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**Consultancy Report**

***Agricultural Cooperative Union and Input Supply  
Operational Study***

***Cooperative Development Project  
HNE-0159-A-00-2050-00***

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COOPERATIVE DEVELOPMENT PROJECT  
WEST BANK  
MAY-JUNE, 1994

I. EXECUTIVE SUMMARY

A. NAME OF ASSIGNMENT: COOPERATIVE DEVELOPMENT PROJECT - WEST BANK

B. DATES OF ASSIGNMENT: MAY 25 TO JUNE 10, 1994

C. BENEFICIARY ORGANIZATION: CDP

D. SCOPE OF WORK

1. Visit ACU and 8 member coops to gain understanding of situation.
2. Evaluate expansion of coops from marketing to supply coops.
3. Visit local agricultural suppliers to learn logistics in area.
4. Evaluate local market competition versus U.S. origin supplies.
5. Prepare suggested concept for expanding in-put supply business.
6. Make recommendations to CDP for future action plan regarding ACU.
7. Review existing CDP reports and plans.

The scope of the work was well accomplished considering the unusual conditions that exist in the West Bank due to the unpredictable day-to-day military operations of the Israeli military forces in the Occupied Territory. Although the schedule during the assignment had to be altered several times due to military operations, and appointments were often delayed, the planned agenda was accomplished. The military operations were distracting at times, especially when the obvious intent was to harass and delay Palestinian vehicular movement on the highways.

Recommendations to CDP are as follows:

1. Determine the feasibility of ACU providing a soil testing service for farmers.
2. Support ACU in the training of farmers in the proper use and safe handling of pesticides.
3. Initiate feed performance trials for sheep and goats.
4. Continue training programs for the benefit of coop directors in leadership and responsibilities.
5. Assist ACU in expanding their in-put supply business.

The motivation, enthusiasm, and support by CDP is commendable. In spite of the on-going oppressive restrictions by the Israeli military, the CDP staff continues a high level of commitment and professional activity.

COOPERATIVE DEVELOPMENT PROJECT  
WEST BANK

II. FINAL REPORT

A. SCOPE OF WORK

1. Visit agricultural marketing and supply cooperatives and talk to directors, managers, staff and members to assess the needs and priorities regarding input supplies.
2. Visit the facilities of cooperatives interested in input supply operations to look closely at the operational obstacles and market opportunities for the cooperatives.
3. Visit local (WB, Israeli and Jordanian) suppliers, importers, freight forwarders, brokers, etc. to gain knowledge of the wholesale market for input supplies.
4. Review reports and plans of CDP and the cooperatives (as well as the Union) concerning the development of the input supply business.
5. Make recommendations regarding warehousing, purchasing, transport, inventory management, sales, promotion, etc. for the input supply business.
6. Assist the staff of CDP and the leadership of the Agricultural Cooperative Union develop a long-term strategic plan for the input supply business.
7. Prepare a suggested training and technical assistant program for the individuals involved in the development plan for the input supply business.
8. Conduct a workshop for the the individuals interested in the establishment, marketing and management of an agricultural input supply business.

## B. DAILY WORK PLAN

MAY 25-26 (WEDNESDAY - THURSDAY)

Departed Richmond, Va, 2:10 p.m. Wednesday, through JFK, New York and arrived in Tel Aviv at 3:30 pm, on Thursday, two hours late. Upon arrival at National Palace Hotel, I was briefed by Rex Schultz on the CDP project with a review of the mission, goals, and details of the ACU project.

During dinner at the National Palace Hotel, I chanced to meet Drs. Swanson and Kuhlman, College of Agriculture, University of Illinois. They had been in the West Bank for two days and shared their concerns about the apparent over-use of pesticides by farmers on vegetable crops. They revealed that the labels on the pesticide containers were written in Hebrew, and the farmers' language was Arabic, therefore they could not read the instructions on the labels.

