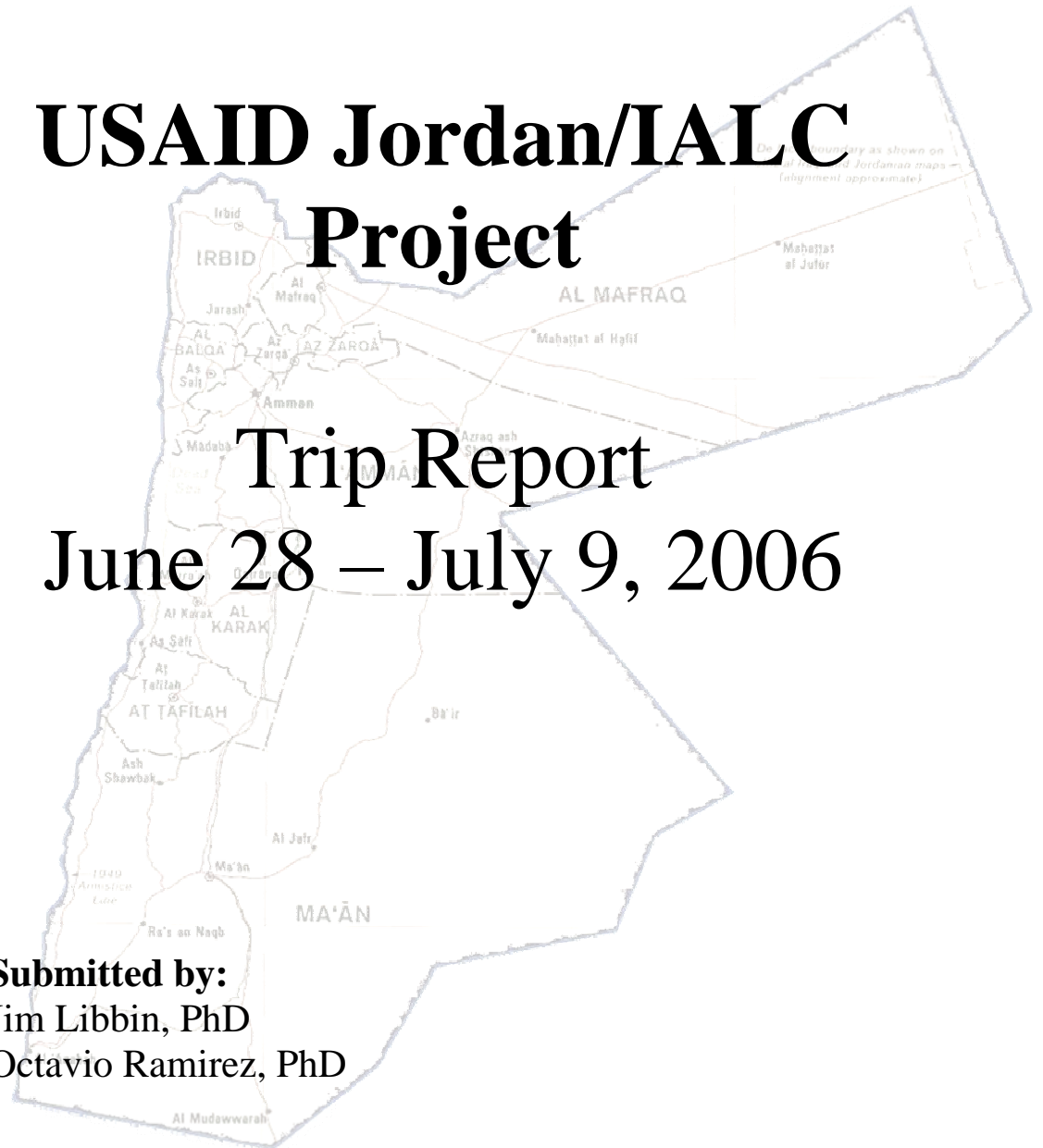


New Mexico State University  
Badia Research and Development Centre

# USAID Jordan/IALC Project

## Trip Report June 28 – July 9, 2006

**Submitted by:**  
Jim Libbin, PhD  
Octavio Ramirez, PhD



**Trip Report**  
**Jordan**  
**June 28 – July 9, 2006**  
**Octavio Ramirez and Jim Libbin**

- 1) Day one: Octavio left Las Cruces Wednesday morning for the El Paso airport, arrived in Amman by way of Houston and Paris, June 28. Octavio arrived Thursday evening and was picked up by Ahmad Al-Rawajfeh to go to the Holiday Inn – Amman. Jim Libbin left Las Cruces about 11am Wednesday for the El Paso airport, arrived in Amman by way of Chicago and Frankfurt at 2:30am Friday morning. Took a taxi into Tel Aviv (JD20) to the Holiday Inn.
- 2) Day two: Both Octavio and Jim took the day off on Friday, June 30 to adjust to the time change.
- 3) Day three: Saturday, July 1
  - a) Ahmad picked us up at the Holiday Inn at 9:45a to drive us to the Badia Research and Development Centre (BRDC) headquarters. We met with Raed Al-Tabini, Rida Al-Adamat and Odeh Al-Meshan before Mohammad Shahbaz joined us. We had a great discussion with Mohammad regarding the future of our projects as well as the future of Jordan's water supply and agriculture. There are many opportunities for joint projects but secure long-term funding remains the major question. We left BRDC headquarters and Amman to drive to Wadi Mousa. Arrived at the Marriott in Wadi Mousa about 5:30pm.
