



id21 natural resources

communicating development research

Search the whole id21 database

Advanced

[id21 Natural Resources](#)

- [Agriculture](#)
- [Conservation and biodiversity](#)
- [Fisheries](#)
- [Forestry](#)
- [Land and soils](#)
- [Water](#)

[id21 Global Issues](#)

[id21 Health](#)

[id21 Education](#)

[id21 Urban Development](#)

[id21 Rural Development](#)

[id21 Home page](#)

[Gender and Violence in African Schools](#)

[id21 Publications](#)

[id21 Viewpoints](#)

[About id21](#)

[Links](#)

[Contact id21](#)

[id21News](#)

[id21 Insights](#)

[id21 Media](#)

Water scarcity and water management in global agriculture



In many of the world's poorest regions, the competition for water is intense. Water supplies often fail to meet demand, which restricts agricultural production and threatens food security. Meeting global food demands over the next fifty years will require a complete change in attitudes and practices towards agricultural water management.

The Comprehensive Assessment of Water Management in Agriculture shows that population growth, and the associated increases in demand for food and drinking water, will place an unprecedented strain on ecosystems and water resources. This has already led to agricultural failure and food shortages in many places. For example, in 2003, 850 million people were malnourished, of whom 60 percent lived in South Asia and sub-Saharan Africa.

Today, the world population is more than 50 percent larger than 50 years ago. Many people are wealthier and eating patterns have changed; for example, people eat more meat, which requires more water to produce. Today, global agricultural production uses three times the water used fifty years ago, and the amount of water consumed by agriculture could nearly double if practices do not change.

Researchers argue that improved water management can increase agricultural production and reduce environmental degradation. Water management policies must prioritise food security, reduce poverty and conserve ecosystems. However, water management institutions have been slow to adapt to changing conditions.

Key findings suggest:

- Low water productivity (low agricultural yields for the water used) increases the demand for scarce water resources; a 35 percent increase in productivity could reduce crop-water consumption by 20 percent of the total global use.
- Many of today's water management practices are depleting groundwater levels, causing rivers to dry up, and leading to environmental degradation. These include irrigation, pastoral grazing and the pollution caused by these activities.
- Insecure access to safe and affordable water keeps hundreds of millions of people from escaping poverty.

There is no ideal model (or 'blueprint') for policy reform; it must evolve according to the relevant sectors and local needs in an area. However, there are some general lessons for policymakers:

- Consider rain as the ultimate source of water that can be managed.
- Adapt agricultural practices to increase water productivity.
- Reduce poverty by improving access rights to land and water for smallholder farmers and investing in pro-poor technologies.

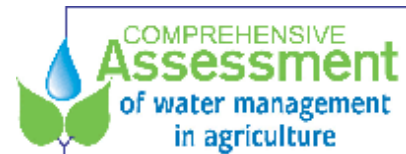
Week beginning Monday 15th October 2007

FREE Information Delivery services from id21:



id21 is funded by the British government's Department for International Development www.dfid.gov.uk and is one of a family of knowledge services at the Institute of Development Studies www.ids.ac.uk at the University of Sussex www.sussex.ac.uk

IDS is a charitable company, no: 877338. id21 is a www.oneworld.net partner and an affiliate of www.mediachannel.org



- Agricultural water management policies must include fishing and livestock practices - important because of the growing demand for meat and fish.
- When managing water resources, ensure that agricultural production does not damage other ecosystem services that water protects, such as wildlife.
- Upgraded rainfed irrigation systems have great potential for poverty reduction.

Source(s):

'Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture', London: Earthscan and Colombo: International Water Management Institute, by the Comprehensive Assessment of Water Management in Agriculture, 2007 [Full document](#).

Funded by: Project-specific support comes from the Governments of Austria, Japan, Sweden (through the Swedish Water House) and Taiwan; Challenge Program on Water and Food (CPWF); EU support to the ISIIMM Project; FAO; the OPEC Fund and the Rockefeller Foundation; Oxfam Novib and CGIAR Gender and Diversity Program. Cosponsors of the Assessment are the: Consultative Group on International Agricultural Research (CGIAR), Convention on Biological Diversity (CBD), Food and Agriculture Organization (FAO) and the Ramsar Convention.

id21 Research Highlight: 12 October 2007

Further Information:

David Molden
International Water Management Institute
PO Box 2075
Colombo
Sri Lanka

Tel: +94 11 2787404

Fax: +9411 2786854

Contact the contributor: d.molden@cgiar.org

[Comprehensive Assessment of Water Management in Agriculture](#)

Other related links:

['Integrating water and forest management in Nepal'](#)

['Rethinking the management of agricultural water'](#)

['Conflicting demands: providing water for African livestock'](#)

['Catching rain for agriculture in India'](#)

[See id21's links for agriculture](#)

[See id21's links for water](#)

Views expressed on these pages are not necessarily those of DFID, IDS, id21 or other contributing institutions. Unless stated otherwise articles may be copied or quoted without restriction, provided id21 and originating author(s) and institution(s) are acknowledged.

Copyright © 2007 id21. All rights reserved.