MAY 27 (FRIDAY - MOSLEM SABBETH)

Departed CDP Office for Nablus, and was met halfway by Maher Channam, CDP Accounting Specialist, who drove to the CDP office at Nablus. I was briefed on the training programs CDP is conducting for ACU's eight member cooperatives' members on administration and technical courses taught. About eight or ten nice booklets had been printed in Arabic to enhance the learning process. We were then joined by Bassam Shouli, ACU Administrator, (who would be my escort for the duration of my trip). We drove to the home of Bassam Walweel, General Manager of ACU, and during dinner met with Mahmood Dibas, a wholesaler for agronomic production supplies, ie, seed, fertilizer, and chemicals. Dibas discussed the worsening situation on credit terms with the Israeli distributors and the credit squeeze the farmers were caught in due to the reduction in exports to Jordan as a result of political fallout from the Gulf War. After a very pleasant dinner and social visit, we drove to the guest house of AL-NAJAH UNIVERSITY which would be my residence while in the West Bank.

MAY 28 (SATURDAY A.M.)

Departed ACU office with Bassam Shouli and drove to Qualqilia and visited with nine board members and the manager. The coop has 550 members, growing citrus and vegetables - irrigated and non-irrigated. The coop was established in 1963, shut down during the '67 war, and was re-activated in 1978. The members farm about 2,000 acres of which 125 acres are vegetable greenhouses, 600 acres of vegetables not in greenhouses, and 1,250 acres of citrus.

The coop's assets include: \$70,000 cash; three tractors with attachments for custom service for members, a bulldozer for land reclamation, a small olive press, and a truck licensed to haul produce to the Jordanian border. Farmers pay \$150 to join the coop. The board acknowledged they need to do a better job of marketing vegetables, including standard grading and packing. No refrigeration is available so all produce has to be utilized in the "fresh market". Their future interest includes having a processing plant to grade, package, and refrigerate.

We toured their store/warehouse (15' X 30') which had only a few packages of seed, a few liter size containers of pesticide, and a few bags of soluble and non-soluble fertilizer. We then visited a vegetable farm along the Israeli border. Eggplant, corn, and cauliflower were grown in the fields, and cucumbers, greenbeans, and tomatoes were grown in greenhouses. The greenhouses were very hot, perhaps 110 degrees, because they kept them sealed to prevent the "white fly" from coming in and spreading a virus (?) on the plants. We saw cucumbers about two feet high on a string that were reported to be 21 days from planting and ready to start producing. The cucumbers in the greenhouse will produce for about 8-10 weeks and yield 50 metric tons per 1/4 acre. Fertilizer is applied through drip irrigation. Information on the amount of water and fertilizer used was not available, but greenhouse production is double that of crops grown in open fields.

Members purchase about 15% of their supplies from the coop. The coop only started selling supplies last year and there are two other competitors in town. Soil in the area is very deep and fertile.

MAY 28 (SATURDAY P.M.)

Drove to coop in Tulkarem and met with seven board members and the manager. The coop was established in 1981 and has 1,500 members living in 30 villages in the region. The coop has eight employees. The region has 30,000 acres of olives, 4,000 acres of citrus, 1000 acres of vegetable greenhouses, and 2,500 acres of vegetables grown in the fields. Drip irrigation is used for both greenhouses and the fields.

The board used a lot of time relating their problems with the Israeli Government regarding shortage of water, not allowing them to market in Israel, and that they were captives of the Israeli suppliers who charged high prices. They are very concerned about the disappearing market for vegetables and olive oil. They did acknowledge that since the signing of the peace accord, more Israeli consumers are coming into the West Bank in this area to buy vegetables because they are cheaper than in Israel, but this was a small fraction of what they needed to export.

MAY 29 (SUNDAY A.M.)

Worked in the ACU office with Bassam Shouli, reviewing product information on vegetable and crop seed, equipment brochures, and information on sheep and goat feeds and feeding programs. We discussed concepts of a farm supply business, including market research, selecting the appropriate products, pricing procedures, inventory management, expenses, and sales concepts using the "features and benefit" approach in selling to farmers.

MAY 29 (SUNDAY P.M.)