- 4) Day four: left Wadi Mousa at 8am for Ma'an and BRDC's Southern Field Office. Nawras Al-Jazi and Ahmad Al-Qadi joined us at the office.
  - a) We had an hour-long discussion with Mohammad Al-Bahri, manager of the Ash-Shamia cooperative regarding farming and farmer characteristics in the Ash-Shamia Cooperative area.
    - i) 30 farmers have from 10-16 dunum, 15 have 1-2, and 65 have less than 1 dunum. For those 65, 50% of their production is for home consumption, 50% for local marketing. 70% of these don't have another job. They usually have some sheep plus this 'garden.' Year-round crop rotation that almost always includes mint, thyme, and onions.
    - ii) Produce is sold locally, in Ma'an. Some come to the farm to buy. Ash-Shamia producers receive a higher price for their produce than the wholesale prices typically received by farmers who sell into the Amman central wholesale market. Often they harvest and sell after Friday prayers. Some supermarket owners 'contract' with producers. They agree to buy everything (or a specified portion) that the farmer produces. Most prices are established in advance under this system. All of the farmers get water from the deep well.
    - iii) The well was drilled in 2001. The cooperative is thinking about drilling another well. By regulation, it must be greater than 1,500 meters away.
  - b) We met with Mutlik Abu Faisal at 12:30pm at his house. Mutlik is a farmer in the Disi Basin who was being interviewed by the southern survey team. We observed three

