Comprehensive assessment of water management in agriculture

water for food, water for life

CA in brief

influencing what happens next

The Challenge

A Water-Food-Environment Dilemma

Imagine a channel of water a meter deep, a kilometer wide, and nine million kilometers long—long enough to encircle the globe 234 times. That's the remarkable amount of water it takes each year to produce 3,000 calories of food a day for the world's 6.5 billion people. Broken down into smaller quantities, a calorie of food takes a liter of water to produce. A kilo of grain takes 500-2,000 liters, a kilo of meat 10,000 liters. Surprising numbers, indeed. Add 2-2.5 billion people by 2050 and accommodate their changing diets from cereals to more meat, and that could add another five million kilometers to the channel of water needed to feed the world's people and support the planet's ecosystems. Where will that water come from? Will it reach the poor and hungry? Will it produce enough food? How can it sustain the environment?

Debates

Views diverge over choices about water, food and ecosystems. In particular, regarding the impact of investments in small-scale and large-scale agriculture on poverty and the environment, the role of trade, the prioritization of ecosystem water needs, and the role of agriculture itself in poverty alleviation. Widening the divergence of positions are differences in the language and approaches used to describe the tensions and tradeoffs.

The Comprehensive Assessment of Water Management in Agriculture (CA) was conducted to bring these diverse views together—to critically evaluate the current situation and to provide policy relevant recommendations on the way forward over the next 25 to 50 years. It aims to inform people who make investment and policy decisions in the field of water management for agriculture as well as practitioners and researchers.

Our Challenge

What is clear is that today's water management challenges—and tomorrow's—differ greatly from those of 50 years ago, or even 25. They thus require new approaches. Those approaches will be broader, looking into the opportunities in rainfed, irrigated, livestock and fisheries systems—and in preserving, even restoring, ecosystems. They will build water systems for many purposes and manage them to provide a wide range of ecosystem services. They will be more participatory and hold informed multistakeholder dialogues to deal with the many tradeoffs. And they will embrace diverse interests and institutions to increase the equity of water's use. These are the hopes emanating from this Assessment of water for food and for life.

"Business as usual is not an option"

The CA Mandate

The CA is an innovative multi-institute process aimed at identifying existing knowledge and stimulating thought on ways to better manage water resources for agriculture. The CA assesses the benefits, costs and impacts of the past 50 years of water development, the water management challenges communities are facing today, and solutions people have developed.

"The participatory assessment process combines state of the art science and on-the-ground experience"

The Process

The Comprehensive Assessment has over the past five years been engaged in a complex process of dialogue, partnership, research, synthesis, review and outreach. The Assessment is produced by a broad partnership of practitioners, researchers and policymakers.

Dialogue

In 2001, at the 2nd World Water Forum, the water, food and environment issue emerged with opposing debates on how to move forward. Dialogue backed by better knowledge was proposed to overcome this divide. To start the process, the CA first embarked on a consultation with stakeholders to frame key questions.

Gap-Filling Research

Gap-filling research was carried out by CA partners by over 30 inter-linked projects. The main outputs are reported in a book series published by CABI and a CA research report series, available online.

Synthesis and Assessment : A Collective Effort–and One Book

The synthesis phase was designed along the lines of the Millennium Ecosystem Assessment and the Intergovernmental Panel on Climate Change processes with the aim of being both scientifically rigorous as well as an open forum for knowledge sharing. Chapter teams were formed comprising of lead authors, contributing authors, and a broader network, and in some cases, comprising up to 100 people per chapter. To stimulate participation, each chapter had at least one workshop, an online consultation process, and two independent reviews. Cross-cutting meetings involving members from all chapters were held to ensure integration.

