to change varieties by using the grafted methods taught by VOCA volunteer, Walter Krause. He has Anna and New Orleans varieties, and realizes that the New Orleans has relatively high chilling requirements and is a late variety. He will have a better yield if he converts all his trees to Anna. He also would like to reduce his labor force and use more simple machinery. He plans on construction a plow he saw in the U.S. which is used for seed bed preparation. He thinks the new plow will increase his

efficiency. In addition, he will decrease the use of pesticides on his farm to help protect both the beneficial insects in the orchards and the environment as a whole.

At the end of the training program, the participants made the following recommendations related to program selecting and logistics:

According to Dr. Shehata, the visits to UC, Davis might have been more helpful at the beginning of the program rather than in the middle, since the program there could provide participants with an overview of California agriculture.

The participants liked the focused nature of the program, and also appreciated the intermittent breaks for outside subjects. The changes in pace provided the participants with information they needed outside the field of pruning, and also contributed to the variety of the program.

It was the first time for FtF to send a woman escort/interpreter with a group of men. On a few occasions throughout the training program, the participants did not follow the interpreter's instructions, probably because of her young age and sex.

5. Technology Advancement:

During this quarter the Program held 75 training sessions, 20 by US volunteers, 54 by the FtF staff and one by a core group farmer, which covered the following topics:

- Beekeeping
- Beekeeping Diseases and Protection
- Tomato Post Harvest
- Tomato Pathology
- Fish Diseases
- Cooperative Development

2196 non core group farmers attended training sessions, seminars and field visits during the quarter.

6. Monitoring:

MIS Program

During this quarter, with leadership from the MIS Consultant hired on January 15, 1994, FtF reviewed the MIS establisned during the previous FtF project, identified changes needed, and developed data collection forms for use in gathering baseline data on core group farmers and their farms. Field assistants began using these forms to collect data on farmers and their governorate.

Data to be collected and entered includes the following:

a. Baseline data on farms and farmers
Baseline data on farm size, ownership, commodities, management practices, yield, input scheduling and costs, and marketing will be gathered for each of the 600 targeted core farms. This data will be gathered as the farms are added to the FtF group, that is, over the period of the project. To facilitate participant selection, data relevant for PIO/P preparation will be collected at the same time.

b. Changes occurring over the life of the project
Changes will be recorded as they are noted in subsequent visits; however, the history of the original baseline situation will be preserved. Once the original information is entered, a profile will be printed out for each visit and only changes will be indicated.

c. Farm visits
Farm visit information will link farms and farmers with volunteers, Field Assistants, and extension agents. In this way, coverage by commodity and governorate can be monitored, and scheduling can be facilitated. Possible reports will include:

- Number of volunteer visits to core group farmers
- Number of FtF staff visits to core group farmers
- Number of core group farmer visits to other FtF beneficiary farmers

d. Training Sessions

When an FtF training session is presented, information about the location, date, topic, and recommendations presented in the session will be recorded. Possible reports will include:

- Number of sessions conducted by volunteers and number of farmers attending
- Number of sessions conducted by core group farmers and number attending
- Number of farmers receiving specific recommendations at a training session

e. US Participant Training

Information required for participant trainee selection will automatically be included in the baseline survey of core group farmers and entered into the MIS. In addition, the database will include details on those farmers who have participated in US training (during the current FtF program or previous FtF programs) and will focus on technologies adopted as a result of the training, as well as the information required for the quarterly training reports required by USAID.

The FtF staff prepared lists of governorates, districts. villages, commodities, fertilizers, common problems, and other categories of information that will be used for sorting. These lists were entered into look-up tables for the MIS.

The MIS should be fully operational by the end of the third quarter and data entry will continue throughout the life of the program.

Program Monitoring Visits

FtF staff conducted numerous monitoring and supervisory visits throughout the quarter, aiming to develop program plans in greater detail upon receipt of the grant agreement on December 1, 1993.

On February 4, 1994, Mr. Stefan Pakulsi, VOCA Regional Representative for Asia and the Pacific, and Mr. Dann Griffiths, VOCA Regional Director for North Africa and East Africa, arrived in Cairo. They visited the Cairo office and met with the FtF Program

Director and the VOCA Program Coordinator. They also visited the FtF field offices and met with Alexandria and Ismailia Field Coordinators. Their discussions focused on volunteer assignments in Egypt. Their main aim is to monitor the recruitment of volunteers and agricultural specialists, based on scopes of work developed at the grass roots level in Egypt to provide volunteer technical assistance for core group farmers.