Toured the city of Nablus and surrounding area, including a visit to the highest mountain in West Bank, which reveals ruins unearthed two years ago that were built by the Romans during their occupation over 2,500 years ago. A 600 year old mosque remains intact today.

Driving back to Nablus, we visited the University. We met with Dr. Ajjour, Department of Plant Production & Protection. He shared that he had hosted Dr Musselman, of Old Dominion University, (Hampton, VA) for one year in Nablus. We discussed the white fly problem and the need for intensive research to find a solution to the pest. It lays eggs every 8 hours for 48 hours, creating an almost impossible situation to control with pesticides. We also discussed the severe need for soil testing service for farmers who are most likely over fertilizing and using only past experience for current procedures. Dr. Ajjour is very receptive to participating in a project with CDP, ACU, and a good university in the U.S. to train his graduate students to do soil analysis. The Nablus coop has a soil testing laboratory, but no one knows how to use the equipment or knows if the equipment is adequate for complete soil testing service.

After visiting with Dr. Ajjour, we attended a song fest of about 800 students as part of a cultural fair for the city of Nablus, sponsored by the University. The students were happy, spirited, well behaved, and everyone was having a good time. Even though I was perhaps the only "paleface" in sight, the students were polite and friendly.

#### MAY 30 (MONDAY)

We drove to Jenin and visited with eight board members and their manager. This was a very impressive board and were blessed with a strong, capable manager. The coop was established in 1970 and has 600 members. The Jenin region has a population of 200,000 in 62 villages, covering an area of 145,000 acres. Agricultural acreage is 85,000, with only 3,000 acres irrigated. Of the 85,000 acres, 40,000 is in olive trees, 1,500 acres citrus and fruit, 10,000 acres wheat, and the remainder in vegetables. Average wheat yield is 65 bushels per acre, non-irrigated. Both hard and soft wheat is planted, in November, and harvested in late May and early June. The Jenin area is also the leading producer of onions - red and white - in West Bank.

We visited several farms. The first was a sheep farm with 100 sheep. The present price for a live finished lamb is about \$2.50 per pound, and are sold at 110-120 pounds. The next farm was an unusually large farm, having about 200 acres in citrus and wheat, much of it rented from other landowners. On this farm was a well, operated by the farmer, which was the only water source for Jenin and nine surrounding villages with a total population of 20,000. Jenin got their electricity from a diesel powered generator, but some of the other villages had no electricity. Water is delivered by wagon tanks, owned by individuals who have tractors, to local people for \$1.00 per cubic meter.

We visited their new warehouse site, in an area described as an industrial park. The warehouse will be ready in two weeks, but they will continue using the old location in the center of town as a retail facility. This is a strong coop, very progressive, and is receptive to new ideas and wants to do test and demonstration plots.

Next we drove into an area of intensive farming, about 5,000 acres of flat land surrounded by sloping hills. This was the largest contiguous cultivated area in West Bank. The land was farmed by several hundred families who lived in the surrounding villages. All crops were non-irrigated on fertile, deep soil. Crops grown were cucumbers, eggplant, tomatoes, watermelon, canteloupe, squash, greenbeans, dwarf okra, wheat and chickpeas - a special pea eaten from green pods as a snack food and when dried is used for garnish with certain dishes. One of the farmers insisted that we visit his "hootch", a temporary shelter built on stilts in the middle of his fields where the family actually lives most of the harvest season. His 100 year old mother was there too, helping with the cooking and other chores. He and his four sons and brother "rolled their own" cigarettes while we discussed crop practices, seed varieties, marketing, and many other aspects of farming. The portable television was also there for evening entertainment. They shared their turkish coffee, sweet tea, cookies and candy, as we sat on the sleeping pads with the warm winds blowing over the area. They were a typical farm family. Worked hard, had and needed very little, were kind and generous, and offered hospitality second to none.

