



Water and Food Security

During the second half of the 20th century, world population had a twofold increase, agriculture doubled food production and developing countries increased per capita food consumption by 30 percent. However, while feeding the world and producing a diverse range of non-food crops such as cotton, rubber and industrial oils in an increasingly productive way, agriculture also confirmed its position as the biggest user of water on the globe. Irrigation now claims close to 70 percent of all freshwater appropriated for human use.

Within the context of demographic growth, increased competition for water and improved attention to environmental issues, water for food remains a core issue that can no longer be tackled through a narrow sectoral approach. New forms of water management in agriculture, including rainfed and irrigated agriculture, watershed management, inland fisheries and aquaculture, and livestock and rangeland management need to be explored and implemented in a comprehensive way.

Farmers are at the centre of any process of change and need to be encouraged and guided, through appropriate incentives and governance practices, to conserve natural ecosystems and their biodiversity and minimize their negative impact, a goal that will only be achieved if the appropriate policies are in place. Irrigation institutions must respond to the needs of farmers, ensuring more and reliable delivery of water, increasing transparency in its management, and balancing efficiency and equity in access to water. This will require changes in attitudes but also well targeted investments in infrastructure modernization, institutional restructuring and upgrading of the technical capacities of farmers and water managers.

THE CRITICAL ROLE OF WATER IN ACHIEVING RURAL FOOD SECURITY

Today's agriculture sector faces a complex series of challenges: produce more food of better quality while using less water per unit of output; provide rural people with resources and opportunities to live a healthy and productive life; apply clean technologies that ensure environmental sustainability; and contribute in a productive way to the local and national economy. FAO's water programme is shaped along the lines dictated by these new challenges, in order to better respond to the needs of its member countries.

- **Improving on-farm water management: producing more with less water**
FAO produces and maintains crop water productivity

models for application at field level and for scenario analysis on impact of global warming.

- **Improving the performance of irrigation services**
FAO has developed a multi-language training package for modernization and rehabilitation of large-scale irrigation schemes and has applied it in 20 countries.
- **Augmenting supply: the use of non-conventional waters**
FAO recognizes importance of reuse of drainage water and use of water resources of marginal quality, such as treated wastewater and brackish water, especially in the arid and semi-arid zones of water scarce countries and in rapidly growing peri-urban settings.
- **Water Harvesting**
FAO promotes water harvesting as one of the techniques with highest potential to boost rainfed agriculture, in particular in semi-arid regions of sub-Saharan Africa.

Water on the donor agenda

For more than a decade, FAO has advocated for better recognition of the role of water in ensuring food for all and eradicating rural poverty, constantly reminding world leaders about the strategic importance of this sector. As a result of the combined efforts of FAO and its partners, water for food and agriculture are receiving more attention in donor's agendas. World Bank lending in water for agriculture is now growing again. In 2004, the European Union launched the EU Water Facility for ACP countries, with an initial budget of US\$500 million. The African Development Bank launched the African Water Facility with a target budget of US\$620 million.

- **Integrated watershed management**

FAO supports an increasingly important role for new financing mechanisms, including payment for environmental services, based on results of a watershed management review undertaken by FAO and partners. It also found need for a more inclusive and participatory approach in watershed management implying multi-stakeholder involvement and a negotiation process among grassroots, technical and policy concerns.

- **National policies: water allocation to agriculture**

FAO warns that agricultural water already is being allocated to other utility uses such as municipal supplies, environmental reserves and hydropower generation. This indicates a need for a progressive agricultural policy alongside water policy if these allocations are to be optimized in economic and environmental terms.

- **Trade and the potential of virtual water**

FAO supports countries as they confront the prospects of water scarcity and recognizes that, if water becomes the scarce factor, it may be more sensible to “import” it embodied in products in general and food in particular, especially if food is available on favourable trade terms. Therefore, efficiency gains in global food trade in terms of water resource utilization are possible and the consequence of increasing reliance on irrigation for food production in many countries, including food exporting countries, need to be well understood before such policy commitments are made.

FAO WATER MANAGEMENT FIELD PROGRAMME

The FAO Water Unit is directly responsible for more than 60 on-going field projects totaling US\$105 million. Freshwater management is a component of several agricultural and rural development projects that include watershed management, inland fisheries, local development and emergency recovery such as Tsunami, reconstruction in Iraq and Afghanistan. In addition, water is an essential component of FAO’s National Programme for Food Security which involves 102 countries. Irrigation, drainage and water management are also a major pillar of FAO’s Investment Centre charged with design and monitoring of agriculture investment projects.

FAO water strategy for Africa

FAO focuses its efforts particularly on Africa, the continent where progress toward the Millennium Development Goals systematically lags behind. Its African strategy has three steps:

- **short-term – small-scale water control programmes can have an immediate impact on the livelihoods of rural communities;**
- **medium-term – substantial efforts must be made to modernize large-scale irrigation systems, in connection with the development of local markets;**
- **future – the pressure on water may justify investments in large river basin management projects where their role in regional development can be clearly identified.**

FAO AND UN-WATER

UN-Water, the United Nations mechanism for follow-up of water-related decisions reached at the 2002 World Summit on Sustainable Development and the Millennium Development Goals, supports member governments in their efforts to achieve water and sanitation goals and targets. Today, 24 UN agencies, funds and programmes that have significant roles in tackling global water concerns are members of UN-Water and 10 international NGOs are partners.

FAO, elected chair of UN-Water for 2007–2009, promotes an agenda of inter-agency collaboration to better serve UN member countries. At national level, it seeks practical ways to avoid duplications and contrasts in approaches to water resources management and enhance the overall effectiveness of UN agencies in their support to governments. At international level, it focuses on better monitoring of water-related targets and issues so as to better inform global policies and decision-making processes. It also focuses on the issue of water scarcity and the search for effective and equitable ways to address it.



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