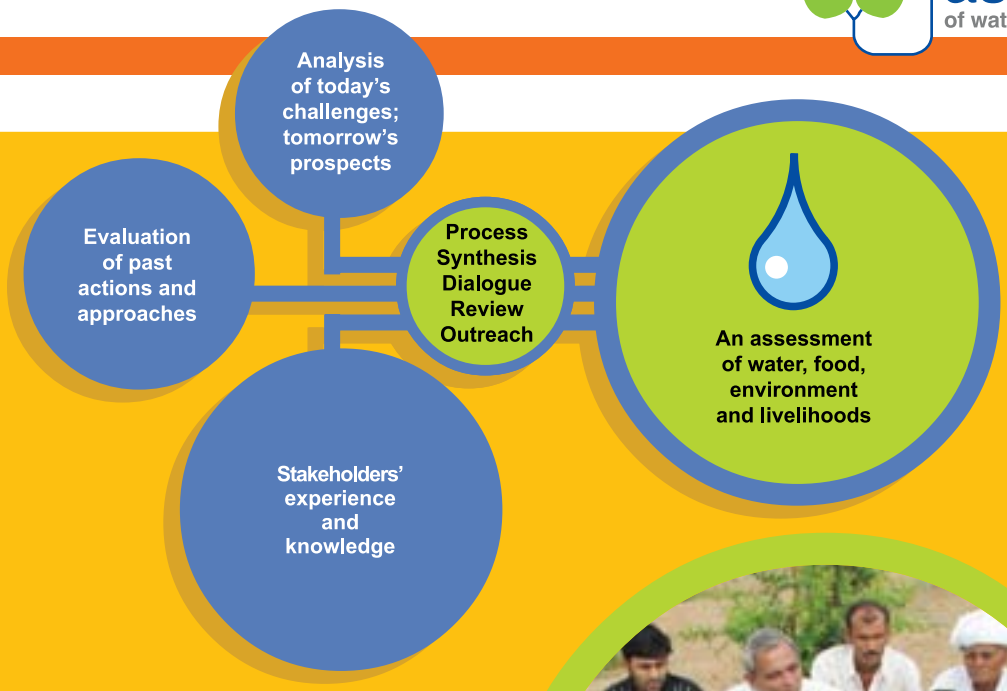
Review

All of the chapters as well as the Summary for Decision Makers have gone through extensive review. The messages were presented at the 4th World Water Forum in March 2006 and online for general public review before its completion.

Outreach: From Assessment to Action

Outreach has been part and parcel of the entire process from the multi-stakeholder dialogues, to the interactive research projects, to the work of the large and diverse synthesis team. The participatory approach used to develop the assessment generated ideas and interest, created ownership and disseminated results. With the aim to further reach a wide and diverse set of stakeholders, various activities and related products will be developed to target and share with different groups. Further outreach is envisaged through four main avenues: policy dialogues, direct development implementation, further research, and dissemination to the general public. The CA has strong linkages with the CGIAR's Challenge Program on Water and Food, which is taking up CA recommendations on research and action.

Comprehensive assessment of water management in agriculture



The CA brought together over 700 researchers, practitioners, development professionals, water users and policymakers from around the world. A diverse group of stakeholders, experts from different continents, disciplines, and institutions have shared their knowledge, experience, and views on key issues.