- enumerators interview the farmer and complete the survey form. It typically takes about an hour to complete the survey. Typically use three-person teams; one to ask the questions, one to write answers, and one to keep the discussion steered toward the survey.
- i) 16 kilo cans of olive oil sold for 40JD.
  - ii) Mutlik is retired military, draws a pension plus has health insurance through his military service retirement. 60% of his income comes from the farm. 2,400JD from olive oil; 3,000JD total. 400JD total expenditures.
  - iii) No loans. It is not proper to pay interest. Also, there is risk in repayment of the loan.
- c) We ate lunch in Wadi Rum village, buying lunch for the entire BRDC crew (12 of us in total): Rida, Raed, Nawras, Odeh, Ahmad, Octavio, five enumerators, and Jim. 72 JD
- i) Farj Ahmad Zamad
  - ii) Saleh Dheilan Al-Musbheen <[alsultan\\_888@yahoo.com](mailto:alsultan_888@yahoo.com)>
  - iii) Kaeyd Faleh Naser Zawaideh
  - iv) Faris Hoeml Al-Masnah
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  - vi) Ahmad Sami Al-Qadi <[ALWADI2033@yahoo.com](mailto:ALWADI2033@yahoo.com)> (full-time BRDC-South)
- d) We left Wadi Rum restaurant about 3:30 for trip to Aqaba, arriving at the Movenpick. At 9pm Octavio, Raed, Rida, Odeh and Jim got together to rewrite the Mafraq / Disi Basin questionnaire to fit the Ash-Shamia cooperative area. We had discussed during the trip that the best way to approach the Ash-Shamia socio-economic analysis was to put together a descriptive analysis of the situation and potential future for the Ash-Shamia cooperative. The already-written survey instrument designed for the Disi and Mafraq Basins would be an excellent place to start and we could then interview farmers with the same enumerator crew after the Disi Basin was completed.
- 5) Day five: 10am meeting with Kamal Al-Zou'bi, president of the Aqaba Water Company at the AWC headquarters.
- a) AWC supplies the water for the small farmers in the Disi Basin area, but not the large agricultural companies.
    - i) Four largest ag companies are located in two governorates (Aqaba & Ma'an), but are all located over the Disi Basin aquifer. They use 50 million m<sup>3</sup> per year. The Rum Ag Company manager said he has reduced his water use by 30% by eliminating some crops (especially vegetables). They will continue to irrigate trees and grapes. His well contract expires in 2011. The companies we allowed 25 years ago to pump water. The plan was to grow wheat, barley, and corn for food security, but they shifted to vegetables and tree / vine fruits for profits.
    - ii) There are less than 200 small farmers. Collectively, they use about 3.5 million m<sup>3</sup> per year (2005 data). A total of 8,000 people live in the Disi area. Kamal feels they are using as much as twice the water they really need. He wants them to use less water. AWC provides the water and even the well operators. Small farmers want to expand and blame AWC for lack of water. He thinks they 'would expand to Saudi Arabia' if AWC gave them the water they want. By 'using too much' he means:

- (1) Wrong crops (e.g., olives)
  - (2) Inefficient use of what they do have.
  - iii) The large ag companies at least have their own engineers to help use water more efficiently.
  - iv) AWC is legally allowed to collect a fee from the small farmers but feels it is not worth the trouble to collect it. They are authorized to charge 200JD / year / farmer.
  - v) A date plantation Aqaba is using treated waste water on date palms at the rate of 1,000 l / tree /day. They have several varieties of trees. This is an ag company near Aqaba, not in the Disi Basin. Kamal isn't sure if that is the right amount, the company wants more. Jim promised to ask Amnon Greenberg for his opinion on the amount of water required.
  - vi) Several farmers are leasing their land to others (including non-Jordanians, i.e. Egyptians).
  - vii) Tourism in Jordan is being restricted by shortage of water, especially with respect to golf courses and public swimming pools.
  - viii) 100 million m<sup>3</sup> per year will soon be taken from the Disi Basin for Amman. Aqaba is using 15 million m<sup>3</sup> / yr now, growing at 1 million m<sup>3</sup> / year. Will get that water from the retired wells at the four large agricultural companies.
  - b) Left Aqaba about 11:45am and drove to Amman via the low highway that parallels the Israeli-Jordanian border and then the east bank of the Dead Sea. Arrived in Amman about 5pm.
- 6) Day six: We left the hotel at 9am with Ahmad and Rida for BRDC headquarters. We left Amman about 11am to meet one of the survey crews at work visiting a farmer in the northern Badia / Mafrag basin area.
- a) Met Ismaiel Naser Abu-Amoud plus two members of the team supervised by Ismaiel:
    - i) Salah Al-Khorman
    - ii) Barjas Al-Serhan
  - b) The farmer being interviewed was Mosa Sayah Al-Oun (cousin to Salem)
  - c) There are two other teams of two enumerators (plus a driver), one team supervised by Sa'ad and another by Rida. They have completed about 70 total survey questionnaires already and are completing about two per day. They could complete more (each team can only work about one day in three) but are hampered by lack of transportation.
- 7) Day seven: 10am meeting with the Ministry of Agriculture at MOA headquarters.
- a) Three gentlemen met Octavio, Raed, and Jim at the MOA:
    - i) Mohammad S. Al-Fawair, Director of Plant Production Directorate
    - ii) Abdullah Hasan Naimat, Director of Land and Irrigation Directorate
    - iii) Adnan Eissa Abdel Nour
  - b) We talked about an hour with these three MOA officials regarding water and crop production.
    - i) No water will be used for agriculture from Disi Basin beginning 2008. (Kamal of AWC said this, Mohammad confirmed). Mohammad works with some of the southern farmers and companies through the Potato Association.