As we drove back to Nablus, we stopped by a village to check on a sick ACU employee (no phones in the village so he could not be called). After a visit, more coffee and tea, we went to another village at the request of another ACU employee, who wanted me to meet a professor from the University who heard I was in the area. So, we visited Dr Jamal Abo Omar, who had obtained his PhD in ruminant nutrition from Colorado. He wanted to discuss the possibility of working with a U.S. agriculture organization to get improved sheep genetics and also do research on using the residue from olive presses and citrus presses for feeding cattle, sheep and goats.

MAY 31 (TUESDAY)

We drove east from Nablus to the Jordan Valley, and then south to Jericho to visit the Jericho coop. (We were late due to unanticipated delays at several Israeli military checkpoints along the way.) When we arrived, the manager and three board members were present to meet with us. The coop was established in 1956, has 2,500 members, and an area of 100,000 acres. Due to the location (600 feet below sea level) the soil is becoming more salty, requires more water - which is already in short supply and getting more salty. This area has some long term challenges. The majority of the 1,200 acres of citrus was planted in 1955 and needs replacing.

The manager forgot to give us financial information. The coop does provide plowing services - both turn-plow and chisel to members at a cost of \$28 and \$16. The manager implied that large land owners and vegetable brokers controlled the market and left the small farmer with practically no profit. The manager, Jihad Haddad, spoke very good English and is very anxious to establish a grading, packing, refrigeration facility for members, but the great barrier is getting access to the markets in Europe. Perhaps the economic part of the peace accord will afford a new opportunity.

It was extremely hot and no farmers were available to visit with on farms. At someone's suggestion, we visited the new PLO police headquarters in Jericho and had a very pleasant visit with the new police chief who said they had practically no supplies for the 700 policemen, but they were getting by and the area seemed peaceful.

We then drove back north through the Jordan Valley, passing numerous Israeli operated farms of grapes, date trees, greenhouses for vegetables and flowers, and several livestock and poultry operations. Palestinians provide the labor for these farms.

Before arriving back at Nablus, we visited several prime olive groves and a farmer with 130 bee hives. He requested information on bee management and what products to use for diseases. Other than normal pruning and some fertilizer, olives require no crop protection (chemicals). The olives around the Nablus area are noted for low acidity and low cholesterol.

JUNE 1 (WEDNESDAY A.M.)

We drove from Nablus to Hebron, encountering many delays due to military checkpoints and military operations in and around the village of Ramallah. We finally arrived at Hebron and spent about 45 minutes with the manager and five board members; the chairman was on an agriculture visit to Egypt. The coop has 1,450 members with agriculture production of 85,000 acres. The largest crop is grapes, consisting of 16,000 acres, next is plums - 4,000 acres, plus peaches and apples. There are many sheep and goats in the area, but the amount of acres devoted to this was not mentioned.

The manager thinks the greatest need for the future is a grape juice processing plant. During a short discussion it became obvious that this was an idea, not a plan. The costs was estimated at \$3 million. The manager and board agreed that under today's environment, it would be difficult to market the product. The area would lend itself to having sheep and goat feeding trials.

JUNE 1 (WEDNESDAY P.M.)

We drove north, back through Bethlehem, and arrived at Ramallah. The area was somewhat tense as a result of problems the preceeding day and also that morning. At the coop office, we met with seven board members and the manager. Several of the board members spoke very good English. The coop was formed in 1985, has 1,300 members, plus 2,000 members in subsidiary coops. Services to members include: extension information, certificates of origin for members shipping vegetables to Jordan, a bulldozer for land reclamation, two tractors for plowing or spraying, ag input supplies, and credit to farmers.

The coop has leased about two acres which are being used for vegetable production research, and includes a broiler facility housing about 2,000 chickens. They are presently conducting a joint project with ANERA on using waste water for irrigation of wheat and artichokes. They have also begun a tree nursery for growing olive and fruit trees.

The board is highly energized and progressive. They are totally committed to expanding their ag input supply line and are very interested in adding supplies from Southern States. They asked for seed samples for conducting test plots.



The small salesroom/warehouse area contained the largest line of input supplies of any other coops. They had several SOLO and CHAPIN sprayers available for sale. We visited the research area about five miles out of the village and enjoyed a nice lunch and had a lengthy discussion about many issues involving agriculture in the West Bank.