Mr. Blair Cooper, USAID Agricultural Development Officer and FtF Project Officer, went on several field trips with FtF. The first trip was conducted on December 1, 1994, and included Mr. Mahmoud Kamel, FtF Program Director and a Field Assistant from Alexandria office. They attended a seminar, led by Osama El Shindidy, FtF core group farmer and a returned participant from the USA, on potatoes. The seminar was held in Abrak Hamam, Itay EL Baroud, in Beheira governorate.

On February 2, 1994, Mr. Cooper visited the Graduates' area in Bangar El Sokar and was accompanied by Beekeeping volunteers Daniel Pesante and Michael Sayers, VOCA representatives, Stefan Pakulski and Dann Griffiths, and Mahmoud Kamel, FtF Program Director. During their trip they visited apiaries owned by Hosny Haredy and Ibrahim Mohammed.

Mr. Cooper also attended a training session held by Eugene Ingalsbe, the VOCA Volunteer in Cooperative Development, on February 23, 1994. The session took place in Ali Ibn Abou Taleb's farm in El Bostan district. Cooper was accompanied by David Davies, ACDI Vice President for the Middle East & North Africa, and by the Field Coordinator and a Field Assistant for the Alexandria field office.

7. Linkages:

The FtF program continues to emphasize the importance of linkages between the program, the Egyptian farmers, MOA and universities. Following is a list of U.S. volunteers' contacts during this quarter:

Mr. Arden Kashashian, Tomato Post Harvest Specialist, attended meetings with:

- Cairo University; Horticulture Department
- Alexandria University; Horticulture Department
- Ain Shams University; Horticulture Department
- Horticulture Department, MOA Agriculture Research Center
- Agriculture Department, MOA Gharbia & North Sinai

Dr. Fred Zeitoun, Tomato Nurseries Specialist, conducted official meetings with:

- Head of Vegetable Department at the Agriculture Research Center
- Agriculture Department at Beheira, Gharbia, Ismailia and Fayoum
- Horticulture Departments at Canal EL Suez University in both Ismailia & El-Arish.

Dr. Thomas Wellborn, Fish Disease Specialist held official meetings with:

- Director of International Research Program office at ARC
- Animal Health Institute
- Fish Abundance Authority in Fayoum
- Agriculture Department at Mersa Matrouh

Dr. Daniel Pesante, Beekeeping Disease Specialist, and Mr. Michael Sayers, Beekeeper, held official meetings with:

- Director of Beekeeping Research Department, MOA Cairo
- Agriculture Department at Alexandria, Gharbia, Ismailia, Sharkia and Minia

Mr. Eugene Ingalsbe, Cooperative Development Specialist, held meetings with:

- Director of Central Department for Agriculture Cooperatives
- Central Union for Agriculture Cooperatives
- Cooperative Departments in Alexandria, Beheira, Gharbia, Qualyoubia, Sharkia, Ismailia, North Sinai
- Principal Bank for Development and Agriculture Credit at Gharbia
- Fruit and Vegetable Marketing Cooperatives, in Alexandria, Sharkia, Ismailia and North Sinai.
- Potato Producers Cooperative in Qalubia.

The MOA and the University of Alexandria were frequently involved in on-going program activities. Field activities organized around FtF core group farmers often included opportunities for them to work together with university professors and extension agents, cooperating together to transmit farming techniques to others.

In addition to the above institutions, associations are seeking the help of the FtF program. For example, the Behera Businessmen's Association, comprised of many Beheira farmers, has asked for technical help in the field of production and marketing.

C. COMMENT ON PLANS VERSUS ACHIEVEMENTS

Most start-up activities were completed as planned. Activities that were not completed include:

- Hiring new staff: 2 positions were still open at the end of the quarter, but should be filled during the next quarter.
- Procurement: Several non-expendable equipment items still need to be procured, and the vehicles have not yet been ordered due to the USAID ban on vehicle purchases.
- Planning: The Implementation Plan and the Annual Workplan were not finalized during the quarter, but should be submitted during the next quarter.

The following table shows the proposed plan versus achievements for programmatic components during the second quarter of the FtF Program.

ITEM	PROJECTED HALF YEAR	ACTUAL	%
CORE GROUP FARMERS	200	288	144
FARM VISITS BY U.S VOLUNTEERS	600	72	29
VOLUNTEER ASSIGNMENTS	20	6	30
FARMERS & EXTENSION AGENTS TRAINED IN THE USA	20	5	25
IMPROVED TECHNOLOGIES TRANSMITTED	60	40	67
TRAINING SESSIONS	150	66	44
NON CORE GROUP FARMERS PARTICIPATING IN THE ABOVE	2000	2169	109
SLIDES & VIDEO TRAINING PROGRAMS PRODUCED	-	-	-

As indicated by the above table, the FtF has exceeded some targets and fallen short on others. The main reason for not reaching mid-year targets in the areas of volunteer assignments, volunteer farm visits, participant training, and number of training sessions is that USAID did not authorize programmatic expenditures during the first quarter of the grant period. This meant that volunteer technical assistance and participant training did not occur during that quarter, and activities related in part to those two components, such as training sessions, fell short of expectations.

