

Introduction

This year witnessed a number of events in the area that impacted the work of ARIJ. The peace process between Israelis and Palestinians was frozen for most of 1998 until it was vitalized again following the Wye River meeting in October. The first step of further redeployment of Israeli forces in the West Bank took place. However, as Israel's implementation of the rest of the Wye memorandum did not occur, the peace process went again into deep freeze.

This year witnessed the historic visit of President Clinton to Gaza and Bethlehem indicating the worldwide recognition of the Palestinian cause as the core issue for a comprehensive peace in the Middle East.

Next year, ARIJ will be celebrating its 10th anniversary, which will coincide with the end of this millennium.

Bethlehem is undergoing a major facelift in preparation for this occasion. Work on infrastructure is proceeding at a very fast rate. Rehabilitation of the Manger square and the old towns of Bethlehem, Beit-Sahour and Beit-Jala is progressing. New hotels are coming up and a recreational center at Solomon pools is in the pipeline. ARIJ, on its part, has acquired two new caravans, which will be used as a small conference center and administration office.

ARIJ is also working on establishing an ecological farm in Bethlehem that will be used to demonstrate the traditional sustainable agriculture in Palestine. A piece of land covering an area of 3 hectares has been leased east of the historic Shepherds field and landscape work is in progress. Further details will be released soon.

During this year, ARIJ continued its efforts to develop its research activities and programs aimed at promoting sustainable development in Palestine and protecting its environment which is subjected to tremendous stress that is exacerbated by the political conflict. ARIJ focused its activities this year on monitoring landuse changes in Palestine and their environmental impacts. ARIJ is disseminating the information that it compiles on the Internet and through the various presentations, that are arranged for formal and informal delegations that visit Palestine. The work of ARIJ is well recognized worldwide as evident by the number of visitors to its premises and its homepage.

This year, ARIJ completed the Palestinian Environmental Information System (PEIS) which is an integrated GIS linked database that includes landuse, socioeconomic, water, waste water, solid waste, energy, industrial, agricultural and biodiversity data. Out of its conviction that such a system is essential for Palestinian decision makers, ARIJ decided to transfer the data to the Palestinian Ministry for Planning and International Relations (MOPIC), Ministry of Agriculture (MOA), Palestinian Water Authority (PWA) and the Palestinian Environmental Authority (PENA). ARIJ held a four weeks training program for 20 staff members from these institutions at the end of which the data was transferred.

ARIJ is proud to see that it has grown to become a centre of excellence in the field of agricultural, environmental and water research as evident from the following indicators:

- the number of publications and citations
- the invitation for ARIJ to contribute chapters to books
- joining the editorial board of Water policy Journal
- participation in international joint research with Seibersdorf and Joanneum Research Institutes, Bonn, Dortmund, Vechta and Yale universities
- membership in the steering committee for the Hisham Hijjawi award for applied research
- the growing number of attendance and participation in international conferences.

Projects & Funding

ARIJ continues to operate on a project basis to cover its capital and operational expenses. ARIJ acknowledges the support of the following donors for its research projects:

1. International Development Research Center for its support of assessing the degree and impact of urbanization in Palestine
2. The Swiss Government for its continued support of the Landuse Assessment project.
3. The Austrian Government for its support of transferring the Palestinian Environmental Information System
4. The Canadian Government for its continued support of the Mohawk College-ARIJ partnership.
5. The Palestine Consultancy Group for its support of assessing the pollution of the ground water resources
6. The European Community for its support of the Jordan Water Allocation project through the INCO program

7. The German government for its support of the environmental impacts of transportation project through DFG
8. The World Council of Churches for its support of the infa
9. The Middle East Children Alliance for its institutional support

It is becoming increasingly difficult for ARIJ to continue working on a project basis. The board of trustees held several meetings to discuss the challenges facing the sustainability of ARIJ. It was decided that ARIJ should tap on international research funding while at the same time, seek contractual arrangements with the PNA and other institutions. During this year, ARIJ was able to carry out some contractual work to cover part of its expenses. ARIJ had a contract with the United Nation Environmental Program (UNEP) to write a report on the status of the environment in the Occupied Palestinian Territory. ARIJ was also contracted by PENA to assist in preparing the Palestinian Biodiversity Strategy report. Moreover, ARIJ provided small consultancies for the private sector and will continue to seek implementation of more consultancies in the future as one option to partially meet its operational expenses. Other options are being sought.

