

Overview of Research 2008

By **Dr. David Molden**,
Deputy Director General - Research



Farmer in rice paddy in Sri Lanka, prior to planting. © Photo: Karen Conniff

I am pleased to report significant progress on the challenge of providing sound scientific knowledge to pressing water problems of the day, and at the same time delivering science outputs into developmental outcomes and impacts. Over the last few years, IWMI has increased its number of peer reviewed publications per scientist as well as delivering well documented outcome stories. As seen in the Table on Performance Indicators, IWMI has made significant progress over the last 3 years in quantity and quality of science output, impact culture, and outcomes.

The year 2008 was a year of transition, with evolutionary shifts into a new structure to implement a new strategic plan. With increasing concern over water and food globally, increasing demands for relevant science to solve these problems, IWMI is learning and adapting, and will be able to rapidly respond to changes in its operating environment, and changes as the CGIAR goes through reform.

Accomplishments

IWMI's current focus addresses the key interlinked development challenges of water scarcity, food security and climate change. The project portfolio builds on IWMI's extensive work in irrigation—which is critical for food security but also a key driver of water scarcity; the Institute's view of water and agriculture from the perspective of competing urban, industrial and environmental uses in a river basin context; and IWMI's core strength in examining the underlying policies and institutions to govern and manage the water resource base.

The IWMI-led Comprehensive Assessment of Water Management in Agriculture, completed in 2007, set forth key challenges for the future, and has been instrumental in setting the water and

agricultural research and development agenda. IWMI has taken on a number of these challenges as part of its own project portfolio, has quickly responded to new challenges as they arise, and has influenced the agriculture and water agendas at the global, regional, and national scale. The CGIAR Challenge Program on Water and Food (CPWF) has been an important vehicle for IWMI to enter into partnership to tackle key research for development issues. We would argue that the fact that water scarcity is now seen in many countries as a potential limitation to development and poverty alleviation, food production and overall economic growth, is largely because of our success in putting the issue on center stage via a sound, evidence-based approach. For example:

- IWMI has been a leader and key contributor on water productivity, environmental flows, wetlands and agriculture, wastewater irrigation, groundwater governance, multiple uses of water, water policies and institutions, and gender and water.
- IWMI has responded rapidly to issues of the food crisis and its relation with water, as well as issues of water and biofuels and energy.
- The Institute's water scarcity work is widely quoted in the scientific literature and media of all kinds.
- IWMI has provided policy support in countries, especially in India, where IWMI work is regularly cited and up for debate at the national and state level.
- IWMI has worked with the World Economic Forum to put water scarcity and agriculture on the agenda of the business community, and has since been increasingly engaged with the business community on the topic of water for agriculture.

IWMI's work has led to significant outcomes and impacts for countries and local settings in 2008.

- Based on a proposal outlined by IWMI researchers, the Government of Gujarat launched the Jyotigram (lighted village) scheme, which invested US\$290 million to separate agricultural electricity feeders from non-agricultural ones, and established a tight regimen for farm power rationing in the countryside. By 2006, Gujarat covered almost all of its 18,000 villages under the Jyotigram scheme of rationalized power supply. The Jyotigram scheme has radically improved the quality of village life, spurred non-farm economic enterprises, halved the power subsidy to agriculture, and reduced groundwater overdraft.
- In the Ferghana Valley of Central Asia, IWMI is involved with the Swiss Development Corporation and SIC ICWC to form Water User Groups, and federations of groups to improve irrigation water management leading to a better match of supply and demand and more equitable distribution. Water savings under this scheme will help compensate for the expected loss of 30% of irrigation water due to climate change.
- In Sri Lanka, IWMI supported post-tsunami water supply in areas where over one million wells were affected by saline intrusion. IWMI provided timely, sound and simple well cleaning protocols and guidance, the results of which impacted both the tsunami relief efforts as well as the development of international emergency relief guidelines.
- IWMI's environmental flow work is recognized globally, with many requests for the Environmental Stress Map, and related tools for analysis. At the national scale, environmental flow computations developed at IWMI are also having significant impact. In India, for example, IWMI's methodology is being used to calculate environmental flow requirements at the state and national level.
- Eco-friendly clay technology has rejuvenated degraded soils to improve yields and incomes in Northeast Thailand. An impact assessment study showed higher yields and higher quality of produce for 200 to 400 adopters, and the technique continues to spread with over 20,000 people now exposed to the technology.

Evolving into IWMI's New Thematic Structure

The new thematic structure represents an evolution of IWMI's past work, and should not be seen as a major shift. Significant changes include the forming of a theme on Water and Society revitalizes IWMI's traditional strength in policies and institutions. Within this theme, gender and poverty issues find a home, but remain crosscutting across the institute. Impact assessment has its separate sub-theme, both to house the impact assessment of IWMI's work, but also to gather methodologies and results and impacts of other people's work. Climate change has arisen to the forefront of IWMI's agenda in Theme 1 on Water Availability and Access. Revitalizing irrigation has returned as an area of focus given the importance of water for food security, and the need for irrigation to grow more food with increasingly constrained water supply. Water quality takes a key role in this strategy and is seen as an area for growth. Issues of water productivity, multiple uses of water, trajectories of basin development, and environmental flows receive less thematic emphasis as special topics, but are integrated into IWMI's work.

In addition to science content, the new thematic structure and relation to regional work allows for sharper science and impacts within regions. IWMI has strengthened accountability links to strengthen project delivery and science output, with researchers supervised by project leaders who report to the theme leaders. All research is now designed with impact in mind. IWMI is developing a new 'triple' approach to achieving uptake and eventual impact from its research work, with 1) uptake built into projects, 2) regional strategies both to target relevant research and to turn research into use, and 3) corporate information and communication strategies.

A Learning Organization

IWMI has gone through its internal reform process to respond to needs to deliver more relevant and better science, and to deliver more developmental outcomes. The change was made seamlessly with researchers continuing to deliver high quality results. The world will keep changing, as water and food issues rise on the global agenda. The CGIAR system will change to better respond to rising issues of poverty, food and the environment. IWMI has developed an adaptive learning culture, and is ready for these changes.