Annual Report 2012



Water solutions for smallholder success



Do you know that ...



A document is downloaded from the IWMI website every 10 seconds...

IWMI's communications and outreach program continues to go from strength to strength. The website recorded nearly 3³/₄ million page views in 2012, up 17% on the previous year. In the same period, just under 3 million documents were downloaded, an increase of 20% on the 2011 total.



Coverage of IWMI's activities in the media was extensive throughout the 12 months to December 2012. Items about our work appeared in dozens of outlets, online, broadcast and in print. These included Deutsche Welle online, Reuters, ABC (Australia) and The Guardian (UK).



Board Chair

Donald Blackmore

The unpredictability of extreme weather events is intensifying. Severe droughts in the United States and in our home base of Sri Lanka, and extensive flooding in Russia and Nigeria, have hit the headlines in 2012. Competition for water is growing. Particular emphasis is being placed on agricultural water users to be more productive. Tensions continue between the built environment and natural infrastructure. Contamination of water sources is also a concern in many countries.

Water has been identified by business leaders at the World Economic Forum as being among the top five risks faced by society. Issues related to water security, and water supply and sanitation, are firmly on the global agenda and in the post-2015 discussions on sustainable development goals.

At the same time, solutions are increasingly being found. Advances in our understanding of interlinked natural systems are informing development solutions. This report highlights some of those solutions to which IWMI's wide-ranging research has contributed to.

The year 2012 was one of success, change and innovation. Following on from the reforms in CGIAR, we launched a major new research program: the CGIAR Research Program on Water, Land and Ecosystems (WLE), involving 10 other CGIAR Centers, the Food and Agriculture Organization of the United Nations (FAO) and a wide range



Director General

Jeremy Bird

Joint Message from the

of other partners. WLE aims to bring together innovative thinking on agriculture, natural resource management and poverty alleviation to deliver effective solutions for food security and environmental protection.

WLE is fortunate to have a highly committed Steering Committee (SC) providing direction and oversight. Led by Professor Johan Rockström of the Stockholm Resilience Centre, the SC held its first meeting in September 2012 and has now defined a clear pathway for taking this innovative research program forward.

WLE builds on the CGIAR Challenge Program on Water and Food (CPWF), and many of the promising reform initiatives identified under CPWF are being integrated into WLE.

IWMI has also been actively involved in four other CGIAR Research Programs: Climate Change, Agriculture and Food Security (CCAFS), Aquatic Agricultural Systems (AAS), Dryland Systems, and Integrated Systems for the Humid Tropics. The CGIAR Research Programs represent an unprecedented collaboration across CGIAR and beyond. Change also occurred within the IWMI family with John Skerritt standing down as Chair of the IWMI Board of Governors after six years, and Colin Chartres returning to Australia after five years as Director General of the Institute. Both John and Colin deserve congratulations for presiding over a very successful period in IWMI's history, culminating with the award of the prestigious Stockholm Water Prize in August.

John and Colin also steered IWMI through the uncertainties that inevitably accompany reform. Even in a period of change and continued economic challenges in many countries, 2012 was a sound financial year for IWMI, seeing a steady growth in the research volume over the past year.

We also celebrated 10 years of cooperation between IWMI and the Sir Ratan Tata Trust. This partnership has delivered some significant advances in effective water resources management and greatly influenced policy reform. It provides a model of how partner relationships can be focussed on problem solving and is a good example of how we will work in the future.

The value of this research was demonstrated by another award in 2012 - the first Norman Borlaug Award for Field Research and Application awarded to Aditi Mukherji for her work with Indian partners on groundwater governance in West Bengal.

Next year sees IWMI come to the end of its current strategic plan. Consequently, we are now examining the directions we need to follow to address the increasingly unpredictable risks in water resources management, and above all to increase the resilience of people and systems.

We would like to sincerely thank all those within IWMI and among our partners for their commitment and contributions to this year's success, and look forward to continued strong relationships in 2013 and beyond.