Community Services

During this period, ARIJ continued to offer its services to a number of Palestinian governmental and non-governmental institutions. This year, ARIJ participated in the formulation of Palestinian agricultural, biodiversity, environmental, scientific research and water strategies with the relevant PNA institutions. ARIJ also cooperated with the Palestinian negotiations department in its preparation for final status negotiations. The director of ARIJ joined the Palestinian delegation to the Wye River meetings as a resource person. ARIJ is pleased to see that the funding of the regional agrobiodiversity project that it was involved in its formulation has finally been approved and the Palestinian ministry of agriculture has started implementing this project. Moreover, ARIJ is delighted that the optimization of land and water utilization project which ARIJ has worked on in close cooperation with the Ministry of agriculture and the water authority has been funded by the Austrian government and is expected to start soon. During this year, ARIJ continued to provide its services, which ranged from data provision, training, map productions, report writing, networking, Internet connection, and homepage design etc.

Activities of the Research Units:

The organizational structure of ARIJ is still based on research units from which each unit contribute for the implementation and completion of the ongoing projects. During 1998, all units have participated in different activities and were involved in various projects

The Biodiversity and Agricultural Research Unit (BARU)

Background

BARU was established in 1991 as the Rainfed Farming Unit. But during the last two years the research has expanded to include biodiversity, conservation and broader agricultural issues in Palestine. Therefore, in 1997 the name of the unit was changed to the Biodiversity and Agricultural Research Unit.

BARU's Main Objective

Biodiversity conservation is the core of bio-natural resource sustainability. The impact of human activities (e.g. urbanization, industries, wars, fire, trees uprooting, hunting, etc.) has resulted in dangerous and serious environmental threats which enhance the process of desertification, soil erosion, degradation of green cover, and endangerment and extinction of flora and fauna.

Main Activities

In the early part of the year, the Biodiversity and Agricultural Research Unit (BARU) completed its demonstrations in Hebron and Bethlehem districts aimed at improving crop production in rain fed areas. Due to the drought, the results were not encouraging. In spite of that, the unit continued its work on collecting local landraces and planting the rare ones in ARIJ's garden for propagation. The unit was contracted by the Palestinian environmental Authority (

PENA) to contribute in drafting the Biodiversity Strategy and Action Plan for Palestine (BSAPP). Several meetings were conducted to facilitate the work with the technical working group and the international consultants. ARIJ also participated in the final workshop for the BSAPP. The unit is currently exploring the potential of launching a sustainable farm project in the West Bank.

After completing her Master's Degree in Utilization and Conservation of Plant Genetic Resources at the University of Birmingham, Roubina Bassous, returned to ARIJ in October 1998. During her studies in the United Kingdom, Ms Bassous attended various meetings at institutes specializing in plant conservation. Faten Neiroukh took one year of unpaid leave from March 1998 .

Activities conducted by the Biodiversity and Agriculture Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/ Coordinators |
|---|---------------|-------------------|-------------------|--|
| Training course in “ Scoping and Terms of Reference of Environmental Impact Assessment“, and “EIA Report writing” | April 11-23 | Nader Hrimat | Trainee | CIDA, (KHEMTP) and (WUSC), Jordan |
| Agriculture in Palestine | August 3 | Nader Hrimat | Lecturer | Youth and Sport Ministry |
| Sectoral Working Group (SWG) | August 4 | Nader Hrimat | Expert | Ministry of Agriculture |
| Agriculture, Research and Extension in Palestine | August 6 | Nader Hrimat | Expert | Ministry of Agriculture |
| Sustainable Use of Agricultural Lands in Arab Countries | September 3-9 | Nader Hrimat | Expert | Palestinian, Egyptian & Tunisian NGO's, Tunis. |

The Computer Unit

Background

From the early stages of ARIJ, the need for quality and dependable computer support was obvious. Thus the Computer Unit was established in 1992. With the growth of ARIJ and the development of more complex projects and software, the Computer Unit correspondingly developed its services.

Main Objective

The Computer Unit provides assistance to all units at ARIJ, by installing and maintaining the software and hardware. The unit also assists the other research units by building up the various databases. Furthermore the Computer Unit is responsible for maintaining and updating the computer network, to which all computers at ARIJ are connected.

Main Activities

The Computer Unit continued to render its services to all the research units at ARIJ through the maintenance of the computer network and Internet facility as well as upgrading and maintaining the institute's homepage. This year, ARIJ acquired a satellite linkage via a VSAT station, which provided easy and somehow more reliable Internet access. ARIJ is providing Internet access to a number of visitors. The unit was actively involved in developing the PEIS (Palestinian Environmental Information System) model to develop a computer program that integrates the various databases for the PEIS Project.

