



Applied Research Institute – Jerusalem (ARIJ)
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ARIJ Newsletter

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Table of Contents:

- Executive Committee Elections:
- ARIJ Activities
 - Environmental Research Unit
 - Geographic Information Systems (GIS)
 - Integrated Pest Management (IPM)
 - Rainfed Farming Unit
 - Water Research Unit
- New staff members
- Staff departures

The period since the last Newsletter has been marked by many events of historical significance. The Declaration of Principles, signed in Washington during September 1993, set out a very general framework for an interim period, that will hopefully lead to a final settlement of the Palestinian Israeli dispute. The Cairo Agreement of May 1994 paved the way for the establishment of limited Palestinian autonomy in Gaza and Jericho. More recently, agreement has been reached on the transfer of education, health, social welfare, tourism and direct taxation in the West Bank. At the same time, Israel has tightened the closure on Jerusalem, and thus further restricted the movement of Palestinians.

These events have had profound impacts on ARIJ. As negotiations have dealt more with the concrete issues of water and land, there has been an increasing demand on the institute's services and expertise. At present, the institute has 32 staff members. It has focused on newly important issues, and has established Integrated Pest Management and Geographic Information Systems units. The institute continues to focus on the overriding issues of sustainable development.

Executive Committee Elections:

A new executive committee has been elected:

- Mr. Daoud Istanbuli, President
- Dr. Simon Kuttub, VicePresident
- Dr. Hasan Dweik, Treasurer
- Mr. Ghassan Andoni, member
- Dr. Elia Awad, member
- Dr. Jamal Safi, member

The board held a sequence of meetings aimed at setting new policies for ARIJ in light of the political developments. The board has also amended the internal regulations and rules of ARIJ following staff requests.

ARIJ Activities:

Environmental Research Unit:

In late 1993, ARIJ established an Environmental Research Unit to take on research projects in the field of environment, such as feasibility studies, impact analyses, data collection, and public education and awareness. Today, this unit's staff is involved in research to identify baseline data about major environmental issues and concerns throughout Palestine, including the disposal of waste water, and domestic, industrial, medical and agricultural solid wastes. Furthermore, research has been conducted on the socioeconomic factors influencing citizens' behavior toward environmental protection. The unit plans to get involved in analyzing transboundary pollution and potential for regional cooperation.

In July 1994, ARIJ was granted funds to create an Environmental Data Base for Palestine. This two year project, funded by the Austrian Government, will include: gathering, analyzing and storing information, including atmospheric and climatic parameters; soil parameters; water resources and quality; land use; industries and industrial waste; agricultural conditions, practices and waste production; energy; domestic waste; socioeconomics; and environmental legislation. Information will be organized in computerized data bases that can be easily transferred onto the Geographic Information Systems (GIS), and will be accessible to the general public.

Dr. Nasri Qumsieh has completed a survey of cancer incidence in the West Bank which includes some 3,500 cases. The results of this work will be published in the forthcoming issue of the Palestinian Medical Journal. ARIJ is part of a Medcampus project which is trying to develop food composition tables and data bases in the Mediterranean countries.

This year, ARIJ produced more books in the environmental awareness series in cooperation with the program of Education for Awareness and Involvement, namely "Introduction to the Palestinian Environment" and "Wild Flowers from Palestine".

The director attended the international environmental exhibition "Globe 94", which was held in Vancouver, Canada in March. Stephen Gasteyer attended the NGO Population Conference held in Cairo, September 1994. Ibrahim Dajani went to Sweden for a six week training program on the development and management of cadastral and land information systems using advanced technologies such as GIS. ARIJ participated in the USAID environmental impact assessment roundtable held in Jerusalem, May 1994. Violet Qumsiyah participated in a four week training program on water conservation and treatment in the USA. In June, Nadia Al-Dajani participated in a 3 week training program on environmental education in the USA. The director participated on a panel in the Casablanca conference to discuss environmental challenges facing the Middle East and presented a paper entitled "A Palestinian Vision of Environmental Protection and Sustainable Development in the Middle East".

ARIJ and Mohawk College in Canada have jointly worked on a project proposal to develop an Agenda 21 for Palestine. Delegations from Mohawk College and ARIJ

exchanged visits to work out the details of this project and the potential involvement of McMaster University.

Geographic Information Systems (GIS):

In many ways GIS has become the hub of the information collected at ARIJ. This year's work has in large part been devoted to developing the baseline map for Palestine. In a cooperative project with the Ecole Biblique in Jerusalem, ARIJ has been using their collection of maps from the 1942 British Survey of Palestine to establish the baseline maps.