- ii) The five (4?) large companies 'owe' the government 5 million JD for water fees. They don't want to pay. Two years ago the government instituted the progressive water charge (free to 150,000 m<sup>3</sup>; 5 fils / m<sup>3</sup> over 150,000, but less than 200,000; and 60 fils / m<sup>3</sup> over 200,000 m<sup>3</sup> per year.
  - iii) Land rent 10 piasters / dunum for the land.
  - iv) Agreement between Ministry of Finance and four large ag companies – the plan is to stop pumping in 2008, but in 2008 it will be negotiable. They had no idea how these numbers (especially the rates) were selected.
  - v) Need permission to drill a new well; permissions for new wells have been stopped. Very few exceptions; exceptions must be justified. Land is privately owned, but the water belongs to the state. Permission for new wells is granted only by the Prime Minister, not any particular minister.
  - vi) Agricultural Research: NCARTT (National Center for Agricultural Research and Technology Transfer), an MOA agency
  - vii) Rum Agricultural Company allowed 35 million m<sup>3</sup> per year.
  - viii) 75% of agricultural exports are vegetables – largely winter vegetables from the Jordan Valley. Agriculture is feeling import pressure. But, if Jordan can comply with international quality standards, new market opportunities exist.
  - ix) The Northern Badia and Mafraq Uplands account for about half of the total vegetables and well more than half of the fruit produced in Jordan, Jordan Valley the other half of the vegetables and much less than half of the fruit.
  - x) MOA has pesticide residue testing capability but no produce grading is done by MOA.
- c) After leaving MOA headquarters, we moved to BRDC's offices. Octavio worked on an Excel template for the survey questionnaire results. Jim conducted a seminar on the theory, purpose, and construction of crop and livestock cost and return estimates.
- i) Seven people attended the seminar: Ahmad Al-Rawajfeh, Ismaiel Naser Abu-Amoud, Rima Ras, Raed Al-Tabini, Dima Al-Muhaisen, and Hani Saoub.
  - ii) The seminar was conducted from 12 to 3pm with about a half hour off for a lunch that was brought in.
- d) After the seminar, Raed, Jim, and Hani Saoub of the University of Jordan range science program had an opportunity to strategize our various Tal Rimah papers and talk about what was left to be done. Jim needs to use the sheep budgets that Raed developed to write an economics section to the paper that Raed sent earlier in the spring.
- e) Evening dinner with Jochen Regner of GTZ and Amer Jabarin of the University of Jordan. Great discussion about water policy, agricultural marketing, macro and development issues from the point of view of GTZ and an academic in Jordan. Both gentlemen have a wealth of experience in water resource, water use, water economics, and water policy in Jordan.
- 8) Day eight: 9am meeting at the Ministry of Water and Irrigation – Dr. Issa Al-Nsour regarding water consumption data that is available through his ministry.
- a) Disi Basin
    - i) 145 mcm / yr for 50 years [mcm = million cubic meters]
    - ii) 6,300 km<sup>2</sup> surface area. Rainfall <25 mm / yr. Non-recharging.