The unit designed and established a web site for the Palestinian ministry of Tourism and Antiquities called Visit Palestine. The site includes description for the major cities in Palestine, including a listing of hotels, restaurants and shops in each city. The site also includes a description of 70 places to visit in Palestine, events and travel information. The site is enriched with approximately 100 photos and 10 maps. The site can be found on the Internet at <http://www.visit-palestine.com/>.

The director of the Computer Unit Isam Ishaq, also coordinates the trilateral research project, “GIS-Based Models and Tools for Sustainable Transport Planning.” This project is funded by the DFG and is done with partners from three Universities in Germany and the Hebrew University in Jerusalem. A second phase for this project was approved for one year with the possibility of an extension to another year. At the end of this project, a computer

model of the transportation system in the West Bank and parts of Israel will be ready. This model will enable researchers and decision-makers to run various transportation policy scenarios and evaluate them.

Plans of the computer unit include:

- Upgrading the Network Infrastructure from 10 to 100Mbit/Sec using switches instead of hubs.
- Securing backup for the NT servers.
- Expanding Internet access for the Institute.
- Link the GIS and the Database systems to the WWW.
- Establishing an internal web site, that will be used to organize the information flow inside the institute. This web site will include the library database to enable the employees to see which books are available at the library and weather they are borrowed.

Activities conducted by the Computer Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/Coordinators |
|---|------------------------|--------------------------|-------------------|------------------------------|
| Emme/2 Training | April 6-9, April 21-24 | Isam Ishaq Hanna Maoh | Trainee | Canada |
| GIS-Based Models and GIS Tools for Sustainable Transport Planning in Israel and Palestine | March 3-7 | Isam Ishaq | Participant | Dortmund University, Germany |

The Environment Research Unit

In 1998, the unit completed the Palestinian Environmental Information System (PEIS) for the West Bank. PEIS includes information of socio-economic characteristics, atmospheric and climatic parameters, soil types, water resources and quality, landuse, industries and industrial waste, agricultural conditions, practices and waste production, domestic and hazardous waste. Information is organized in a computerized data bases using FoxPro, Ground Water for Windows (GWW) and Excel which are then linked to Arcview as a GIS software. PEIS was transferred in 1998 to the Palestinian Ministry of Planning and International Cooperation, Palestinian Water Authority, Palestinian Environmental Authority, and Ministry of Agriculture. The data transfer included a four week training program for 20 members of the PNA institutions on the use of PEIS and several software including Arcview, Visual FoxPro, and GWW.

In addition, the unit was involved in several projects in cooperation with other units at ARIJ. The first project entitled "Sustainable Water Resources Management for the Jordan Valley" involved developing an integrated database for the region as well as a model for the allocation of water resources in the area. The unit continues to monitor the sources of pollution and model the movement of pollutants in the vadose layer. In addition, the unit is continuing its work on the environmental impacts of transportation in the area.

Field surveys are one of the unit's major activities. Members of the unit are monitoring settlement activities in the West Bank. Several reports and case studies supported with maps, photos and figures were produced during the last year. Since August 1998, the unit started to publish monthly reports on the settlement activities in the West Bank. These reports and case studies are published on ARIJ home page in the "Eye-on-Palestine" section. In addition, the unit conducted field measurements of dust in quarrying areas in the Nablus area. The unit is providing different

services to the public through providing data on settlement activities, house demolitions and land confiscation to the media, national and international human right NGOs and to the Palestinian National Authority.

This year, two Canadian volunteers spent a six-month internship at ARIJ. Mr. Adam Fritz has a BSc. Degree in Environmental Science, and Ms. Eva Walrond has an M.Sc. degree in Urban and Regional Planning. They are sponsored by the SPRINGTEC in the Middle East Internship Program.

Wastewater is a major problem in the West Bank that threatens the groundwater. Knowing that rural area is making approximately 60% of the Palestinian built-up areas, installing large-scale wastewater treatment plants will only serve part of the society. Rural areas in the West Bank scattered in approximately 500 small villages. Small-scale wastewater treatment units at household level may provide a better solution for protecting the ground water resources and utilizing this resource in irrigation. The Palestinian ministry for Higher Education and Scientific research granted ARIJ \$ 10, 000 to install and test the feasibility of such units.