Although the FtF staff made every effort to accelerate the assignment of volunteers and the development of participant training programs in the second quarter, much of the staff's attention was focused on start-up activities detailed earlier in this report. Acceleration of volunteer assignments and participant training programs was also hindered due to the lead time required for recruitment and scheduling of volunteers and participants, and due to the Christmas holidays and the advent of Ramadan during the quarter.

FtF was able to select a greater number of core group farmers than anticipated because the Field Assistants, who were not required to assist as many volunteers or escort as many participant training groups, had more time to visit farms and identify core group candidates. These core group farmers have recruited non-core group farmers more quickly than anticipated.

Starting next quarter, the FtF staff will begin to track the number of farmers who adopt these technologies, and the number of technologies adopted, as required by the grant agreement.

D. PLANS FOR THE NEXT QUARTER MARCH - MAY 1994

Plans for the next quarter include the following:

- Make arrangements for 9 volunteers in the following commodities:
  - Tomato production
  - Apples and Pears (post harvest specialist, pathologist, entomologist).
  - Grapes (pathologist, entomologist).
  - Peaches production
  - Aquaculture
  - Citrus

- Send three participant groups to the USA to receive on-farm training in aquaculture, poultry and citrus, totalling 12 farmers and 3 extension agents.

- Continue linkages with the MOA, ARC, and other organizations.

- Start production of video training films in the following topics:
  - Tomatoes
  - Grapes

- Continue MIS data collection and complete design of system.

- Procure remaining equipment and vehicles

- Start planning for Training of Trainers by using outside consultants, with input from the FtF staff. Training programs will be conducted to increase the ability of core group farmers to advance the specific imported technologies they have adopted to their immediate surrounding community. This program will be developed in May.

- Conduct training sessions led by Field Assistants and assist core group farmers in conducting their own training sessions for non-core group farmers.

- Travel to the USA by FtF Program Director to review Participant Training Program implementation, to discuss VOCA volunteer recruitment procedures, and to work with US-based staff on plans for Year Two.

- Travel to the USA by FtF Volunteer Coordinator for an orientation to VOCA and ACDI headquarters, to review recruitment procedures, improve pre-departure orientation materials for volunteers, and work with US-based staff on plans for Year Two.

THIRD QUARTER TARGETS

ITEM	ACHIEVEMENTS TO DATE	THIRD QUARTER TARGETS	ANNUAL TARGETS
CORE GROUP FARMERS	288	100	400
FARM VISITS BY U.S. VOLUNTEERS	72	270	1200
VOLUNTEER ASSIGNMENTS	6	9	40
FARMERS AND EXTENSION AGENTS TRAINED IN THE USA	5	15	40
IMPROVED TECHNOLOGIES TRANSMITTED	40	40	160
TRAINING SESSIONS	66	75	300
NON CORE GROUP FARMERS PARTICIPATING IN THE ABOVE	2169	1000	4000
SLIDES AND VIDEO TRAINING PROGRAMS PRODUCED	-	-	2

APPENDIX A

SAMPLE OF VOLUNTEER'S FINAL REPORT

FINAL REPORT
ARDEN KASHISHIAN
EGYPT - DECEMBER 1993

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   *. BEING EXTENSION AND UNIVERSITY TOGETHER

1. INTRODUCTION

Egypt is the land of pharaohs and pyramids, this is well known, but to those of us who have had the pleasure of visiting the country-side know that Egypt has a well tuned agriculture base that has existed since time. The Nile river is the life blood for all that grows in Egypt but new lands are being developed in desert areas where underground water is being tapped - like all nations of the world - Egypt's population is growing and to feed the 50/60 million people is principally done by Nile River Valley farmers - and in large parts - Delta farmers. The project I was to work in was for post - harvest problems for tomatoes.

Tomatoes are a year-around crop in this country. Three crops per year are common. They are grown in low tunnels, some open, very few in hot houses. There are always tomatoes at Egypt markets, in various degrees of quality. No tomatoes are wasted. They some how sell all their production. I found the Egyptian farmers had the same problems as growers in the U.S.; marketing, packaging, labor, pest controls, etc., so I was at home so to speak.