Having been previously invited by Bassam Walweel to attend a meeting of ACU board members with the Commander of the Palestian Forces headquartered in Jericho, we drove to Jericho. The meeting was held at the recently vacated Israeli military post (included a political prison). The Commander was very impressive, well spoken, and gave a speech calling for unity of all factions and asking that individuals put aside their personal agendas and join together to show the world that Palestinians were good and decent people and could govern themselves. We then went to a very impressive private home for a reception. (This is the home that Yasser Arrafat will live in when he first arrives in Jericho.) After a time of sharing and discussion we left and arrived back in Nablus about mid-night.

#### JUNE 2 (THURSDAY)

Met with ACU staff and Joseph Nesnas, CDP, to consolidate project ideas for member coops and discuss the farm supply market research procedures to follow in evaluation specific products to add to ACU supply inventory. Due to tension in the city of Nablus and several villages between Nablus and Jerusalem, it was necessary to shorten the meeting and return to the CDP office in Jerusalem. I met with Rex Schultz, Joseph Nesnas, and Bill Greenwood and discussed impressions of visits to coops and the ACU staff. The CDP staff is deeply involved with many projects and provided insights and background to help me better assess the situation facing the 8 local coops and ACU staff.

#### JUNE 3 (FRIDAY - MOSLEM SABBATH)

Joseph Nesnas and I departed the American Colony Hotel about 7:30 a.m. by taxi, enroute to the ALLENBY BRIDGE, where we would cross the Jordan River and continue to Amman, Jordan, a total distance of about 75 miles. We arrived at the Marriott in Amman about 1:00 p.m. We contacted Dr. Mansour Garaba, a CDP staff member who is a dairy specialist, who was in Amman for a three week management development program for Palestinians. (He worked with Garland Benton on a VOCA project in West Bank in 1991.) For several hours we discussed the opportunities and needs of the West Bank dairy, sheep, and goat industry. It is very small, with only about 70 tons of milk going to processing plants each day. (There is much more than 70 tons produced each day by farmers, but the majority is marketed directly from the farmer to the consumer.)

#### JUNE 4 (SATURDAY)

Our first visit was with Jordan Cooperative Organization (JCO). JCO is a Jordanian Government financed agency, under the Prime Minister (not the Minister of Agriculture). According to their leadership, they have been given responsibility by the government to provide ag input supplies, market ag production, oversee seed multiplication and lamb feeding and management programs.

by S.S.

We met for about two hours with Mohammad Y. Assar, Assistant General Manager of JCO, and Mousa Al-Hindi, Commercial Manager. I explained the product lines offered and presented brochures on selected items such as sprayers, vegetable and crop seed, the Southern States catalog and the wholesale product book (Service Guide).

After lunch we visited The Eastern Company, and met with Mr. Yousef Marto, President. They do about \$3 million business each year in vegetable seed, pesticides, and fertilizers. They do not seem to place high interest on the future growth of their ag business. Their main business has shifted to plastic manufacturing and supplying chemicals and related products for the plastic industry. Potential of a supply relationship is doubtful.

We next visited Migdadi Company, and met with Mustafa Jarrar, the manager. The new name of the company is Agricultural Materials Company. The Company began in 1936 in Jaffee (now coast of Israel, north of Tel Aviv). They moved to Jordan in 1948. They sell farm input supplies in 11 Arabic countries, with sales totaling \$70 million. Sales in Jordan are \$7 million. They are a distributor in the Middle East for ASGROW, a U.S. seed company.

Mr. Jarrar will be visiting the U.S. in August, and if his schedule allows, he will stop in Richmond and visit Southern States to see the farm supply distribution center.

JUNE 5 (SUNDAY)

Mr. Samir Haddadin, of JCO met me at the hotel and we drove to the Jordan Valley town of Darelli and met with the local coop manager. The manager was not optimistic about the future because the export markets have gone as a result of the political fallout from the Gulf War. The sales for this year were \$750,000 compared to \$1 million last year. Many small farmers are leaving the area, moving to cities to get jobs. Jordan has to import grains and meat, but has a surplus of citrus and vegetables for export. The coop sells both liquid and dry fertilizer. Twenty liters of the liquid sells for about \$15. The dry product, 20-20-20 with micro-elements, sells for \$8.50 per 110 lbs.