Activities conducted by the Environment Research Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/ Coordinators |
|--|----------------|-------------------|-------------------|---|
| Small Scale Wastewater Treatment Systems | February 21-22 | Violet Qumsieh | Participant | WEDO |
| The Palestinian Environment and Israeli Colonies | February 28 | Nizar Qattoush | Lecturer | Palestinian National Guidance, Palestinian Hydrology Group |
| The use of ARC/INFO | March 9-12 | Violet Qumsieh | Participant | ARIJ |
| Environmental Database Management | March 25 | Violet Qumsieh | Participant | Palestinian Bureau of Statistics |
| National Environmental Strategy Plan Options for Sustainable Environmental Planning | March 26 | Violet Qumsieh | Participant | Palestinian Environmental Authority |
| Scoping the Terms of Reference of Environmental Impact Assessment | April 12-16 | Violet Qumsieh | Participant | KHEMPT, WUSC |
| Save Energy-Increase Profit | May 6 | Violet Qumsieh | Participant | Palestinian Centre for Energy and Environment Research |
| Promoting an Integrated Sustainable Regional Development Plan for the Dead Sea Basin | May 26-27 | Violet Qumsieh | Participant | Palestinian Hydrology Group, EcoPeace, Royal Society for the Protection of Nature |
| Effect of Quarries on Air Pollution | June 18 | Violet Qumsieh | Participant | Palestinian Centre for Studies and Research |
| Protection of Nature Reserves | July 23-24 | Nizar Qattoush | Participant | PIES |
| Environmental Management and Audit System | July 28 | Violet Qumsieh | Participant | Birzeit University |
| Highways and By-pass Roads, Where are we Heading in Transport? | July 30 | Nizar Qattoush | Participant | Hebrew University |
| Sustainable Environmental Management Program for Palestinian and Israeli Leadership | October 22-23 | Violet Qumsieh | Participant | PIES |

To contact the Environmental Research Unit, send e-mail to (envir@arij.pl.org)

The Environmental Resource Planning and Assessment Unit (ERPA)

Background

In the shadow of the ongoing massive wave of development and investment activities in Palestine it is feared that the basic terms of sustainable development and conservation of the environment will be disregarded. The lack of a formal Palestinian structure for environmental protection and management may further encourage irresponsible development strategies. In response to this concern, the Applied Research Institute of Jerusalem (ARIJ) created the ERPA unit, formally established 1 January 1996.

Main Objective

The Unit's main objective is to evaluate, assess and model scenarios to propose appropriate and sustainable solutions to environmental problems.

Environmental resource planning and assessment unit (ERPA)

In 1998, the ERPA Unit was involved in the completion of the construction of the Palestinian System for Environmental Resource Management (PSERM) model. At present, ERPA is going through the process of testing and validating PSERM. In addition, the unit is working on the development of a computer-based model for the allocation and optimization of water resources in the Jordan Valley. Johnny Tabash, Maysoun Bannourah and Eyad Al-Araj are all members of the ERPA Unit. Johnny Tabash has left the Unit in January 1999 to pursue his Ph.D in the United States.

Activities conducted by the Environmental Resource Planning and Assessment Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/Coordinators |
|---|--------------|-------------------|-------------------|---|
| Third UNESCO GENIE Workshop | April 20-24 | Johnny Tabash | Participant | UNESCO, Case Western Reserve University |
| Information Technology Modes in Palestine | September 21 | Johnny Tabash | Participant | Birzeit University, Hebron Polytechnic |

To contact the Environmental Resource Planning and Assessment Unit, send e-mail to: (erpa@arij.pl.org)

The Geographic Information Systems & Land Use Unit (GIS)

Background

With world now in the information age, computer generated geographic information systems (GIS) have become an important component for data analysis, especially in the areas of land use planning, the environment, and development. Over the past six years, ARIJ has developed its technique and abilities in this field. In 1994, the newly formed GIS and Land Use Unit began a project to create baseline maps for the West Bank and Gaza using a combination of Jordanian maps, Israeli maps and 1942 maps from the British Survey of Palestine, in cooperation with the Ecole Biblique in Jerusalem. In May 1995, ARIJ began updating these baseline maps using 1:20,000 meter resolution aerial photographs of the West Bank. In June 1996, ARIJ enhanced its capability of analyzing land use by combining Landsat TM with SPOT images of the West Bank and Gaza Strip.