2. PLACES/AREAS VISITED

A. CAIRO UNIVERSITY:

We made a short visit to the University Horticultural Department. I was shown their work in Hydroponic vegetable production. I found it very interesting. Dr. Ahmed Eissa was our host and his aid was Dr. Ossama Ahmed El Bebawy. My concern was how will this knowledge be used in Egypt. Farmers are not in need of this new system; a thought only.

B. CAIRO COUNTRY-SIDE:

Hani Abou Ali and Mohamed Moussa took me to two villages near Cairo; El Katta and Beni Salama. At El Katta we visited a strawberry farmer. He was harvesting for the export market. We saw his packing shed where the ladies were placing the berries in cartons very carefully. The fields were drip irrigated, with low tunnels and looked very good. We discussed fruit set and varieties and also some problems in nutrition. I suggested that he watch zinc levels to help in better fruit set. They were growing several varieties. May be the use of preplant potash and magnesium would have benefitted him.
We visited a tomato grower on this trip that was packing fruits as we arrived. It was the last harvest for this field. This was at Beni Salama, the farmer showed us a new field that was in very good condition. They would begin harvest in early 1994. Faculta 38 was their main variety, they also used # 56 as well. The were packing excellent light greens for expost to Saudi Arabia. The were packing in wood boxes/2 layer, doing well under the conditions. They have a major problem with white fly. We were to find this to be the main problem in all tomato growing areas of Egypt. Many crops are a host for white fly so the pest is wide spread, just like the USA. Early Blight, mishapen fruit, mosaic fruit set were among topics iscussed. Most controls being used were ok but overdone. Timing was tsressed and controls in nurseries was an important suggestion. The white fly carries the viruses everywhere, from everywhere, I couldn't give a good control for white fly, using too many chemicals is upsetting the ecology and this promotes more problems, they agreed.

C. ALEXANDRIA:

My visit here started with a meeting at Alexandria University. We met with Dr. Abdul Aziz, after some anise tea (very good), we met with some professors and went to the Nubaria area. we had a village seminar with one of the earlier graduate groups who had been given land by the Government. The village was called Basra. I wrote three pages of notes at this seminar. I really learned a lot from these farmers. I was to help them butt it went both ways. We talked about many things and the open discussion was lively. Topics discussed:

- Plant Population
- White Fly
- The crates they use
- Use of sulfur - preplant
- Crop rotation

- Early/late blight
- Fungicides - alternate use
- Ecology
- Varieties
- Fertilizer program
- Sanitation at Post Harvest
- Not to over spray
- Resistant seed
- Soil - water pH - importance

All subjects got a response from the group and me. Specific recommendation in daily report can be read to find more detail. Very enjoyable seminar.
There were other visits in the Alexandria/Nubaria districts. We made two visits to El Roda farm. We met with the vegetable manager. They were harvesting cucumbers from their hot houses, very good quality. We returned a few days later to see the onion (green) harvest. We met Dr. El Sayed Kassem Hashem on our second visit at the farm and met again at his office on Christmas day to discuss post Harvest Transplantation as well as reveiwing all other subjects. El Roda farm exports tomatces, oniones, melons and grapes. They have a pre-cooler. They are faned air cooling to lower tempaeratures quickly. Like the other visits, our areas of discussions were the same on this farm but we got into some conversations on:

- precooling
- Transportation temperatures
- Changes in temperature
- Temperature recirding devices
- Cargo insurance
- Compatibility of fruits
- Need for varieties of all vegetables that travel better

I will be sending much information to Dr. Sayed.

D. TANTA:

Tanta is in the central Delta and is a hub for farmers from a vast area. They have 462,000 feddans of land devoted to agriculture. We met with the Director of Extension affair, Dr. Maher Hassan Sakr. He gave us a good review of the area prior to the seminar with the local farmers. After a good visit with other extension people. We want to the grower seminar. Dr. Hassan Mina, a potato extension specialist was with us and was very helpful. He was very well trained in his field and the growers respected him. Although our topic was to be tomatoes, as usual, our subjectsof interest shifted often. Sherine interpreted for me and was excellent. Mohamed Khafaguy introduced me to the farmer group. As stated before, their areas of interest are very similar to their counterparts in other rural areas. This group got into some new areas that proved interesting and I was able to have some good questions asked, and hopefully, I gave good answers as well. Subjects covered at this meeting:

- White fly as usual
- pH of water & soil
- Sulfur - soil applied
- Sulfur - used as fungicide
- Rotation - not well planned
- Preplant ferilizers - good program
- Over spraying - rec. careful use
- Salt tolerant varieties wanted

- Harvest of green fruit - they don't like
- Herbicides - some use of Enide - good
- Calcium use v/s blossom end rot
- Chemical use v/s Ecology

You can see how a lively discussion can be had with the above subjects. We talked at length about water used in sprays, if the pH is high, the effect of chemicals can be less with high pH of water. The water needs to be buffered. I can recomend use of potasium nitrate for this, and it will also help nutritionally as well.

