FAO\'s experience in socio-economic and gender analysis in farmers\' water management

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FAO'S EXPERIENCE IN SOCIO-ECONOMIC AND GENDER ANALYSIS IN FARMERS' WATER MANAGEMENT

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IMPORTANCE OF IRRIGATION IN AGRICULTURE

This workshop is taking place at a very crucial moment for many countries, when millions of people are chronically undernourished and facing food emergencies caused by natural and man-made disasters. The world's food production depends on the availability of water, a precious but finite resource. About 20 percent of all cropland is irrigated, which provides 40 percent of the world's food. Irrigated agriculture utilizes approximately 70 percent of all the freshwater withdrawn in the world, and more water will be used for irrigation in the future, as world food production continues to increase to meet demand. The challenge for irrigated agriculture today is to contribute to the world's food production and improvement of food security through a more efficient, equitable and integrated use and management of water.

In 1999, 42 percent of arable land in Asia was irrigated, 31 percent in the Near East and North Africa, 14 percent in Latin America and the Caribbean, and only 4 percent in Sub-Saharan Africa. There is a need for a comprehensive programme, focusing on water harvesting, conservation and efficient use, and irrigation and drainage. Such a programme would generate substantial increases in farm production and reduce the vulnerability of rural communities to the impacts of future crises.

Irrigation increases yields of most crops by 100 to 400 percent. Over the next 30 years, 70 percent of gains in cereal production are expected to come from irrigated land. FAO estimates that irrigated land in developing countries will have increased by 27 percent between 1996 and 2030, while the amount of water used by agriculture will increase by only 12 percent, due to improved irrigation efficiency. Irrigation has increased food outputs and allowed for diversification into higher value crops. This has been enabled by the utilization of technologies aimed at increasing yield, and has often provided employment for the landless poor.

There is a strong and complex relationship between food security, poverty and environmental degradation. An integrated and sustainable approach for land and water use management is required to enhance water saving and soil conservation that is environmentally not degrading, technically appropriate, economically viable and socially acceptable. Low-cost water and labor-saving irrigation technologies should be adopted to assist smallholder agriculture in developing countries. Special efforts are necessary to ensure the equitable and fair access to water and other resources for improving food security at household and community levels.

GENDER IN WATER MANAGEMENT

A review of irrigation projects worldwide shows that they tend to favor richer farmers; poor men and poor women rarely benefit as much. The expansion of irrigation schemes is often achieved at the cost of evicting tenant farmers, buying out marginal farmers and expropriating land formerly used by the poor. Irrigation projects have often been implemented without consideration for existing social and cultural practices and knowledge of the gendered division of labor and responsibilities. Women and men have differential incentives for investing time, labor and capital in irrigation related activities, reflecting gender differences in responsibilities, their access to and control over productive resources, including water and the benefits from irrigated agriculture.

Irrigation schemes often upset the balance of local conditions, rights and customs, and in some cases devalue the environmental and agricultural knowledge and expertise that women and men have built up over generations. For example, traditional swamp rice farming practices and knowledge are being lost as more land is pushed into irrigated fruit and vegetable production for export purposes.

Women play an important role in water management. They are most often the collectors, users and managers of water in the household, and of irrigated and rainfed crops. In Asia and Africa women are also active in fishing and in the development of aquaculture. They also have an increasing role in watershed management. Nevertheless, in many cases water resource policies and programmes have proven detrimental to women's water rights and to their sustainable management and use of water; often overlooking their needs. Irrigation interventions have often failed to take into consideration the existing imbalance between men and women's ownership rights, division of labor and incomes; caused by the mistaken conceptions of the intra-household organization of production.

By raising the value of land, irrigation brings about social change which usually favors men. Irrigation systems also tend to favour mono-cropping, often for the production of cash crops, and may exclude provisions for a more diversified cropping pattern supporting a variety of food crops. As cash crops are usually controlled by men, decisions regarding the scheduling of irrigation water tend to be made without consideration for women's activities in the farm and the household.