Our next visit was about 20 miles south to the village of Al-Kafaren. The manager spoke English. His volume was about \$1 million a year. He sells Kentucky Wonder beans to farmers for \$2.75 per pound in 1 kilo packages (2.2 lb.) The beans came from ASGROW. The manager reflected the sentiment of the previous manager that farmers were leaving the area due to lack of markets.

We drove back to the JCO office in Amman and met with Dr. Jamal Bdure, Director General of JCO, who spoke very good English. He is a polished gentleman and very formal. He had invited the three gentlemen we met with Saturday

Mr. Assar was very interested in seed wheat and sheep and livestock feeds. Although the discussion was encouraging, time will reveal if they are sincere about a future relationship.

JUNE 6 (MONDAY A.M.)

We departed the hotel about 6:30 by bus enroute to the Israeli border. After a few delays, we crossed into Israel and continued to Jerusalem by taxi. After lunch, I met with the CDP staff to finalize preparations for the report to the ACU Manager and Board of Directors scheduled for Wednesday in Nablus.

JUNE 7 (TUESDAY A.M.)

Drove from American Colony Hotel to Nablus and then visited with the manager of Nablus coop. No board members were in attendance. They had met the previous and taken action to dismiss all coop employees except the manager. They were concerned about cash flow because so much of the coop's assets were tied up in outside loans, buildings, etc.

The coop was established in 1978, now has 1,000 members. (Past manager of ACU is chairman of the board - this complicates the situation.) They have assets of \$800,000 including a bulldozer, \$30,000 loan in an olive press, and \$500,000 in a bank in Jordan. Could not get details, but there seems to be friction between manager and members of board. The manager implied that board members do not understand cooperative principles and need training.

JUNE 7 (TUESDAY P.M.)

Drove to village of Salfet and met with the coop manager and nine board members. The board chairman is Head of the Municipality of Salfet. He works under the guidance of the Israeli military commander for the area.

This was the first year of providing supplies to members and sales totaled \$50,000. They are anxious to expand their line of supplies to farmers. The major ag production in the area is olives, plus vegetables and wheat. A concern of the board is how to improve their marketing procedures of olive oil. Current olive oil prices are about \$2.00 per liter, packaged in 20 liter tins. Due to another meeting, the chairman asked that we adjourn to a nearby village, Marda, for lunch, where we were joined by a lady from New Zealand, Julie Firth, who is director of a Permaculture project, operated by Ma'an Development Center.

After lunch we toured the village and looked at the one spring in the village which served 2,000 people. Women and children walk down about 30 steps carved into the rock to get water in buckets, and carry it up on their heads. They asked permission of the Israeli authorities to dig a well because the people are getting sick drinking the polluted spring water, but they were told they could not. We also toured the Permaculture project which is teaching people how to grow food without chemicals and how to be self sufficient in growing food in small plots.

JUNE 8 (WEDNESDAY)

The PLO declared Wednesday a strike day for political reasons. No Palestinian shops can open on strike days except bakeries and drug stores. We had already scheduled a report to the ACU general manager and board, so we proceeded.

Prior to completion of the presentation, there was gunfire in the streets, and the chairman thought it best to adjourn as soon as possible. Shortly thereafter, Rex Schultz, Joseph Nesnas, and I bade our farewells and departed for the CDP office in Jerusalem.

JUNE 9 (THURSDAY)

Although I was scheduled to return to Nablus for followup work with Bassam Shouli and Bassam Walweel at ACU, because Thursday was also a strike day, it was not considered safe to travel in West Bank. Rex Schultz took me to visit the retail outlet of Shepherd's Field, a Handicraft Cooperative Shop. We met with the Director, Jamal Salameh, and discussed possible ways to open markets into the U.S. through cooperatives and private stores and shops.