Jaise

Donald Blackmore Board Chair

Jeremy Bird Director General



Photo credit: Cecilia Österberg/Exray

"IWMI has undertaken outstanding work to tackle the water challenges faced by poor communities all over the world"

Andrew Mitchell UK Secretary of State for International Development

IWMI awarded highest accolade in water research

IWMI received the highest accolade in the world of water research in 2012, the Stockholm Water Prize Laureate. The awarding committee at Stockholm International Water Institute said that IWMI's extraordinary contribution to the development of new policies and investments in agriculture had not only enabled more productive use of water, but also enhanced food security, economic development and environmental health around the world.

Colin Chartres, Director General of IWMI at the time, accepted the Orrefors crystal sculpture and the USD 150,000 prize from His Majesty Carl XVI Gustaf, King of Sweden, during World Water Week in August, 2012. "The real winners are IWMI's dedicated staff members and partners who, for just over a quarter of a century, have consistently delivered scientific research of the highest quality," said Chartres. "Likewise, our success would not have been possible without our donors." Andrew Mitchell, UK Secretary of State for International Development, congratulated IWMI on its achievement. He said IWMI had undertaken outstanding work to tackle the water challenges faced by poor communities all over the world, and had helped thousands of farmers irrigate their land more efficiently, making a very real difference to their lives and livelihoods. "The UK Government is proud to support the Institute's innovative programmes to use water sustainably to grow crops, improve food security and reduce poverty," he said.

After consultation with staff, IWMI's Management Team decided to use the prize money to endow a capacity-building program for young scientists in developing countries.



Initial estimates suggest that at least 300 million women and men living in rural areas could benefit from WLE's research during the next 10 to 20 years.

Photo credit: Joe Ronzio/IWMI

IWMI-led research program on Water, Land and Ecosystems gets under way

The CGIAR Research Program on Water, Land and Ecosystems (WLE), led by IWMI, was launched in March, 2012.

The vision of WLE is a world in which agriculture thrives within vibrant ecosystems, and where communities have higher incomes, improved food security and the ability to continually improve their lives. This will demand technical innovations along with social and political change.

WLE is one of the biggest and most complex of the CGIAR Research Programs with 12 core partners and a total 2012 budget of USD 75 million. Early work involved creating a common understanding among the partners of the aim and focus of WLE, and developing a functioning management and operations team.

In 2012, more than 160 activities were undertaken. Achievements from these include:

- The Africa Soil Information Service (AfSIS) provided advanced soil maps, methods and tools for assessing landscapes.
- Since being launched in September 2012, the WLE blog has generated 9,000 unique page views from 42 posts.
- The Ecosystem Services and Resilience Working Group, led by Bioversity

International, published several WLE papers, including one in *BioScience*.

- Research on a business approach to urban farming prompted a revision of the agricultural policy of Sri Lanka's Western Province.
- The work of the WorldFish Center in Cambodia improved the resettlement and compensation program for the Lower Sesan 2 hydropower project.

Initial estimates suggest that at least 300 million women and men living in rural areas could benefit from WLE's research during the next 10 to 20 years.



Photo credit: David Brazier/IWM



Photo credit: Partha Sarathi Banerjee/IWMI

IWMI social scientist wins first Norman Borlaug Award for Field Research and Application

A decade of work investigating poverty, agriculture and natural resource management in West Bengal, India, earned Aditi Mukherji the first ever Norman Borlaug Award for Field Research and Application in October, 2012.

Aditi led an IWMI team called upon to try and address a slump in agricultural production in West Bengal. Using data collected during several years of fieldwork, the team investigated the economics of smallholdings, farmer behavior and various options for providing groundwater to small farms. Unlike in more arid parts of India, where groundwater pumping had caused significant environmental problems, West Bengal has relatively abundant groundwater. However, an outdated permit system, mired in red tape and corruption, was preventing farmers from accessing water and was causing a production bottleneck. Aditi's research convinced the State Government of West Bengal to change the Groundwater Act of 2005. Specifically, it agreed to scrap the permit system for electrifying small groundwater wells. Aditi also persuaded the government that farmers should be given one-time financial assistance for electrification. after which they should pay a metered tariff. Thanks to these changes, many farmers in West Bengal will soon find it easier to electrify their pumps.