E. EL ARISH:

El Arish is located in the northern Sinai. Mohamed El Shenawi was with me. He was really a good interpreter and driver Abdu was carefully taking us everywhere. We were welcomed everywhere we went. We made five farm visits including two in the bedouin area of Rafah. In all visits, the farmers were very kind, very interested in discussing subjects related to tomatoes and were always polite and courtoeus. We started at the office of the MOA in this governorate.
The main man wasn't available for a couple of days due to a death in his family but others were ready to help us. We were in good hands with Dr. Saleh Mohamed Ghanam. He was excellent and helpful and very interested in our project. The growers we met were growing hot house cucumbers and low - tunnel tomatoes. In all instances we found men doing very well. The white fly was the main topic again and no good control recommendations were given because there are none. The white fly is carying the viruses and this is the problem that white fly creates. In all the farms, the grower was used to the ways that have been tested in their area. They use fungicides in the nurseries to grow healthy seedlings. There was no way to recommend any changes except to stress sanitation of surrounding areas of fields that may harbour harmful insects in different weed species. Again, we cautioned about over spraying in order to build up a good population of predator insects. One grower was using TEMIK for pre-plant nematode control in the low tunnels. this chemical is not registered for use in tomatoes anymore. Great care must be taken.

We put on a peach pruning demonstration for one farmer, who was also an extension agent. Although his brother was doing the kfarming, he eas in fact an owner/grower. This was interesting because the area grows about 100,000 tons of peaches annually. All under rain water, they have some early, low chill varieties they harvest in April/May and later varioeties they harvest in June/July. They sell the entire crop fresh, whenever they can find buyers. Sometimes in years of high prodcution, they have low prices.

Under rain water irrigation, it is important to control water use by the trees. They have wide space planting which is good. My recommendation was to prune off more wood to lighten the crop load on the tree. This helps make better giving of fruits as well. They agreed to try this method. The use of good diamant sprays will also help in control of scale, twig bore, and flat head bore. We also talked about painting tree trunks with water base white paint to protect the trees from sun burn. They liked this idea. I'ld like to suggest to ACDI that volunteers to work in peaches, olives and figs, be brought to El Arish.

Before leaving El Arish, we had the pleasure of meeting Mr. Abdullah Nafea Yacoub. He is the General Manager of MOA office of the governorate of Northern Soinai. As mentioned before, he had been gone due to family business. He took great interest in ACDI and agreed to have more contact with Mr. Shinawy to assure more visits in this part of Egypt. Many crops are grown here, not only tomatoes and peaches but a large olive crop is in place (alternate bearing trees), figs, dates and some mangoes too. Mr. Yacoub had a great interest in processing peaches and tomatoes, canning, drying for both crops. I explained the drying process fro each, and we have agreed to explore this area in detail in more detail in 1994. he asked me to return in June to see the harvest and to also send information in the processing. They are willing to try

small trials for drying this coming year (1994) and would like more information on canning. Mr. Sabry El Hawary, manager of the 30-40 some coops in region, also echoed these same ideas. ACDI can certainly make a presence here and ACDI will find good cooperation.

F. SADAT CITY:

Sadat City is located on the Alex/Cairo freeway. This is a new city with emphasis on industry. We visited a cold storage and packing shed owned by El Aguizy industries. we were given a tour by manager Salah Fadlallah. This unit was very modern. They have refrigerated trucks to transport their crops and tyhe rooms in the strorage are well built to give good cooling. Pre-cooling rooms were excellent. The loading docks were neat and very functional. They were packing flat peas and snap beans when we arrived. They export to Saudi Arabia and have sent grapes to Amsterdam. I was impressed and I highly recommend to ACDI volunteers in future visits to come here to see this, whatever your project is, no matter, this is the future of Egyptian agriculture. The new wholesale market has be another stop for all volunteers.

3. DAMANHOUR

I made two visits to Damanhour. The ACDI staff has asked me to address teh agriculture staff at Alexandria University branch and to make a presentation to the Damanhour Businessmen also. Both sessions were a humbling experience. A farm boy such as I, I was moved by both meetings. I was honored by those who attended and I'm going to remember both meetings forever. I'm deeply flatered that there are those that are interested in me. This was a first for me and I'm grateful to all those hthat made it possible. My hope and wish is that I was bale to relay information and new ideas that will be useful in Egypt's future. The commenst that follow may not seem important but in each meeting we had some conversations on many subjects.