- iii) Four companies pump about 70 mcm, Aqaba drinking water 14 mcm, local use 2mcm = total withdrawal 90 mcm. Can go about 80 years at this rate.
  - iv) 125 mcm for 50 years is a 'safe' yield (25 drinking, 9 industry, 50 agriculture)
  - v) 86 boreholes, 51 used for agriculture.
  - vi) Plan to take 15 mcm for drinking for Aqaba, 100 for Amman (for 50 years) beginning in 2010. Plan to stop all small farming as well. Industry will be encouraged to use reclaimed water or find alternative sources.
- b) Jordan as a whole
- i) Uses 780 mcm. 505 mcm groundwater (216 drinking, 254 agriculture, 33 industrial, 1 rural). 347 mcm surfacewater (75 drinking, 182 agriculture 4.5 industry 7 rural, 99 reclaimed (which all goes to agriculture)).
  - ii) Safe yields
    - (1) Azraq (Eastern): 24 mcm. Now at 23 for drinking, 0 industrial, 35 agriculture; 58 total. About half of the 23 drinking goes to Amman. Half of the agriculture use is our survey area, half in the area south of Safawi. Clearly the basin is being overpumped now.
    - (2) Zarqa: 87.5 mcm (renewable). 75 drinking (most goes to Amman – will be cut once the Disi pipeline is opened, 7 industrial, 60 agriculture.
    - (3) Yarmouk: 40 mcm. 9 now used for drinking, 37 agriculture, 47 total. Only a very small part of our survey area (if any at all) is over the Yarmouk Basin area.
    - (4) Other: 48 mcm from surface goes tot Amman (from Lake Tiberias), 11 from wells south of the Jordan Valley; 60 total for Amman.
- 9) Day nine: Jim left early on Friday morning to return to Las Cruces. Arrived at the El Paso airport at 5:30pm via Frankfurt and Dallas. Octavio left Amman midafternoon for a short flight to Tel Aviv to meet Mike Martin.
- 10) Day ten: Octavio traveled to Tel-Aviv, Israel to meet with Michael Martin, the USAID/West Bank-Gaza (WBG) Mission officer in charge of agricultural programs. The two-hour meeting took place in the afternoon of July 8. Mike indicated he would still like to be able to count on NMSU and the IALC expertise in agribusiness to support and advance some of the Mission's programs and objectives in WBG. However, the fact remains that all USAID/WBG programs are on hold. Mike indicated that the USAID/WBG Mission Director is seeking approval from the State Department to resume funding for some of the ongoing activities that were not in support of or implemented through the Palestinian Authority government. It is uncertain if any of the items in this request will be approved and whether there is a potential role for NMSU and the IALC in any of them, particularly after the recent upsurge of hostilities in the region. Octavio reiterated NMSU and IALC interest on working in WBG and Mike indicated that he will continue to seek an opportunity for this to happen.
- 11) Issues that need follow-up:
- a) Central Market Data. (Ask Raed to organize a meeting with the Marketing Division of the Ministry of Agriculture on our next trip to Jordan)

- b) Any other agricultural statistics, marketing studies, economic information from MOA.
- c) Cost of Production estimates from Credit Corporation. (Ask Raed to organize a meeting with the Credit Corporation on our next trip to Jordan).
- d) Amer indicated there is no national I/O model. Can we find something through World Bank or somewhere else that could be adapted?
- e) WAJ annual report.
- f) Precipitation map.