One of the most valuable features of GIS is the possibility to connect its proper internal data to any other external data bases. Using Foxpro, the GIS and Land Use Unit is linking ARIJ's environmental data base to the GIS system. That information can then be located, analyzed and manipulated in an integrated manner to provide real projections. Such a procedure will facilitate the assessment of the environmental impact of any specific project concerning the natural resources of the Palestinian territories, in addition to assisting in proposing measures for environmental protection.

In regards to software, the GIS and Land Use Unit has a well developed Geographic Information System (GIS) based on NT ARC/Info, PC ARC/Info, ArcView, PAMAP, PRIZM, MapInfo, and Surfer software interlinked with the Foxpro data management program. ERDAS Imagine and PCI packages are used to analyze satellite images.

Main Objective

The GIS and Land Use Unit aims to use current data and mapping technology for analysis and planning to promote the sustainable development of Palestine.

Main Activities

This year witnessed further development of the GIS and Landuse Unit, which is the core unit that provides services and support to all research units at ARIJ as well as other local and national institutions.

During this year, ARIJ focused on developing its capabilities in remote sensing applications. An intensive training program both locally and abroad was developed during this year. This past year, Unit members have also had the opportunity to train locally and internationally in various applications of GIS and remote sensing software. In summer 1998, Khaldoun Rishmawi has spent a 3 months period in the Centre of Earth Observation (CEO labs) at Yale University in the United States . The aim was to gain experience in the use of the six band multispectral Landsat Thematic Mapper, the ERMapper and the transfer of data between different Remote Sensing and GIS programs. Majed Abu Kubi, spent two weeks at Dortmund University where he took a training course in the spatial planning department on the applications of ARC/INFO for extracting contour lines from the Digital Elevation Module (DEM) as well as learning project conversion applications. Majed Abu Kubi and Jane Hilal went for a one training course in Berne University, Switzerland in the field of cartography. Hanna Maoh is getting his M.Sc. in GIS and transportation from MCMaster University in Canada. After completing his studies on GIS and GIS programming at Mohawk collage, Canada, Fu'ad Ishaq returned to ARIJ in July 1998. Issa Zboun, travelled to Mohawk College in Canada. He will stay for three years to get his Diploma in the use of GIS in municipality planning. George Sababa and Mary Awwad, are also members of the Unit and are both involved in map digitization and map production. New staff members who joined the GIS and Landuse Unit this past year included Sofia Saad – BSc. Chemistry and Jane Hilal – BSc. Chemistry. Mr. Maher Owewi left ARIJ in 1998.

ARIJ, through the Trilateral Transportation project, funded by DFG, acquired SPOT stereo images for the West Bank which were used to derive a Digital Terrain Model (DTM) for the area. The unit is assessing and monitoring landuse changes through support from the Swiss government. This project aims to classify the West Bank and Gaza to different landuse classes using the Satellite images (Landsat TM and SPOT) and aerial photographs. PCI and ERDAS remote sensing software were used to analyzed the satellite images, while the Orthoengine software was used to orthorectify the aerial photographs for urban analyses. Changes in the vegetation cover were detected using Normalized Difference Vegetation Index (NDVI) and classified by means of supervised classification techniques. By 1999, the Atlas of Palestine will be published containing basic maps, analyzed satellite images and information of the area.

Activities conducted by the GIS and Land Use Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/Coordinators |
|---|----------------|---------------------------------|---------------|---|
| GIS-Based Models and GIS Tools for Sustainable Transport Planning in Israel and Palestine | March 3-8 | Majed Abu Kubi | Trainee | Durtmond University, Germany |
| Environment and Natural Resource Statistics | March 5 | Nader Hrimat | Participation | Palestinian Central Bureau of Statistics, Palestine |
| The use of ARC/INFO | March 9-12 | GIS & Land Use Unit | Trainee | ARIJ, Palestine |
| Jordan Water Allocation Project (JOWA) | April 3-5 | Khaldoun Rishmawi | Participant | Amman, Jordan |
| Inventory of the Soil Resources in the West Bank and Gaza Strip | July 2 | Nader Hrimat and Majed Abu Kubi | Participation | Arab Studies Society, Land Research Centre, Engineering Association, Jerusalem, Palestine |
| Cartography and Map Production | November 15-20 | Majed Abu Kubi And Jane Hilal | Trainee | Bern University, Switzerland |

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|-------------------------------|------------|----------------|---------------|---|
| Protection of Nature Reserves | July 23-24 | Majed Abu Kubi | Participation | Palestinian-Israeli Environmental Secretariat, Israel |
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To contact the GIS and Land Use Unit, send e-mail to (gis@arij.pl.org)

The Water Unit

Background

The Water Research Unit was established in 1990, with the aim of addressing the issues of water resource management and conservation as essential elements in the sustainable development of Palestine.