The remainder of the day was used preparing reports and discussing future activities for projects in the West Bank and Gaza.

JUNE 10 (FRIDAY)

Departed American Colony at 6:00 enroute to airport at Tel Aviv. Flight departed about 9:15 on schedule and arrived on schedule at JFK.

## C. OBSERVATIONS AND RECOMMENDATIONS

### General Observation

The conditions of oppression carried out by the Israeli military contributes to fear, rebellion, disrespect, and an attitude on hopelessness in the Palestinian population. As a newcomer to the West Bank, I was impressed by the new spirit of hope that was growing in the hearts of the Palestinians as a result of the peace accord. On many occasions, I witnessed joy, excitement and expressions of great anticipation for the future. Not once was I shunned or shown disrespect by any Palestinian. On many occasions they acknowledged the "strangle tactics" of the Israeli military, but more often their comments were optimistic about the future. On several occasions I was the subject of search and interrogation at Israeli military checkpoints even after showing my U.S. passport. The callous disrespect by many of the Israeli soldiers was a disgrace to their country and a slap in the face to a U.S. citizen. (Having served 6 years in the U.S. Army as an infantry officer, including one year in Vietnam, I was appalled at the intimidation and humiliation they exert on a random basis without cause or provocation.)

### D. RECOMMENDATIONS TO CDP.

1. Investigate the possibility and feasibility of ACU providing a soil testing service to farmer members. I found strong agreement from farmers in all locations visited that this was a substantial need. They are over-using chemical fertilizer which impacts nutrient balance and availability in the soil, plus it likely contributes to the increase of salt content in sub-surface water. Dr. Ajjour at An-Najah University showed strong interest in cooperating and participating in a project to develop a soil testing laboratory. Nablus Cooperative has some equipment, but needs training in the use of the equipment. Seemingly, a number of U.S. agriculture universities have the expertise to make this a doable project.
2. Assist ACU in development of a training program for farmers in the proper use and safe handling of pesticides. According to Drs. Swanson and Kuhlman from the University of Illinois, Bir Zeit University is or will be in process of developing an integrated pest management (IPM) program. Having the experience and capable staff that it does for "training the trainers", CDP is well postured to provide leadership for this project. Technical service from ACU could increase farmer membership and open the door for pesticide product sales.
3. Develop a concept to incorporate a sound feeding and management program for improvement of sheep and goat performance. Such a program should include pilot activities/trials to prove performance and to demonstrate and educate. A possible participant would be Dr. Jamal Abo Omar, ruminant nutritionist, at An-Najah, who expressed interest in a program to improve sheep genetics and research. Once programs are proven and accepted by the farmers, the coops could provide on farm service thru consultation and sale of appropriate feed products. Dr. Mansour Garaba, CDP staff, is qualified to assist with this project.

4. Continue training programs to train and educate cooperative members and directors on understanding their role and responsibilities in the cooperative. On several occasions it became obvious that the strong (large farmers) made decisions which were not always in the best interest of the general membership. Reinforcing the concepts of cooperative principles must be done as an on-going process to insure the existing members learn and new members are started on a sound foundation.
5. Assist ACU in expanding their in-put supply business. At present ACU and the 8 member cooperatives are only providing pesticides and fertilizer materials. There is a great need for many other items such as farm equipment (sprayers, scales, hand tools, etc.), bee supplies, hi-tech livestock feeds (especially vitamin-mineral mixes), veterinary supplies, and animal health products, plus many other product groups. I would be glad to assist CDP in developing a program to meet this need. Expanding the supply service of ACU and its' member coops will create a stronger cooperative through increased member support and confidence that their needs are being met. Expansion of in-put supplies will fit hand-in-glove with recommendations 1., 2., and 3.

### III. INDIVIDUAL CONTACTS

I had the privilege of meeting and having discussion with the following individuals during the project period.

