

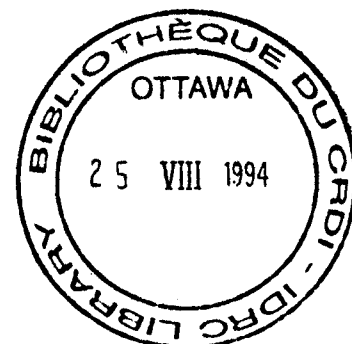
***Roundtable on Land &
Water Management***

***Table ronde sur la
gestion de l'eau et des
terres***

**Proceedings
Actes**

**Cairo/Le Caire
13-15 dec. 1993**

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(Editor/Éditeur)**



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FOREWORD

This document contains the *Proceedings of the Roundtable on Land & Water Management* organized by the Regional Office for North Africa and the Middle East (MERO) of the International Development Research Centre (IDRC). Held at the Cairo Sheraton Hotel from 13 to 15 December 1993, the roundtable counted on the participation of 11 IDRC-supported projects in North Africa and the Middle East and served to:

- i) highlight the projects' commonalities, strengths and weaknesses;
- ii) strengthen their execution by facilitating linkages;
- iii) plan and design future activities and mechanisms for:
 - a) resource sharing, technical assistance, South- South technology transfer
 - b) improved communications and dissemination of results
 - c) joint research
 - d) coordination
- iv) facilitate their contributions to the evolution of the programs of IDRC Regional Office for North Africa and the Middle East (MERO).

The invited projects all concern research activities in the areas of integrated management of natural resources, environmental studies and environmental policies, and illustrate well MERO's current program priority. They included (from West to East):

- 1- Développement d'un système d'information géographique pour la mise en valeur agricole (SIGMA); Maroc/IAV Hassan II, Canada/U. de Sherbrooke (completing in 1994).
- 2- SIG pour la gestion de l'activité pastorale dans la steppe algérienne; Algérie/CNTS (to start in 1994).
- 3- Système d'information à référence spatiale (SIRS) basé sur les données de télédétection pour la conservation des eaux et des sols; Tunisie/ENIT, Canada/U. Laval (completing in 1994).
- 4- Geographic Information System for Water Resources Management; Egypt/SRI, Canada/GIS Division-EMR (completing in 1994).
- 5- Water/Land Management; Egypt/U. of Alexandria, Canada/UBC/Guelph (completing in 1995).
- 6- Environmental Policy-Making; Egypt/AUC (completing in 1994).
- 7- Irrigation Efficiency; Egypt/Desert Development Centre, AUC (starting in 1994)
- 8- Irrigation Management; West Bank/ARIJ (completing in 1996).
- 9- Water Harvesting; Canada/U. of Concordia, Jordan/ U. of Jordan, ICARDA (completing in 1996).
- 10- Agro-Ecological Characterization; Regional/ICARDA (completing in 1994).
- 11- Terrace (Dryland Resource Management Project Phase II); Yemen/AREA, ICARDA (starting in 1994).

(Another initially scheduled project, Integrated Watershed Management -Syria-, could not be represented at the meeting)

The program for the meeting consisted of 2 days of presentations on project concepts (issues

covered, disciplines involved, objectives, methodologies, technical and organizational problems). Participating project leaders were requested to prepare a 30-minute presentation (jointly in the case of multi-component projects) allowing a 15-minute question period between each.

The next day was used (1) to present a synthesis of commonalities, strengths and weaknesses; (2) to propose and discuss innovative activities and mechanisms relating to objectives (ii), (iii) and (iv) above; and (3) to discuss potential follow-up activities by MERO staff and the projects.

These *Proceedings* include the speeches of the participating MERO staff members, followed by the texts made available by the invited project leaders on their projects. The compilation of commonalties, challenges and recommendations was made possible thanks to the assistance of *rapporteurs* selected among the participants. We are particularly thankful to Robert Valantin, Ferdinand Bonn, Mike Jones, John FitzSimons and Seeman Sarraf for their assistance in this matter.