Main Activities

In 1998, the Water Research Unit completed the irrigation management project, which was funded by IDRC and published the results in a book entitled: “Water Resources and Irrigated Agriculture in the West Bank”. The unit, in co-operation with the Palestinian Ministry of Agriculture, organized a one-day workshop in Ramallah on June 25, 1998 to disseminate the results and formulate the alternative sustainable options to planners, decision-makers and extension workers. Sixty Palestinian experts on water and agriculture representing 8 ministries and authorities of the PNA and 11 NGO’s attended the workshop. Members of the unit have completed a number of technical papers as a result of this work and sent them to refereed journals for publications.

During this year, the Water Research Unit restructured and upgraded the water resources and weather databases and integrated it in the Palestinian Environmental Information System (PEIS), which was transferred to the PNA. Members of the Water Research Unit have been involved in a number of training programs, conferences and workshops in the past year. Mr. Walid Sabbah participated in several meetings related to ongoing projects on; “Sustainable Water Resources Management for the Jordan Valley” and “Environmental Protection of the Shared Palestinian-Israeli Western Aquifer System.” Ms Al-Juneidi participated in a workshop held at Al Arroub, aimed at presenting general information about water resources in the West Bank for young students. Mr. Sabbah left ARIJ in October 1998. Helen Mourad joined the Unit in December, 1998.

Activities conducted by the Water Research Unit in 1998

| Training Programs, Conferences & Workshops | Date | ARIJ Staff | Attendance | Sponsors/ Coordinators |
|---|--------------|---------------------------------|-------------|--|
| Potentials for Development & Investment in the Palestinian Ghour | March 19 | Walid Sabbah, Moh’d Abu Amriyeh | Participant | Centre of Palestinian Studies |
| Environmental Impact Assessment Scoping and Terms of Reference Development Course | April 11- 16 | Faten Al-Juneidi | Participant | CIDA, KHEMTP, WUSC |
| Environmental Impact Assessment Report Review Course | April 18-22 | Faten Al-Juneidi | Participant | CIDA, KHEMTP, WUS |
| Potentials for Sustainable Development of Irrigated Agriculture in the West Bank. | June 25 | Water Unit | Lecturer | ARIJ, Palestinian Ministry of Agriculture. |
| First Scientific Day on Soils of Palestine | July 2 | Walid Sabbah, Faten Al-Juneidi | Participant | Land Research Centre, Arab Studies Society |
| Strategies for Negotiations Dealing with Water Related Issues | July 26 | Jad Isaac, Walid Sabbah | Lecturer | PWA |

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| Groundwater Protection | August 30 – September 8 | Walid Sabbah | Participant | International Hydrological Program of UNESCO |
| Environmental Impact Assessment: Public Participation Course | December 7-10 | Faten Al-Juneidi | Participant | CIDA, KHEMTP, WUSC |
| Environmental Impact Assessment: Report Preparation Course | December 13-17 | Faten Al-Juneidi | Participant | CIDA, KHEMTP, WUSC |

To contact the Water Research Unit, send e-mail to (water@arij.pl.org)

The Resource Center

Background and Main Objective

ARIJ's Resource Center makes data, literature, and periodicals on a wide range of subjects available to the local community as well as provides an important resource for staff, frequent visitors from the Palestinian community and others researching natural resources and the environment in Palestine. Initially, instituted as a deposit for data on agricultural issues, environment and Water, the Resource Center now makes available information on a variety of topics, including specialized sciences, natural resources, and international achievements.

Rose Saqa came to the Institute in July of 1998 and serves as the coordinator of the resource centre.

Future Plans

1. Build a new library database on Oracle server.
2. Acquire advanced computer programs, specialized for library systems;
3. Provide study area for visitors to the library.

To contact the Resource Center, send e-mail: (rc@arij.pl.org)

Training & Workshops:

As the world is continuously developing in its technology, ARIJ tries to keep track of the technology updates, conferences or training courses performed in different countries. Moreover, during 1998, ARIJ has arranged several training programs nationally for local organizations that are interested in the GIS softwares used by ARIJ.