- \* Mr. Rex Schultz, Manager of the CDP office in East Jerusalem. Rex is highly motivated, and providing superior leadership in building a strong staff capable of multiple project management with minimal supervision.
- \* Dr. Swanson and Dr. Kuhlman, University of Illinois, who were working on an integrated pest management project. They could be useful in advising on future agronomic actions in West Bank.
- \* Mr. Maher Channam, lives in Nablus, CDP Accounting Specialist.
- \* Mr. Bassam Shouli, ACU Administrator, my day-to-day escort and interpreter. He would be an excellent resource person and well educated and qualified for greater responsibilities. Has MBA from Texas A & M, three years experience with Walmart.
- \* Mr. Mahmood Dibas, a wholesale distributor for agricultural chemicals and fertilizer in the West Bank. He procures from Israeli sources.
- \* Mr. Bassam Walweel, General Manager ACU. A highly intelligent, hard working leader on leave from An-Najah University, Nablus. Has MBA from University of New Hampshire.
- \* Dr. Moh. Ajjour, Chairman, Faculty of Agriculture, Dept. of Plant Production & Protection. Would be an excellent source and participant in future agronomic projects & anxious to have joint research with U.S. university counterparts.
- \* Dr. Jamal Abo Omar, Ruminant Nutritionist, An-Najah University, Nablus. Acquired PhD at Colorado University. Would be excellent resource for research on sheep and goat feeding and management trials. He is very interested in improving sheep genetics and would like to do research on using olive and citrus residue as forage for ruminants.
- \* Mr. Joseph Nesnas, CDP staff. Accompanied me to Amman Jordan and provided translation during discussions with JCO personnel. A highly professional, no nonsense personality, speaks English, Hebrew & Arabic.
- \* Mr. Bill Greenwood, CDP staff, highly informed about the agriculture history of Palestine and very knowledgeable about the cultural and political environment.
- \* Dr. Mansour Garba, CDP staff, dairy specialist. Anxious to be involved in improving the dairy production and processing technology in the West Bank. Highly motivated and very capable.

- \* Dr. Jamal Bdure, Director General, Jordanian Cooperative Organization, (JCO). He spoke excellent English and showed interest in developing a relationship with U.S. agriculturalists.
- \* Mr. Mohammad Y. Assar, Assistant General Manager, JCO.
- \* Mr. Mousa Al-Hindi, Commercial Manager, JCO
- \* Mr. Yousef Marto, President of Eastern Seed Co., Amman, Jordan.
- \* Mr. Mustafa Jarrar, Manager, Agricultural Materials Company, Amman, Jordan. A very professional agricultural supply company distributing ASGROW seed and other agronomic supplies in 11 Middle-East countries. He spoke excellent English and was well informed in agriculture.
- \* Ms. Julie Firth, Permaculture Director, Ma'an Development Centre. A native of New Zealand, oversees a project at the village of Marda, in West Bank, sharing permaculture concepts of agronomic production for improved diet and health for the community.
- \* Mr. Jamal Salameh, Director, The Holyland Handicraft Cooperative Society. A cooperative whose members hand carve many objects from olive wood and who would like to export to the U.S..
- \* Dr. Siri Wormnas, Assoc. Professor, Norwegian Institute of Special Education, University of Oslo. Conducted second visit to An-Najah University and signed multi-year contract for working with Special Education needs in West Bank.

In addition to the above, I had small group meetings with over 75 farmers and family members. Also, I had the privilege of meeting the Commander of Palestinian Forces in Jericho and had a prolonged conversation with the Jericho Chief of Police.

#### IV. SUMMARY

I have been associated either directly or indirectly with several VOCA projects. The West Bank project is the best project I have experienced in that the planning and organization for the project was done in a highly professional manner by experienced, motivated personnel. This project has the potential of a major positive impact in perhaps the highest profile area in the world. What sets it apart is that the stage is set and all participants are in place and the objectives are clear and attainable. The ONLY negative element for this project is the unstable political situation. The official policy of the U. S. Government should be to "keep the heat on both Israeli and PLO elements" to allow projects such as the West Bank to proceed without interference.

Subject to time restraints, I hope to continue as a participant in supporting this outstanding project.