* The Faculty of Agriculture:

Assistant Dean Dr. Khalil Deraz was our host because Dean Abdul Fattah Etman was in a meeting. This was round table meeting, and the ag. staff was a young group of men & women that were charged with educating the new students. To see young doctors that are dedicated to their country's needs is heart warming. They are all bright, clean/cut, eager to work professors that hold the future of Egypt's agriculture in their hands. I assure all Egypt, they are very capable, very much concerned about the future and I'm suer that their students will reflect their deliberation. Every thing that will encourage them will be a plus.
Although my introduction by Sherine was mainly for post harvest problems in tomatoes, I quickly discivered the wide areas of interest in the group to many subjects. Several of the group had studied in teh USA. We talked about why the USA harvest green/pink tomatoes with no flavor. The photos I showed them about this was reviewed, but we all agreed that vine-ripe are best in Egypt. Tomatoes are harvested ripe and there is no waste and in some cases, little profit as well. We touched on the GATT agreement and NAFTA. We talked controls for white fly, which I could give them. The use of heat treatment in apples to control fruit fly and control scab. I did recommend this treatment because I believe it shortens shelf-live. We talked about pink-ball worm control in cotton, and it went on and on.

I am committed to help the faculty as much as possible, I assured them ithat I will send information on the new controls for white fly, I plan to send some U.S. work done in arid regions and hopefully, to return, they invited me.

* Businessmen's association:

This meeting was especially impressive because the chairman of the association was former governor of Beheira, Mr. Hussein Dabbous. Thsi day, Dec. 23rd, was also the grand opening for new offices of this group, we witnessed ribbon cutting, listened to speakesr, they prayed for the association, and then we started our presentation. The group consisted of local businessmen, some farmesr/exporters who were the main shakers/movers of Damanhour. Mr. Dabbous was the man with vision that brought Alexandria University branch to Damanhour and we were advised that a new agriculture school will open in the new lands of the west in fall of 1994. These men are helping in shaping the future of their country. I made few opening remarks as what my mission was and assured the group that I was here to help. Damanhour is a potato growing center, with aboutr 40% of the crop being exported. Citrus is also planted in many feddans. (With us was Dr. Ahmed El Gamal, he's a professor at Alexandria University in Saba Pasha, he's a potato specialist and a native of Damanhour. He was very helpful to me in fielding questions and also showed interest in my comments). There are Post Harvest problems in the tomato crop grown here. Early blight, molds, blossom end rot are all present. They are aware of these problems and are really interested in finding solutions so that they can export some of the crop. As before, I recommend careful use of

pesticides and fungicides. Over use will alter Ecology and produce even more serious problems. They asked about varieties that are salt tolerant (pH high soils here). A native variety "Edco" is salt tolerant and some gene altering has produced some satisfactory results. White fly control again got top billing. Calcium sprays for blossom end rot and growing firm / red tomatoes is their goal. I promised to send information that will helpful in all these areas. they are willing to try exporting some tomatoes into Europe in 1994 to "try" the market, I promised to help them in this venture because of contacts I have there, at their invitation, I promised to return. A special luncheon after seminar was lavish, great food, a truely great experience for me.

4. COMMENTS AND OBSERVATIONS

It would be incorrect to say that at each seminar or meeting that I made recommendations at every one will be using, only in a few cases was I firm in what methods to use for certain problems. Most of the time, the growers were right on as what the problem was, and what should be done. I believe in all meetings, my emphasis was to find solutions that are feasible. The following recommendationscan be used by all growers for all crops:

1. Identify the problems.

2. Don't over spray, protect Ecology. Double dosage does not mean double kill.

3. Use soil sulphur to lower soil pH. It will have benefits long reaching.

4. Use buffers to lower pH of water used in sprays. I suggested use of potassium nitrate. It works and effects of pesticides and fungicides will be longer. Good for foliar potash as well.

5. Sanitation. Be clean in your fields, to have less hoods for pests.

6. Alternate sprays. Try time spray for better control. It can also help in higher populations of beneficial insects.

7. Post harvest problems begin in the seedling stage, so some controls early will mean protection that will last into the growing season, meanbing less sparaying.

8. Fertilizer programs were all using manure. This is good and should be continued. Watch high nitrogen levels after continuous use.

9. Remember to handle all chemicals with care. They can be harmful to humans.

And if there is some doubt, please ask your extension agent. If he can't help, ask ACDI to contact me and I'll find a solutionfor anyone I can. Information on white fly control will be automatic, because it is a problem worldwide.

An observation that was noticed everywhere was empty containers of chemicals. This is especially risky when there are children around and in a lot of cases, the workers are bare footed and the chemicals may be harmful. Also one grower was using a material that wasn't legal (comments earlier). Some regional workshops on chemicals and their use would be a great program. It can be an awareness program, maybe have some seminars in the high schools, good idea.