Women's entitlement to water is often precarious. Since they must depend on small scale or hand irrigation, they have difficulties coping with drought. Often technologies available to women do not respond to their needs, such as pumps with handles they cannot reach or manipulate, or they have not been trained to repair. Night irrigation for example can also create problems for women. Several studies have shown that women are often not active members of water users' associations and those who attend meetings may not be allowed to speak before men or to express opinions in opposition to men. Their needs and priorities sometimes differ.

It is important to note that gender is now recognized as one of the emerging principles on the sustainable management of water resources and is becoming an integral part of programme planning, appraisal, monitoring and evaluation. In recognition of the fundamental role of women in poverty alleviation and irrigation, several international meetings have made specific policy recommendations for gender-balanced development to ensure gender visibility in technical development activities. A number of countries has also started promoting the participation of women in water management in their national legislation on water and creating awards to celebrate their role in poverty eradication, education and sustainable development, in urban and rural settings.

Three broad areas in irrigated agricultural production systems were identified where gender analysis can help create more effective, equitable and sustainable irrigation policies and programmes:

1) Irrigation design: where it is necessary to identify who will be using the water, the amounts needed, at what times and for what purpose;
2) Legal, administrative and organizational arrangements: women's use and control of land and irrigation water is fundamental. Land should be allocated to individual farmers rather than to households. All farmers who own, rent or work on irrigated plots should be members of water users' associations, and women be guaranteed leadership positions;
3) Implementation of irrigation projects: water delivery schedules should be devised to accommodate both men and women's needs with respect to quantity, timing and quality of water. Access to training, technology and credit should be ensured to both.

In many parts of the world, women's agricultural work is especially important in rainfed areas. For example, an FAO study in Lebanon showed that women were responsible for sowing, weeding, harvesting and processing, but often had little influence on the decision-making process, especially in the planning and implementation of farm activities.

SOCIO-ECONOMIC AND GENDER ANALYSIS IN IRRIGATION

In many developing countries, the direct beneficiaries and the main actors in food production and food security are still not sufficiently involved in the planning and implementation of irrigation schemes and projects. The poorest and most vulnerable rural people, mainly women, often do not have access to training and extension activities.

As part of its contribution to meeting the first UN Millennium Development Goal of eradicating extreme poverty and hunger by 2015, FAO is placing increased emphasis on the provision of water for food security, and has identified three basic concerns: to produce more food with less water; to protect water quality and the environment, including human health; and to close the food consumption

requirement and production gap. FAO Special Programme for Food Security (SPFS) is based, among others, on the participatory approach and the recognition of women's role, with emphasis on the improvement in on-farm water control, crop intensification, diversification of production systems, and constraints analysis and resolution.

FAO Gender and Development Service is seeking to raise awareness about gender concerns and has developed tools and methodologies that integrate gender issues in farmers' water management programmes, in order to increase household income and food security. In 2001 the Service has developed, under its Socio-economic and Gender Analysis (SEAGA) Programme, an Irrigation Sector Guide for use by irrigation engineers, multidisciplinary identification and formulation missions, staff of rural development projects, government employees, staff of NGOs, and engineering and consulting firms. The Guide supports gender-responsive participatory planning of irrigation schemes and the integration of socio-economic and gender issues. Its goal is to improve irrigation scheme performance while strengthening the position of rural women and disadvantaged groups.

A network of development specialists familiar with SEAGA was established to exchange views and experiences on integrating gender issues in the development of strategies and activities. SEAGA has also contributed to the establishment of a series of regional and national networks in Cape Verde, Ivory Cost, Madagascar, Mali, Philippines, Spain, Uganda. In the Near East SEAGA supported the creation in Tunisia of the Centre de recherches, d'études et d'information sur la femme (CREDIF), as a result of a training of trainers workshop on SEAGA held in Arabic in 2002.

Moreover, FAO Water Resources, Development and Management Service has developed some Guidelines and Farmers' Training Manual for Participatory Training and Extension in Farmers' Water Management. These documents provide an approach and tools to improve farmers' water management by involving and supporting farmers with a focus on participatory planning, and by training farmers and extension workers.