Visitors of ARIJ in 1998

This year, ARIJ hosted a number of visitors at its premises who were interested in ARIJ's activities. These included:

| Visitor | Date |
|---|-----------|
| Delegation of the International Red Cross | 13/1/1998 |
| Delegation of the British Ministry of Foreign Affairs | 15/1/1998 |
| Delegation of Diaconia Institute | 19/1/1998 |
| Dr. W. Loibel, Seibersdorf Institute | 17/1/1998 |
| Norwegian TV | 19/1/1998 |
| German representative to PNA | 20/1/1998 |
| Dutch environmental delegation | 22/1/1998 |
| Western Seminary, USA | 22/1/1998 |

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| Italian environmental delegation | 27/1/1998 |
| Canadian delegation | 10/2/1998 |
| IDRC delegation | 16/2/1998 |
| Swiss Foreign Ministry Delegation | 16/2/1998 |
| British Foreign Ministry delegation | 17/2/1998 |
| American delegation | 18/2/1998 |
| EU delegation | 18/2/1998 |
| Dutch environmental delegation | 19/2/1998 |
| South African water delegation | 19/2/1998 |
| Swedish delegation | 21/2/1998 |
| German Parliamentary delegation | 23/2/1998 |
| Austrian North South Institute | 27/2/1998 |
| Swiss journalist delegation | 27/2/1998 |
| German delegation | 7/3/1998 |
| British Delegation | 10/3/1998 |
| Swedish Delegation | 26/3/1998 |
| American Delegation | 31/3/1998 |
| British delegation | 6/4/1998 |
| German Parliamentarians | 18/4/1998 |
| Konrad Adinauer Stiftung | 8/5/1998 |
| American Delegation / The Middle East Council of Churches | 11/5/1998 |
| Swiss Delegation | 12/5/1998 |
| Swiss Parliament | 16/5/1998 |
| British parliamentarians | 24/5/1998 |
| Norwegian TV | 26/5/1998 |
| German delegation | 4/6/1998 |
| CAABU delegation, UK | 11/6/1998 |
| World Vision | 19/6/1998 |
| French Delegation | 22/6/1998 |
| American Delegation / The Middle East Council of churches | 24/6/1998 |
| Spanish Delegation | 28/6/1998 |
| Ministry of Education | 2/7/1998 |
| Swiss delegation | 7/7/1998 |
| German delegation | 14/7/1998 |
| British Delegation | 16/7/1998 |
| French delegation | 22/7/1998 |
| Jordanian delegation | 27/7/1998 |
| Earlham College delegation | 25/8/1998 |
| British Consul General | 27/8/1998 |
| World Bank delegation | 7/9/1998 |
| Swiss delegation | 12/9/1998 |
| Earlham College delegation | 21/9/1998 |
| IDRC delegation | 24/9/1998 |
| Swedish delegation | 25/9/1998 |
| FAO delegation | 26/9/1998 |
| PCBS delegation | 5/10/1998 |

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| Swiss Journalists | 7/10/1998 |
| Swiss Delegation | 15/10/1998 |
| European Investment Bank delegation | 25/10/1998 |
| Fellows for Reconciliation | 28/10/1998 |
| American Academic Delegation | 2/11/1998 |
| American Delegation | 5/11/1998 |
| American Delegation / Lutheran Church | 11/11/1998 |
| American delegation | 3/12/1998 |
| American Delegation / Lutheran Church | 5/12/1998 |
| International Red Cross delegation | 14/12/1998 |
| French Space Agency delegation | 19/12/1998 |
| Italian Delegation | 23/12/1998 |

ARIJ Publications in 1998:

1. Jad Isaac et al (1998) Potentials for Sustainable and Equitable Development of Irrigated Agriculture in the West Bank. ARIJ.
2. Violet Qumsiyah (1998) The Environmental impact of Jewish settlements in the West Bank, Palestine-Israel Journal of Politics, Economics and Culture vol.V.no.1, 32-38
3. Jad Isaac (1998) A Palestinian Perspective on the Water Crisis. Palestine-Israel Journal of Politics, Economics and Culture vol.V.no.1, 54-57
4. Jad Isaac (1998) Averting a Water Crisis in the Middle East, presented at the Green Cross conference: Make Water a Medium of Cooperation Rather than Conflict, UNESCO, Paris, March 1998.
5. Jad Issac, (1998). Resource Scarcity and Food Security in Palestine, presented in the ICCG conference on "Water and Food Security in the Middle East" April 20-23, Nicosia, Cyprus.
6. Jad Isaac, Nickolas Theros and Walid Sabbah (1998), The partition of the water resources in the Jordan River Basin: A Palestinian perspective, in L'acqua nei paesi mediterranei, problemi di gestione di una risorsa scarsa, Euhenia Ferragina editor, Consiglio Nazionale delle Ricerche, Milano
7. Jad Isaac, Marla Shrader and Suhail Khalilieh (1998) , The colonization of Palestine, in Holy Land Hollow Jubilee, God, Jusand the Palestinians, Naim Ateek and Michael Prior, editors, Melisende, London
8. Jad Isaac,(1998) Die Wasserkonflikte im Nahen Osten: Eine Betrachtung aus palastinensischer Sicht, in Wasser-Kultur-Politik, Wechselwirkungen und Optionen, V. Hartje und H. Ermel editors, Verlag fur Wissenschaft und Forschung, Technische University at Berlin.