5. IDEAS FOR FUTURE RESEARCH

During my travels on thios visit, I saw some areas that could use some research, may be there is some research, may be there is some going on, the subjects I suggest, if so, how is it getting to the farmers. These are only suggestions: (not marked in importance)

1. Crop rotation. Different areas may require different crops.

2. Ecology. An awareness program, at least some educational meetings.

3. Water. Surplus water that runs out of the farm, can it be harmful?

4. Beneficial insects. Identify them. Show that they can help.

5. Water conservation.

6. Better packaging. The reed crate will always be here, but others may be used too.

7. Try to do some research where extension and university are working together. Then, have farmers also do experimenting in their fields, show & tell, it works.

6. ACKNOWLEDGEMENT

I met some wonderful and kind people on my visit. I couldn't have done anything alone, all days were well planned and details were taken care of for me at every step. Sherine, Mohamed Khafaguy, Hanan, El Bana my driver, all made the Alex. area an easy tour.

Cairo office, everyone was helping me, Mahmoud Kamel, Hani, Suzi, drivers Adel and Makram, many more. From Mansoura, Mohamed El Shenawy, and our driver Abdul, I was well taken care of, I had lots of fun and I'll remember my new friends always. I hope I'll be invited to return.

A special thanks to Director Dave Davies for his confidence in me and also to Dennis Diligent at VOCA for his support.

This was my third visit to Egypt. I hope to make many more.

APPENDIX B

SAMPLE OF PARTICIPANT TRAINEE'S REPORT

تقرير

عن الدورة التدريبية ضمن برنامج مُزارع الى مُزارع
فى الفترة من ١٩ يناير حتى ٢١ فبراير ١٩٩٤

موضوع الدورة : طرق تقليم العنب والفاكهة المتساقطة .

مقدمة : بصفة عامة تم الاعداد لبرنامج الدورة اعدادا جيدا ساعد على تحقيق الغرض منها .

النتائج :

١ - تم تحقيق الغرض الأساسى للدورة التدريبية وهو الأطلاع على طرق التقليم للعنب والفاكهة المتساقطة وعموما فكل الطرق المتبعة ترمى الى الاستفادة بالحد الأقصى من الطاقة الضوئية وبما يتناسب مع ظروف وخواص الأصناف وطبيعة التربة وادارة المزارع ، والى جانب أن الطرق المتبعة ترمى الى الاستفادة من الطاقة الضوئية فى تحسين جودة الثمار فان هناك اتجاه واضح فى تحقيق أحد أغراض التقليم الأساسية وهو خف الثمار ، وهى نفس الفلسفة التى تتبع عند التقليم من مزارع الشركة ، ويمكن الاستفادة من طريقة Prependicular V من مزارع الشركة وباقى المزارع عموما لأنها تسمح بالتكثيف مع عدم الأضرار بجودة الثمار ، وذلك فى الخوخ والمشمش والبرقوق خصوصا مع استخدام الأصول المقصرة فى الأراضى منخفض الخصوبة .

٢ - بالاحظ أن أدارة المزارع والأدارة عموما للمزارع تخضع لبرامج جيدة وتتم بطريقة لا تخضع للتقريب ولكن هناك ألتزام شديد بمعرفة تعليمات وزارة الزراعة التى لا يقوم بأعطائها الى مرشدين مرخص لهم بذلك مع الاعتماد على العلم بصفة أساسية ، وقام كل مزارع تقريبا بعمل مزرعة تجريبية خاصة به يجرب فيها أى جديد يراه أو ينصح به وذلك يبدأ من خط واحد الى عدة أفدنة .

٣ - الاتجاه بشدة الى النظم المتكاملة فى المكافحة والمحافظة على الحياة الطبيعية وتوازن البيئة بما يدفع عوامل البيئة الى أن تسيطر على بعضها فى دورة لصالح المحصول الأساسى مع استخدام محاصيل التغطية البقولية والنجيلية كبيئة لتربية الاعداء الطبيعية بين الخطوط ، وكذلك كمصدر للمادة العضوية ، وهو النظام المتبع فى مصر فضلا عن استخدام الرى السطحى ولكن بحسب عدم رش محصول التغطية بالمبيدات .