AVANT-PROPOS

Ce document contient les *Actes de la Table ronde sur la Gestion de l'eau et des terres* organisée par le Bureau régional pour l'Afrique du Nord et le Moyen-Orient (BREMO) du Centre de recherches pour le développement international (CRDI). Tenue à l'hôtel Cairo Sheraton du 13 au 15 décembre 1993, la table ronde a compté sur la participation de 11 projets appuyés par le CRDI en Afrique du Nord et au Moyen-Orient et a servi à:

- i) illustrer les points communs des projets, leur force et leurs faiblesses;
- ii) renforcer leurs opérations en favorisant des liens entre eux;
- iii) planifier et formuler des activités et mécanismes futurs pour:
 - a) le partage des ressources, l'assistance technique, la coopération Sud-Sud en transfert de technologies
 - b) une amélioration des communications et de la diffusion des résultats de la recherche
 - c) la recherche conjointe
 - d) la coordination;
- iv) faciliter leurs contributions à l'évolution des programmes d'intervention du Bureau régional du CRDI pour l'Afrique du Nord et le Moyen-Orient (BREMO).

Les projets invités traitent d'activités de recherche dans les domaines de la gestion intégrée des ressources naturelles, des études environnementales et des politiques environnementales. Ils illustrent bien les priorités actuelles du programme du BREMO. Ils ont compris (d'Ouest en Est):

- 1- Développement d'un système d'information géographique pour la mise en valeur agricole (SIGMA); Maroc/IAV Hassan II, Canada/U. de Sherbrooke (terminant en 1994).
- 2- SIG pour la gestion de l'activité pastorale dans la steppe algérienne; Algérie/CNTS (commençant en 1994).
- 3- Système d'information à référence spatiale (SIRS) basé sur les données de télédétection pour la conservation des eaux et des sols; Tunisie/ENIT, Canada/U. Laval (terminant en 1994).
- 4- Geographic Information System for Water Resources Management; Egypt/SRI, Canada/GIS Division-EMR (terminant en 1994).
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- 10- Agro-Ecological Characterization; Regional/ICARDA (terminant en 1994).
- 11- Terrace (Dryland Resource Management Project Phase II); Yemen/AREA, ICARDA (commençant en 1994).

(Un autre projet initialement au programme, Integrated Watershed Management -Syrie-, n'a pas pu être présenté)

Le programme de la réunion a consisté en 2 jours de présentations sur le concept de chaque projet (ses problématiques, les disciplines concernées, ses objectifs, sa méthodologie, ses problèmes techniques et organisationnels). Les chercheurs principaux participants devaient préparer une communication de 30 minutes sur leur projet. Une période de questions de 15 minutes a suivi chaque communication.

Le jour suivant a été utilisé pour (1) présenter une synthèse de leurs points communs, leur force et leurs faiblesses; (2) proposer et discuter des activités et mécanismes innovateurs en rapport aux objectifs (ii), (iii) et (iv) ci-haut; et (3) élaborer sur le suivi de la réunion par le personnel du BREMO et les projets.

Ces *Actes* rassemblent les discours prononcés par les membres du BREMO participants, suivi par les textes offerts par les chercheurs principaux sur leurs projets. Les points communs, les défis et les recommandations ont été compilés par des rapporteurs choisis parmi les participants. Nous tenons à remercier Robert Valantin, Ferdinand Bonn, Mike Jones, John FitzSimons et Seeman Sarraf pour leur assistance à cet effet.

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IRRIGATION MANAGEMENT PROJECT -West Bank-

Hisham Zarour, ARIJ

Introduction:

Irrigated agriculture in the West Bank is largely underdeveloped, with irrigated Palestinian lands presently being estimated to be one-fourth of the potentially irrigable land. Data relating to land and water uses in the West Bank are scarce and unreliable. The basic objective of ARIJ's IDRC-supported irrigation project in the West Bank is to evaluate the extent of water and related land problems as well as the needs of the irrigated sector, and to identify potentials for sustainable and equitable development of the sector in the West Bank.