Results

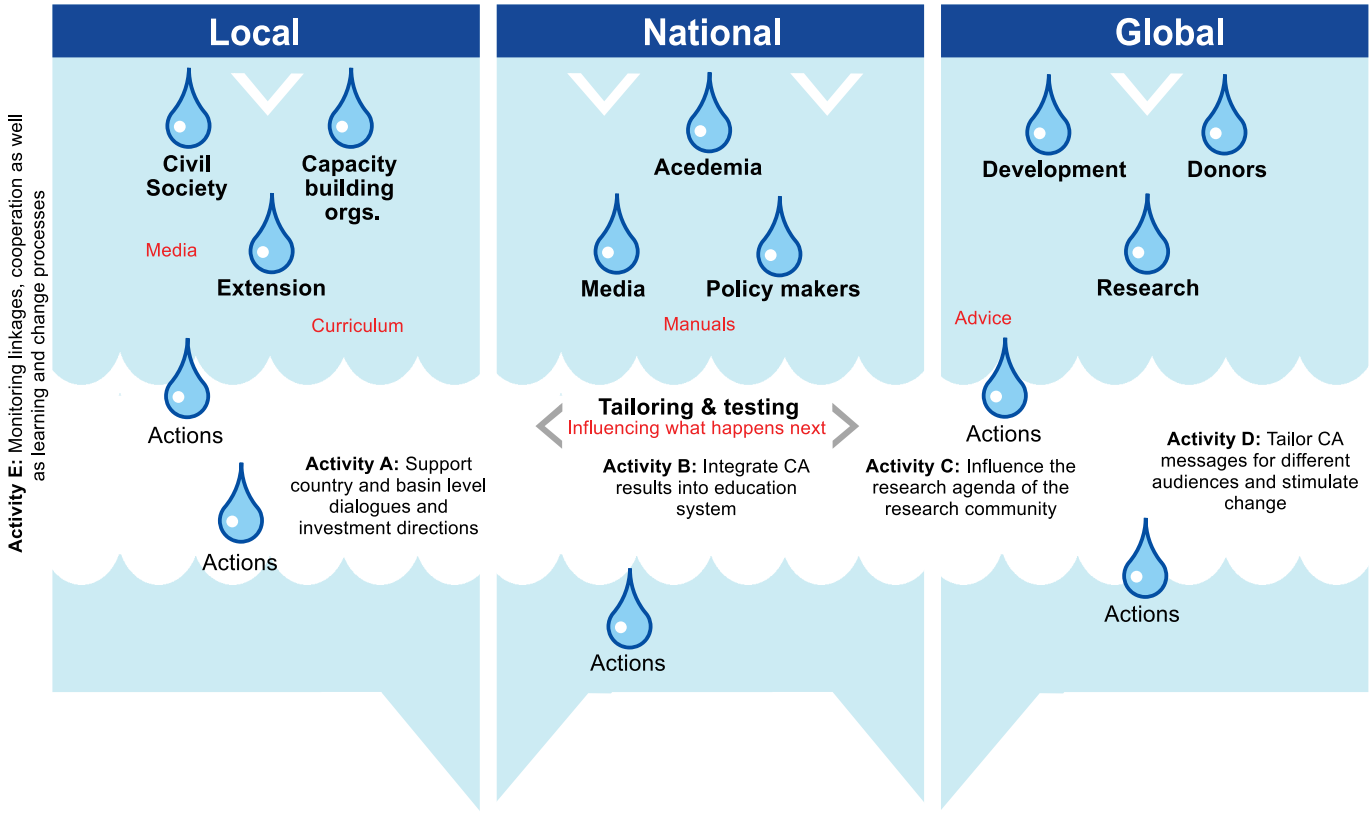
The CA creates a common agenda for the agriculture, water and environment communities. It finds that there is enough land, water and human capacity to produce enough food for a growing population over the next 50 years. But water still remains a constraint to acquiring food for hundreds of millions of people. Important water sources—aquifers and rivers—and aquatic and terrestrial ecosystems are damaged or threatened. The competition for scarce water resources is intense and allocations for agriculture require negotiation. In many basins there is not enough water to meet all the demands—or even to reach the sea. These local problems could grow in number and severity, or shrink, depending on whether and how they are addressed.

"A shift in thinking is needed"

The CA explores options for addressing these growing problems. It discusses solutions for increasing water productivity, getting water to poor people, investing in and reinventing both rainfed and irrigated agriculture. The results provide guidance on investment choices for different agricultural systems. Key reasons why poverty, hunger, gender inequity and environmental degradation continue to affect developing countries are often political and institutional rather than technical failings. Agriculture can support healthy ecosystems. Education, capacity-building and awareness-raising are three fundamental stepping stones toward better water management.

What next?

Comprehensive Assessment results



Comprehensive assessment
of water management in agriculture

For more information:
Email: comp.assessment@cgiar.org
Visit: www.iwmi.cgiar.org/assessment

The CA was organized through the CGIAR's Systemwide Initiative on Water Management (SWIM), convened by the International Water Management Institute (IWMI). The Assessment was carried out with inputs from hundreds of national and international development and research organizations, including CGIAR centers and the Food and Agricultural Organization of the UN (FAO).

Financial support for the Assessment comes from a range of donors, including core support from the Governments of the Netherlands, Switzerland and the World Bank in support of Systemwide Programs. Project-specific support comes from the Governments of Austria, Japan, Sweden (through the Swedish Water House) and Taiwan; EU support to ISIIMM Project; the OPEC Fund; FAO; the CGIAR Challenge Program on Water for Food; CGIAR Gender and Diversity Program; Oxfam-Novib; and the Rockefeller

Co-sponsors of the Assessment are: the CGIAR, the Convention on Biological Diversity (CBD), FAO and the Ramsar Convention on Wetlands. Co-sponsors play an active role in developing the Assessment and transmitting the results to their constituents.

CA publications can be found at: http://www.iwmi.cgiar.org/assessment. The main Assessment report, Water for Food, Water for Life: The Comprehensive Assessment of Water Management in Agriculture, will be available in late 2006, published by Earthscan.