ARIJ is using two GIS programs, PAMAP and ARC Info, the latter having been donated by ESRI, USA. Staff have received training in GIS application in Canada and Sweden. A training program on remote sensing is currently being developed.

Ghassan Azizeh is presenting a paper, outlining some of the GIS findings, at a conference on Sustainable Land Use in the Arid Near-East, Bielefeld University, Germany, November 27-30, 1994.

Integrated Pest Management (IPM):

ARIJ responded to the increasing awareness among Palestinians about pesticides by conducting a practical survey focusing on pests and pesticide usage in irrigated and rainfed agriculture in the West Bank. The unit staff have written a report based on this survey, highlighting pesticide types, characteristics and quantities, as well as their international status and intended usage. Farmer practices in the use of pesticides, and the human and environmental health implications, were also studied. Publication is expected before the end of the year. Farmers from Wadi Foqin approached ARIJ to work on the white fly which is threatening their livelihood. ARIJ and PARC (The Palestinian Agricultural Relief Committee) are submitting a joint project proposal to introduce IPM in Wadi Foqin.

Rainfed Farming Unit:

This Unit has been very active in the past year, continuing to follow up the experiments and demonstrations with field crops in AlThahiryia as well as compiling baseline data on rainfed farming. After registering positive results with wheat and chickpeas last year, this year's demonstration areas (which were planted with wheat and cultivated using improved varieties, mechanization, and weed control) produced up to two-fold grain yield increases, increasing profit by as much as US\$ 50.00 per dunum.

ARIJ introduced a birdresistant sorghum variety, a crop which is drought resistant and valuable as fodder and concentrate for animals, and the local variety of which is susceptible to major losses from bird damage. The resistant variety selected yielded up to 93 Kg grains per dunum, compared to a negligible yield for the local variety. Demonstrations were also carried out on lentils and vetches, both with encouraging results.

During the year, ARIJ published the book "Dryland Farming in Palestine", a comprehensive compilation of the baseline data on the following sectors: Physical Features, SocioEconomics of Dryland Farming, Palestinian Women and Dryland Farming, Field Crops, Fruit Trees, Vegetables, Range Management and Natural Pastures. This is the result of practical research and surveys carried out by ARIJ staff through a grant from Ford Foundation.

ARIJ staff have also produced articles in both English and Arabic on the results of agricultural demonstrations and experiments described above. A paper in Arabic will be published in the Palestinian Agriculture Engineer periodical. A small descriptive paper on the status of legumes was produced and published in the NORLEG newsletter, Breakthrough, March 1994.

A section on the importance and potential of rainfed agriculture was also written for a paper on "Optimization of Water Use in Palestinian Agriculture", presented by ARIJ at the regional conference sponsored by the French Government on taking place in Amman, Jordan 21-24 November 1994.

A major experiment was carried out on the potentials of hydroponics in forage production. Publications of the results of the experiment and economic feasibility will be produced by the end of the year and a workshop will be held to discuss these results and their implications for livestock in Palestine.

Then board President Shehadeh Dajani and the Director attended a conference at the University of Washington, on Dryland Farming Systems and Technologies for a More Sustainable Agriculture, in October 1993. A paper on "Status of Dryland Farming in Palestine" was presented.

ARIJ cooperated with the International Center for Agricultural Research in Dry Areas (ICARDA) in carrying out a Workshop on Promoting Agricultural Research and Development in the Occupied Palestinian Territories, in Amman, Jordan, 10 and 11 January 1994. This workshop, for which ARIJ supported the participation of twenty agriculturalists from Palestinian institutions in the West Bank and Gaza, produced important recommendations on the needs and prospects for agricultural research in the coming years.

During the year, ARIJ developed a close working relationship with ICARDA. As well as organizing the workshop in Amman, Jordan in January 1994, ARIJ staff and affiliates participated in the ICARDA sponsored Mashreq Project training sessions in Jordan on "Increasing the Productivity of Barley", "Pastures and Sheep in Critical Rainfall Zones", on plant production and extension, and on livestock management. The institute joined ICARDA's efforts to develop the project "Biodiversity and Natural Resources Management and Conservation for Sustainable Agricultural Production in the Fertile Crescent", now submitted for funding to the United Nations Development Program (UNDP) and the Global Environment Facility (GEF). ICARDA is also in the process of sending ARIJ new genotypes of wheat and barley for testing in Palestine.

