

RABAT WORKSHOP

## Strategies for Developing and Improving Farmer-Managed Irrigation Systems in North and West Africa

An international workshop on Developing and Assisting FMIS in North and West Africa was held in Rabat, Morocco during 15-19 May 1990. It was sponsored by the FMIS Network and was organized jointly by the International Irrigation Management Institute (IIMI) and the Moroccan Ministry of Agriculture and Agrarian Reform.

The main objective of the workshop was to share experiences across countries in developing new systems managed by farmers and in improving the existing ones. To achieve this the workshop gathered specialists from various origins concerned with the workshop themes. These specialists included irrigation leaders, managers, researchers, policymakers, donors and international experts. Another objective was to allow an exchange of experience and transfer of information concerning problems of irrigation management by farmers and their associations, either by themselves or with public assistance.

The workshop also attempted to discuss alternative strategies of assistance to improve the performance of farmer-managed irrigation systems, taking into account the diversity of social, technical, economic, legal, and financial environments.

Eighty-three participants from around the world included 27 national participants from 15 countries (Algeria, Argentina, Burkina Faso, Chad, Egypt, Mali, Mauritania, Mexico, Morocco, Niger, Nigeria, the Philippines, Senegal, Sri Lanka, and Tunisia), as well as other experts from such entities as the World Bank, the International Commission on Irrigation and Drainage (ICID), the International Fund for Agricultural

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Development (IFAD), the Overseas Development Institute (ODI), the United Nations Development Programme (UNDP) and the United States Agency for International Development (USAID).

The workshop was organized according to three themes: 1) Traditional irrigation techniques and different types of FMIS found in North Africa and in West Africa; 2) Fundamental questions concerning irrigation policy in North Africa and in West Africa (focusing on design and management of FMIS, on legal aspects, and on institutional aspects); 3) Transfer of experience between Africa and the rest of the world (mainly Latin America, South Asia and Southeast Asia).

Each theme was introduced by an international expert in his keynote address and 25 papers were presented by national participants. It is scheduled to publish the proceedings of this workshop by early 1991. Meanwhile we would like to share with you some of the questions raised at the workshop as well as responses of the participants to these questions. (These questions and responses were sent to us by IIMI's Jean-Claude Legoupil and Jean Verdier.)

#### Knowledge of Traditional Techniques

It seems that the traditional techniques used by African FMIS -- *depression irrigation* (irrigation of lower land using the remaining rains or infiltration from adjacent high zones), *controlled flooding* (gravity diversion of flooding to specific fields), *khettaras* (underground water collecting and conveyance canals) also known as *korats* in the Middle East, *norias* (rotating devices to lift water from a river or a well), *shadufs* (counterpoise lifts) etc., -- and their social organizations (oasis, village or tribal systems) were not widely known and a very

limited number of papers described them (the most often described being the oasis system); this limitation of knowledge includes the management processes. The development of the knowledge of traditional techniques could be based on researches, exchanges of information, and demonstrations on pilot projects. Some participants proposed more comprehensive knowledge processes, including typology, systematic inventory, and case studies.

#### Performance of FMIS

It seems that many African FMIS achieve rather good results, while the rest has low or limited performances. It is regrettable that quantitative data about these performances are not available because of the limited attention paid to their measurement. For Africa, the participants ranked the possible causes of low performance in the following decreasing priorities:

- 1) Sociocultural factors.
- 2) Institutional factors.
- 3) Economic factors.
- 4) Legal factors.
- 5) Financial factors.
- 6) Technical factors.

The majority of participants proposed to capitalize on their experience and start a database on existing FMIS to develop case studies and to promote the concepts and methods used in different places. It was also said that a common taxonomy about FMIS would prevent misunderstandings, especially between different regions of the world.

Some workshop participants considered foreign innovations as a way to improving FMIS, while others believed

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that a smooth and slow evolution of existing FMIS is a sounder way of improvement than the introduction of foreign alternatives.

#### Public Assistance to FMIS

It was pointed out that public assistance for FMIS development and improvement should be emphasized in countries having a tradition of governmental interventionism in the productive sector than in those where private firms are more active. Almost all participants said that public assistance should be heavily emphasized for young FMIS. The governments should not be directly involved in the usual management of old FMIS. Rather, they should remain in their role as catalysts, creating a favorable environment for the evolution, improvement and sustainability of these systems. The participants gave the following examples of governmental actions able to favor FMIS:

- 1) Development of a long-term policy on agricultural prices (mainly to avoid erratic and unpredictable fluctuations).
- 2) Betterment of the general level of education of the farmers (now, a very high percentage of farmers managing irrigation systems in Africa are illiterate).
- 3) Implementation of extension services and technical consultants.
- 4) Incentives for the banks loaning money for the development of FMIS or the creation of banks specialized in agricultural development.
- 5) Formulation of laws allowing the creation and development associations.

- 6) Suppression of inconsistencies on the tenure of land and/or water (policies sometimes known under the names of "agrarian reform" or "agrarian revolution").

Many participants considered that the governments, along with the farmers, should play a major role in the main rehabilitation and modernization of FMIS.

Responses at the workshop also included the feeling by some that governments should not be authorized to turn over nonviable irrigation systems to farmers, but that they should improve them prior to turnover. It was also said that it may be worthwhile to research the most efficient procedures to transfer the management of an irrigation system from an irrigation agency to farmers' associations.

#### International Exchanges

The participants unanimously agreed that international exchanges and cooperation could facilitate the development and improvement of African FMIS. In particular, there was no question about the urgent necessity of implementing more permanent relations between the different countries of North and West Africa. However, several African participants expressed reservations regarding the benefits of intercontinental relations. They considered that knowing experiences from other continents may be useful, but that these experiences cannot generally be duplicated in Africa without important adaptations because of the differences in human, economic, and physical environments. West African participants seemed more attracted by Asian experiences whereas North African participants expressed a stronger interest for

Latin American experiences. The intercontinental exchanges should deal with all aspects of FMIS whereas African exchanges should be more focused on:

- 1) The irrigation techniques and the organization of water distribution.
- 2) The implementation of users' associations (including legal status) and their working rules.
- 3) The cropping techniques.
- 4) The condition of transfer of irrigation management from governmental agencies to farmers.

The most commonly quoted media for international exchanges included a specialized newsletter, study tours for FMIS managers and workshops, seminars, and other types of meetings. Case studies, training sessions, and researches involving several countries were also mentioned.

Many participants felt that it was almost impossible for African governments to develop a network of

international exchanges on FMIS through bilateral contacts. Only an international organization, such as IIMI, has the necessary capabilities to found such a network. This network should not be limited to government officials and engineers, but should include farmers, researchers, agronomists, sociologists, and policymakers. It was felt that this network could benefit from the creation of a data bank on African FMIS. However, some participants pointed out that the development of a network between countries having no common language would be seriously handicapped by the absence of interest of almost all donors for breaking language barriers.

The workshop also included a field visit in Marrakech guided by engineers from the Directorate of Rural Equipment. Some 40 participants joined the two-day trip to a region that has traditionally produced some of the most beautiful fruit in Morocco. The scientists, donors, engineers, and other leaders listened as Moroccan farmers discussed their lives. The field visit also included tours of *sequias* or earthen irrigation channels.