٤ ـ تم الاطلاع على خطوط الميكنة فى خدمة المزارع ويتم الاعتماد عليها جزئيا فى التقليم وقيمة استخدام المعدات بطريقة سليمة وهى معدات متطورة مخصصة لأغراض محددة تؤديها بأمتياز ، نجد أنها معدات ضخمة ويمكن الاستفادة بالمعدات التى تتناسب كفائتها مع حجم المزارع فى مصر مثل معدات التقليم وتكسير نواتجة ٠

٥ ـ اتاحت الدورة حضور معرض للمعدات الزراعية وبصفة عامة المعرض يحتوى على معدات تستخدم أحدث تكنولوجيا العصر ولكن معظم المعدات ثقيلة وتحتاج الى مزارع كبيرة وبها تكنولوجيا عالية ويمكن الاستفادة من بعضها خاصة فى المزارع الكبيرة بمصر مع توفير أطقم الصيانة وقطع الغيار لأن معظمها ذات كفاء ة عالية فى أداء العمل واستخدام الوقود والخامات مثل المبيدات وخلافة ٠

٦ ـ تلاحظ الاتجاه بشدة الى التصنيع الزراعى الخفيف مثل التجفيف وعمل العصائر والمركزات للاستفادة من وفرة الانتاج وعدم خفض سعره فى حالة استخدامه طازجا ، وهذا الاتجاه يجب تعزيزه فى مصر خاصة مع توفر وزيادة انتاج محاصيل الخضر والفاكهة نتيجة لجهود وزارة الزراعة ومراكز البحث العلمى والقطاع الخاص الزراعى ٠

٧ ـ الترشيد الشديد لاستخدام المياه بأستخدام المواسير والقنواتالمبطنة لنقلها مع تسوية الأرض وضبط ميولها بشدة ، بحيث يتم استبعاد أى فاقد من عمليات النقل وذلك مع طرق الرى السطحى بحيث أن كفاء ة الرى السطحى تصل الى درجة عالية جدا تصل الى قرب ٩٠٪ وهو ما يقارب الرى بالتنقيط واذا ما اتبع هذا النظام فى كل المساحات التى تروى سطحيا فى الدلتا وغيره ليتم توفير كميات كبيرة من المياه التى تذهب الى المصارف نتيجة لتسربها من المجارى المائية أثناء نقل المياه غير أن ذلك يحتاج الى استثمارات ضخمة لتركيب مثل هذه الخطوط ، غير أن ذلك موضوع خطير فى مصر ويحتاج الى جهد لأن الماء هو أغلى ما فى الحياة ٠

٨ ـ تمت زيادة بعض محطات تعبئة الفاكهة والتصنيع الزراعى وهى محطات متكاملة تتم دخول المنتج الخام من جانب وخروجه من الجانب الآخر جاهز للاستهلاك وبدرجات جودة مختلفة مع استخدام أقل عدد من العمالة نتيجة لاتباع السبل الادارية السليمة والعلمية ، مع أستخدام تقنيات عاليه فى الفرز والتدريج واستخدام نظم التبريد المبدئى السريع والمخازن المبردة وكل العمليات الأخرى المعروفة جيدا فى مصر ولكن لا يتم أتباعها نتيجة لعدم توافرها أو عدم المعرفة

٩ ـ أتاحت الدورة الفرصة للاضطلاع على بعض المعدات التى يمكن استيرادها عن طريق برنامج استيراد المعدات المدعوم من هيئة التنمية الأمريكية .

١٠ ـ أتاحت الدورة الفرصة للأضطلاع على مواضيع جانبية كثيرة مثل المكافحة المتكاملة ، ادارة المزارع ، نظم الرى بالتنقيط ..... وخلافة .

بعض الملاحظات :

١ ـ اذا ماتم الاعداد فى الدورات القادمة لاتاحة الفرصة لزيارة مزارع صغيرة يكون ذلك مناسبا لظروف الزراعة المصرية عموما .

٢ ـ يراعى تجانس المجموعات التى تخرج للتدريب لتكون مطالبهم واغراضهم بما يتيح فرصة الاستفادة اكثر منعا لتشتت المواضيع .

٣ ـ يراعى الاتصال اكثر بالحياه الثقافية الامريكية بأضافة بعض الزيارات لأماكن معينة مثل المدارس وخلافة مع اتاحة الفرصة لممثل المشروع بعرض بعض أفلام الفيديو والشرائح لبيان مدى تقدم التنمية والمعالم الثقافية فى مصر الحديثة .

٤ ـ يتم ارسال مجموعات لديها القدرة على هضم المعلومات بسرعة حيث أن فرصة الزيارة أو الدورة قصيرة، ومن ثم ليتسنى رفع الاستفادة من هذا الوقت يجب أن يكون مستوى المتدرب مقبولا بدرجة تسمح له بالاستيعاب السريع.

رئيس قطاع الفاكهة

١٩٩٤ / ٢ / ٢٢

د/ محمد محمود شحاته