CAPACITY BUILDING IN GENDER ANALYSIS IN FARMERS' WATER MANAGEMENT

In 2000 the Istituto Agronomico Mediterraneo of Bari and FAO organized the International Training Workshop on Participatory training methodologies for the empowerment of rural women in the Mediterranean area for sustainable irrigated crop production, with the assistance of the International Commission on Irrigation and Drainage. The workshop was part of the Institute's Master of Science programme on "Land and water resources management: irrigated agriculture", and 23 experts from Albania, Algeria, China, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia and Turkey, attended the workshop.

On preparation of the meeting, it was agreed to use for the training the methodology developed by SEAGA, in particular the Sector guide on irrigation, and the Participatory Training & Extension in On-Farm water management, applying the adult learning approach and participative rural appraisal techniques for both a farmers' training and in-service training programme.

The immediate objective of the workshop was to familiarize professionals from Mediterranean countries with the approaches to and development of participatory training methodologies adapted to rural women at grassroots level and ensure the successful introduction of appropriate low-cost irrigation technologies.

In 2002 the Government of Italy decided to fund an International project on "Gender analysis in farmers' water management". The project responded to the urgent need of the national teams working in FAO's Special Programme for Food Security for training in gender and participatory tools to more actively involve the different socio-economic groups in the irrigation schemes and assist both technical experts and farmers in irrigation planning.

The training workshops were organized in collaboration with the FAO South-South Cooperation Programme, promoting the exchange of experience among developing countries; and the FAO Project on "Empowerment of women in irrigation and water resources management for improved household food security, nutrition and health" (Cambodia, Nepal and Zambia), funded by the UN Fund for International Partnership Programme.

The development objective of the project was to enhance the opportunities for rural women to improve household food security and raise income, by introducing low-cost and water-saving technologies for irrigated crop production. The immediate objective was to introduce, within the SPFS framework, a participatory training and extension programme to increase its impact by ensuring women's involvement in the main stream activities and increasing their access to productive resources and appropriate irrigation technologies.

The capacity building process consisted of three essential steps: 1) A two-week training workshop to introduce gender issues in water control and in the SPFS programmes and prepare an outline for a national gender training programme; 2) Elaboration of the training programme and organization of a gender workshop for SPFS teams and partner institutions in each selected country; and 3) A one-week follow-up workshop to present the detailed gender training programmes and agree on the implementation modalities.

Four regional workshops were organized respectively in South Africa and in Cambodia for a total of 68 national experts from 21 countries from Africa and Asia. Two Regional training of trainers workshops were organized in collaboration with the Water Research Commission and the National Department of Agriculture in South Africa, for irrigation experts from 9 African countries (Ethiopia, Malawi, Mozambique, Nigeria, Republic of South Africa, Sudan, Swaziland, Tanzania and Zambia); and in Cambodia, with the national Ministry of Agriculture, Forestry and Fisheries for specialists from

12 Asian countries (Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Laos, Mongolia, Nepal, Pakistan, Sri Lanka and Vietnam).

The regional workshops had the double purpose of training and promoting networking between different countries, allowing participants to discuss on the similar successes and constraints, but also some differences in the SPFS implementation. It was the first time that the SPFS national teams met and exchanged experiences. The material used in the training workshops were the SEAGA Programme and the Participatory training and extension programme in farmers' water management; using participatory training techniques, based on the adult learning's theory, and relevant case studies from the two Regions.

The specific outputs were as follows: a) Increased capacity to address the issues of socio-economic and gender analysis and use participatory methodologies to support the participatory planning of irrigation schemes among SPFS experts from Africa and Asia; b) Training material produced and widely distributed on gender analysis in farmers' water management; c) Detailed procedures adapted to regional and national specificities to involve more actively women in the water control component of the SPFS Programme; d) Prepared a gender-sensitive training programme to be implemented within the SPFS framework; and e) Strengthened the horizontal collaboration between the three FAO Departments of Agriculture, Sustainable development and Technical cooperation.