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Mobile: +972 (52) 2721021  
Email: r&d-manager@rd.ardom.co.il

### **Other, Lodging**

Aladin Resort, Old Jaffa  
5 Mifratz Shlomo  
Tel Aviv, Old Jaffa  
Israel  
Phone: +972 (03) 6826766  
Web Page: <http://www.aladin.co.il>

Bristol Hotel  
PO Box 142509  
Amman 11844  
Jordan  
Phone: +962 (6) 592-3400  
Fax: +962 (6) 592-3717  
Email: [bristol@bristolamman.com](mailto:bristol@bristolamman.com)  
Web Page: [www.bristolamman.com](http://www.bristolamman.com)

**Yaki Assa**  
Owner Representative  
Dalia Hotel  
Israel  
Phone: 08-633-4004  
Fax: 08-633-4072  
Mobile: (050) 681-6295  
Email: [dalia\\_ya@assaleshem.co.il](mailto:dalia_ya@assaleshem.co.il)  
Email 2: [yakiassa@netvision.net.il](mailto:yakiassa@netvision.net.il)

Dan Pearl Jerusalem Hotel  
Zahal Square  
Jerusalem 91007  
Israel

Phone: +972 (2) 622-6666

Fax: +972 (2) 622-6600

Galei Kinneneth Tiberias  
1 Eliezer Kaplan Street  
Tiberias 14000  
Israel

Phone: +972 (4) 672-8888

Fax: +972 (4) 679-0260

Web Page: [www.rimonim.com](http://www.rimonim.com)

Grand Hayatt, Amman  
PO Box 831159  
Jabal Amman, Hussein Bin Ali Street  
Amman 11183  
Jordan

Email: [info@ammgh.com.jo](mailto:info@ammgh.com.jo)

Grand Park Hotel  
PO Box 1375  
Al-Masyoun Heights  
Ramallah, West Bank  
Palestine

Phone: +972 (2) 298-6194

Fax: +972 (2) 295-6950

Email: [info@grandpark.com](mailto:info@grandpark.com)

Web Page: [www.grandpark.com](http://www.grandpark.com)

Holiday Inn Amman  
PO Box 941825  
Amman 11194  
Jordan

Phone: +962 (6) 552 8822

Fax: +962 (6) 552 9944

Web Page: <http://www.amman.holiday-inn.com>

Hotel De La Mer  
62 Hayarkon Street  
Tel Aviv 36904  
Israel  
Phone: +972 (3) 510-0011  
Fax: +972 (3) 516-7575

Moevenpick Resort Aqaba  
PO Box 678  
King Hussein Street  
Aqaba 77110  
Jordan  
Phone: '+962-3-203-4020  
Fax: '+962-3-203-4004  
Email: jan.segers@aqabamoevenpick.com.jo  
Web Page: <http://www.movenpick-aqaba.com/>

Petra Marriott Hotel  
PO Box 150  
Queen Rania Al Abdullah Street  
Petra, Wadi Moussa 71810  
Jordan  
Phone: '+962-3-2156407  
Fax: '+962-3-2157096  
Web Page: <http://marriott.com/property/propertypage/MPQMC>

SOFITEL  
PO Box 2  
Taybeh, Wadi Moussa  
Jordan

## **Other, Businesses**

Afghani Bazaar  
Amman  
Jordan  
Phone: (079) 567-6670  
Fax: (079) 567-8470

Dabour (Jaleel Dahour) – Coffee Pots  
King Talal Street – Near Dunia Cinema  
Amman  
Jordan  
Phone: (079) 461-2465



**Jiries (George) Canavati**

Owner

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PO Box 19115

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Jerusalem

Israel

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Mobile: +972 (052) 2867019

Email: doomer28s@yahoo.com

Osama's Pizza

Main Street

Ramallah

Palestine

Phone: +972 (2) 2953270

Shamiran Bazaar

Roman Theater Down Town

Amman

Jordan

Phone: (079) 464-0389

Mobile: (079) 594-8541

**Other, Taxi**

Belal Jmhour, 24 Hours Taxi Service

Amman

Jordan

Mobile: +962 (0795) 936134

**Nabil**

Driver

Taxis Givat Ram

Israel

Phone: 02-500-0101

Mobile: 0522-281596

**David**

Driver

Tel Aviv Taxi

Israel

Phone: 03-9626088

Mobile: 05-06791068