During the last two decades, agriculture and irrigation underwent drastic changes in the West Bank. In 1972, drip irrigation were first introduced to the area with funds from the Mennonite Central Committee (MCC) and some other voluntarily organizations. Israeli private commercial companies provided the technology. During the same period, green houses, covered agriculture, sprinkler irrigation and improved varieties were also introduced in the area.

Despite these recent advancements in Palestinian agriculture in the West Bank, the general situation is still far from being well developed. Israeli control over fertile lands, water resources, and even markets is most probably the main obstacle hindering development agriculture in the area. Other factors such as land ownership and inheriting complexities, socio-economic relations, lack of long-term planning, and the absence of an organized national infrastructure are other factors that restrain the potentials for developing the Palestinian agricultural sector. The need 'for well-thought out research targeting the development of irrigated agriculture in the West Bank is self evident. Promising options as well as various constraints have to be evaluated and a comprehensive formula for sustainable and equitable agricultural development and efficient management of available resources urgently required, especially with the latest developments in the region.

Although the situation in the West Bank may seem to be unique, many of the issues which the project addresses is highly relevant to other countries in the MERO region.

Beneficiaries and Target Users:

The ultimate beneficiaries of the project would most certainly be the farmers as well as the whole community in the West Bank. However, These do not represent the direct users of the results of the project. Local authorities, agriculture and water departments as well as active NGOs were initially meant to be the prime users of the project findings. However, and with the recent political developments, it is not unrealistic to include the forthcoming national authority in the list of the prime beneficiaries of the project.

As for the implementing party, ARIJ, the institute will directly benefit from the project as it will strengthen its capability in the field of collection and analysis of environmental and resource information. The data that is to be collected under the project will complete

information obtained from other projects, such as the rain fed farming and water resources studies, which ARIJ undertook. Cross-interpretation of accumulated knowledge will enable development of a comprehensive understanding of constraints and areas of gratification. Based on such an understanding, competent plans for developing agriculture can be devised.

The findings of the project will be disseminated to the target users through providing raw and processed information through ARIJ's Agricultural Resource Centre (ARC), the technical papers that will be produced and the final comprehensive report which will describe in detail the methodologies used and the findings of the work.

Research Methodology:

Since the overall objective of the project is to come out with a comprehensive analysis of the potentials for developing the irrigated agriculture sector in the West Bank in a sustainable and equitable manner, various disciplines should be encountered. These range between pure technical subjects to complex socio-economic aspects, with environmental considerations being continuously watched.

As much as physical data is concerned, the project utilizes novel information technologies such as remote sensing and GIS for the purposes of inventorying, mapping and representing land uses, water availability and quality, climatic variables, cropping cycles and the like in addition to present and potential areas for irrigation. In addition to remote sensing, information will be gathered from held measurements, laboratory analysis of samples, and existing soil and topographic maps which will be digitized. A regular system of ground truthing will assure the accuracy and continuous updating of secondary information. As for socio-economic, institutional, legal and technical information, questionnaires had been prepared to obtain information from various parties including farmers, suppliers of equipments and irrigation systems, extension workers and active institutions.

Anticipated Effecting Difficulties:

Lack of basic reliable information from secondary sources is expected to be the main obstacle in undertaking the project. Other obstacles are expected to be the lack of coordination and exchange of data between local institutions, the cloak of secrecy thrown by Israeli authorities over data on water and land and their uses, the inadequacy of expertise in specific field such as remote sensing and GIS technologies and the constraints on free movement of people and equipment in the area.

The capacity building component of the project is herein seen as a very important step towards compensating for the lack of experience on a national level in some areas of knowledge. As for the remarkable dearth of information, the databasing component in the project will help bridging this gap.

Regarding the lack of coordination among local institutions, ARIJ intention is to use this project to set an example on coordination. Attempts are currently being made to reach agreements with key institutions in the West Bank and Gaza Strip regarding resource sharing and dissemination of knowledge. It is hoped that the recent political developments would enhance information and expertise exchange with Israeli organizations.