Water Research Unit:

The water unit has remained very busy. With funding from IDRC, a project to assess the efficiency of water usage in irrigated farming in the West Bank was launched. The project includes identification and analysis of the wells and springs used for irrigation, cropping patterns, crop water requirements and methods of irrigation, as well as a socio-economic analysis of irrigated farming in Palestine. The water data is fed into GWW (Ground Water for Windows) and is accessible for concerned parties. ARIJ and WRAP (Water Resource Action Program) signed an agreement for data sharing.

ARIJ conducted a study of water supply and demand in Palestine for the Harvard Middle East Water Project, which is aimed at developing an optimization model for water allocations in the Middle East. Also this year, "Water and Peace in the Middle East", a book coedited by the director, was published by Elsevier.

A paper entitled "Hydrochemical Indicators of the Severe Water Crisis in the Gaza Strip" was presented in the International Symposium on Water Resources in the Middle East: Policy and Institutional Aspects, held at Urbana, Illinois, 24-27 October 1993. Ahmad Hammad presented a paper entitled "Optimization of Water Use in Palestinian Agriculture" at the regional conference on Optimization of Water Use in Horticulture sponsored by the French government, which was held in Amman November 21-24. ARIJ presented a paper entitled "Core Issues of the Palestinian-Israeli Water Dispute" at the international conference: Environmental Crisis: Regional Conflicts and Ways of Cooperation, held at Ascona, Switzerland, 30 October 1994.

ARIJ has been working to promote the establishment of MEWIN (Middle East Water Information Network), which is aimed to improve regional planning and management of water resources in the area. The director was elected to the executive committee of this project.

Prof. Tom Naff, director of the Amer Database at Pennsylvania, has offered to transfer this database to ARIJ. A memorandum of understanding between ARIJ, PCG (Palestine Consultancy Group) and PHG (The Palestinian Hydrology Group) was signed to establish a consortium to maintain and manage this database. Visiting Fulbright scholar Dr. Sherif el Musa, Institute for Palestine Studies, Washington, DC spent 8 months at ARIJ, and supervised the work of the water research unit. ARIJ and PHG conducted a joint workshop on water resources and management in Palestine, which was attended by about thirty water experts.

New staff members:

- Abu Amrieh, Mohammad; B.Sc. in Agricultural Engineering
- AbuAsa'd, Youssef; B.Sc. in Meteorology
- Allaham, Taghreed; B.Sc. in Chemical Engineering
- Al-Azzeh, Haifa; B.Sc. candidate in Biology/Chemistry
- Alewiwi, Maher; M.Sc. in Remote Sensing
- Amer, AbdulHakim; B.Sc. in Environmental Engineering
- Ayash, Osama; B.Sc. in Plant Protection

- Azizeh, Ghassan; Ph.D. in Architecture and Town Planning
- Bandak, Sana; Executive Secretarial Diploma
- Dajani, Ibrahim; M.Sc. in Environmental Engineering, Coordinator, Environmental Unit
- Gasteyer, Stephen; UNAIS Technical Advisor
- Hammad, Ahmad; M.Sc. in Soil Science, Coordinator, Water Research Unit
- Hrimat, Nader; M.Sc. in Field Crop Production, Coordinator, Rainfed Unit
- Ishaq, Ra'fat; B.Sc. candidate in PhysicsMathematics
- Mohammed, AbdulLatif; Ph.D. in Hydrology
- Murad, Helen; B.A. in Business Administration
- Neiroukh, Faten; B.Sc. in Plant Protection
- Qassis, Loay; Tawjehi
- Qassis, Linda; Secretarial Diploma
- Sabbah, Walid; M.Sc. in Hydrology
- Saleh, Azzam; B.Sc. in Plant Protection
- Selby, Jan; B.A. in Political Science
- Tafesh, Suhail; M.Sc. in Computer Engineering

Staff departures:

In early February, ARIJ bid farewell to Hisham Za'rour, who left for a position with WRAP. Abdallah AlLaham left ARIJ in late June on study leave for an M.Sc. in Agricultural Policy and GIS, in Montpellier, France. Eliza Al-Laham is pursuing her studies for a Masters in Environmental Economics at Duke University, North Carolina, USA. Omar Yousef Tabukhna left ARIJ to take a job with the Palestine Bureau of Statistics in Ramallah. Rojeece Qumsiya, and Dorris Saba both left ARIJ, taking part time jobs to spend more time with their children. Azzam Saleh left ARIJ in September on a study leave for an M.A. in Entomology at the University of Jordan. Christina Beebe, who had served as English writer and editor, left to continue her travels. Nidal Abu Zuluf left the institute to join his family's computer business.