At the end, the workshops' participants and facilitators, with the full support of FAO, highly recommended to further disseminate the methodology and materials and organize new regional training activities in gender analysis and participatory tools. Special interest in this process has been shown by French-speaking and other English-speaking countries in Africa and possibly in other regions.

DIMITRA PROJECT

The Gender and Development Service is also implementing an Information and communication project called DIMITRA, coordinated from Brussels. This project aims at highlighting rural women's contribution to their community and country, and relies on the active cooperation of a large network of local partners in Africa and the Near East.

The main objectives of the Dimitra project are to consolidate and extend the network in Africa and the Near East, to promote information exchange by strengthening information and communication skills and to update and disseminate information on gender and rural development issues. The expected impacts include easier access to information; sharing of local knowledge and know-how through networking; less marginalization for rural population, particularly women, and gender sensitization for all development actors.

Its main goal is to empower rural women and improve their living conditions and status by highlighting the extent and value of their contributions. DIMITRA provides a tool for grassroots organizations to make their voices heard internationally. The project's working methods centre around three main principles: 1) Partnership - valuing local knowledge and working closely with local partners; 2) Participation - the Dimitra network cannot function without the active contribution of civil society organizations; and 3) Networking - encouraging and supporting exchange of good practices, ideas and experiences.

The project has collected detailed information on organizations and projects concerning rural women in Europe, Africa and the Near East and worked closely with ten local partners located in Africa and the Near East. Dimitra partner organizations are: ENDA-PRONAT covering part of West Africa and ABANTU FOR DEVELOPMENT for the rest of West Africa, FAN for East Africa, ONG-VIE working on the countries of the Sahel, SANGONeT/Women'sNet covering Southern Africa, CREDIF for Algeria, Libya and Tunisia, AMSED for Morocco, ONE for the Indian Ocean: Comoros, Madagascar, Mauritius and the Seychelles and CARDNE for the Near East.

Dimitra uses both traditional and new communication methods and tools to disseminate information as widely as possible. The Dimitra on-line database is regularly updated, and accessible free of charge on the FAO website at the following address: http://www.fao.org/sd/dimitra. Its publications include: a Guidebook on European, African and Near Eastern organizations (NGOs, information centers and research institutes) working with/for rural women in the South; bi-annual Newsletters (in English and French) with information on current activities of the project and partner organizations, which are disseminated to about 5.500 organizations worldwide. A CD-ROM of the database will also be produced in September 2004. To date we have received information on over 1.300 organizations, among which 1050 in Africa and the Near East, about 3.000 project descriptions, 1.000 publications, and we have an ever-expanding worldwide mailing list.

Two conferences were organized respectively by ENDA-PRONAT in Senegal on "Rural women and access to land" and on "ICTs in the service of good governance, democratic practice and the development of rural women in Africa" by Women'sNet in South Africa; and another on "Rural women's access to information" is under preparation by CREDIF in Tunisia.

IMPORTANCE OF NETWORKING

Before ending my presentation I would like to share with you some of the ideas discussed during the different training workshops to promote networking at three different levels: community-village, institutional and policy levels. At community level we should assist farmers and community's associations; organize formal and informal discussions with different stakeholders (farmers, extension staff and technicians); encourage the exchange of information through different media; organize demonstrations and field visits and create specific women farmers' schools. At institutional level meetings should be organized between ministry departments, NGOs, community members, professional associations, etc; plan capacity building activities; disseminate information through newsletters and journals; and organize seminars for staff of different sectors. At the policy level, it is of fundamental importance to share experiences between different countries; participate in international meetings, workshops and tours; organize awareness campaigns; and share information on national policies and regulations.

There is still much to be done and we hope that each one of us can be a "good ambassador" in our countries in raising awareness and organizing training activities at field, institutional and macro levels, on gender analysis and participatory tools to be integrated in each phase of any irrigation activity. Only working together we can enhance the opportunities for rural women and men to improve household food security and alleviate poverty.