Administration & Staff

Administration and Policy

This year, ARIJ has expanded the membership of its board of trustees. This step was essential to inject new blood that will be capable of providing proper policy guidance to ARIJ during its next stage of development. Several meetings were conducted for the board of trustees with ARIJ staff. An open day was organized during which each staff member discussed his/her role and achievements with the board of trustees. This event will be repeated at least once a year in the future.

The board of trustees now includes:

- Eng. Abd El-rahman Abu 'Arafa (agricultural engineer)
- Dr. 'Adnan Musallam (historian)
- Dr. Bishara Abu Ghannam (electrical engineer)
- Eng. Daoud Istanbuli (agricultural engineer)

- Dr. Elia Awwad (psychologist)
- Mr. Fuad Rizeq(economist)
- Mr. Ghassan Andoni (physicist)
- Dr. Hasan Dweik (chemist)
- Eng. Issa Al-Taweel (civil engineer)
- Dr. Jamal Safi (toxicologist)
- Eng. Jarasmous Kharroub (food scientist)
- Dr. Nabeel 'Edeily (pharmacist)
- Dr. Nasri Qumsieh (cardiologist)
- Dr. Norma Masriyah (social scientist)
- Dr. Saleem Zughbi (computer scientist)
- Mr. Samir Halaileh (economist)
- Eng. Shehadeh Dejany(agronomist)
- Dr. Simon Kuttab (chemist)
- Dr. Walid Mustafa(geographer)
- Dr. Ziad 'Abdeen(molecular biologist)

Executive Committee

The board of trustees elected the following officers for the executive committee:

- Eng. Daoud Istanbuli (President)
- Dr. Saleem Zughbi (Vice President)
- Dr. Hasan Dweik (Treasurer)
- Dr. Nasri Qumsieh (member)
- Dr. Jamal Safi(member)
- Mr. Ghassan Andoni(member)
- Eng. Jarasmous Kharroub(member)

Staff affairs

During this year, ARIJ witnessed a number of staff changes. Some left the institute to pursue their studies while others went to work for international organizations or the private sector. ARIJ continues to focus on the development of its human resources as an essential ingredient for institutional development.

This high turnover in its staff causes severe interruptions in the smooth running of its research operation. This calls the attention of ARIJ's input of trained professionals in the Palestinian institutions which is firstly, a recognition of ARIJ capabilities and secondly, a recognition of ARIJ's contribution to the process of Palestinian institutional capacity building.

In spite of that, ARIJ is witnessing the return of some of the staff according to the five-year human resource developmental plan. This year, Roubina Basous came back after getting her M.Sc. in biodiversity from Birmingham University; while Helena Murad completed her M.Sc. in agricultural economics from France. Fuad Ishaq came back with a GIS certificate from Mohawk College. Johnny Tabash is pursuing his study for a Ph.D. in the United States. Ihab Abed Rabbo left for a study leave to get an M.Sc. degree in GIS at Lancaster university while Iyad Al Araj is completing his M.Sc. in Environmental Resource Management in Holland. Issa Zboun left ARIJ for a diploma in municipal planning at Mohawk College in Canada. Over the year, a series of in house training workshops were conducted in GIS and its applications in agricultural, environmental and water research.

In an effort to combat the high turnover of employees, the board of trustees decided to provide incentives for rewarding the staff who excel in their performance. In addition, the board decided to raise the family and transportation allowances to all the staff and to grant all employees an additional month salary at the end of the year. An evaluation for all the employees took place by the executive committee after which, rewards were given. For a list of current staff directory [click here](#).