The scientists estimate that the policy changes could boost the net irrigated area of West Bengal from 2.98 to 4.83 million hectares in three to five years. IWMI will continue to study the developments in West Bengal and measure the impact of this policy change.



Photo credit: Felix Antonio

Removing the hurdles that prevent smallholders from adopting water management techniques could increase yields by up to 300%.

Study reveals the immense potential of smallholder farming

The findings of a three-year IWMI-led study demonstrated the potential of small-scale irrigation schemes to raise yields, increase farmers' resilience to climatic variability and boost incomes. Presented in the report, Water for wealth and food security: Supporting farmer-driven investments in agricultural water management, the study showed that removing the hurdles that prevent smallholders from adopting water management techniques could, in some cases, increase yields by up to 300% and improve household revenues across sub-Saharan Africa and South Asia.

The assessment quantified the potential reach of various onfarm and local community water management innovations, and calculated the possible additional household revenue that could be generated from each option. The researchers found, for example, that investments in motorized pumps could benefit 185 million people in sub-Saharan Africa and generate net revenues of up to USD 22 billion per year. For millions of smallholder farmers water resources are often sufficient, but they lack the means to harvest them and this limits crop production to the rainy season. The research showed that small-scale irrigation can open up lucrative opportunities for farming at other times of the year. The report drew widespread global press interest when it was launched at World Water Week in Stockholm, Sweden, in August 2012, which included coverage by Agence France-Presse, Reuters and Deutsche Welle.

If the project's messages encourage appropriate investments, smallholder farming could become a major driver of economic growth, poverty reduction and food security.





An outdated permit system was preventing farmers from accessing water and was causing a production bottleneck.

Photo credit: Kannan Arunasalam

Photo credit: Joe Ronzio/IWMI



Photo credit: GRandD Unit/IWMI

Mapping floods helps farmers to optimize water use and insurers to verify payouts

One-third of the world's terrain is considered flood-prone, and 82% of the global population lives on this land. IWMI's latest research into flood mapping could help farmers to optimize the use of floodwaters for growing crops; aid insurance companies when floods damage agricultural land, people or infrastructure; and help governments mitigate against, and adapt to, future flooding events.

IWMI researchers gathered existing data on floods from multiple sources, to identify places where floods were frequent. They found some 4,500 global flood events recorded between 1900 and 2011.

The team then analyzed datasets for South Asia in more detail. They used satellite images at a resolution of 500 meters taken every eight days between 2000 and 2012. They overlaid information on population density, agricultural land and gross domestic product (GDP), to show the extent of flood impacts and whether the events were recurring or out of the ordinary. The findings could help farmers to optimize the use of floodwaters for growing crops; aid insurance companies when floods damage agricultural land, people or infrastructure: and help governments mitigate against, and adapt to, future flooding events.

that are severely flood-prone, and create models to assess changes that might take place in the future.

"Once we have achieved that, we will try to show how changes in population, land use or shifting climatic patterns will affect future flood patterns," says Giriraj Amarnath, a researcher in remote sensing and GIS at IWMI. "This will show where people are vulnerable to floods, where crop losses may occur, for insurance purposes, and where authorities should prioritize investments."



Photo credit: Joe Ronzio/IWMI

Better water management could help agriculture flourish in droughtstricken African countries

Most of Africa is dominated by what many scientists refer to as 'economic water scarcity'. Water is available naturally, but is simply not accessible.

A new book, *The Nile River Basin: Water, agriculture, governance and livelihoods,* published by the CGIAR Challenge Program on Water and Food (CPWF) in 2012, shows that rainfall and the water stored in the river, its tributaries and underground aquifers are among the continent's many untapped natural resources. If water were better managed in the region, agriculture could overcome the worst climatic scenarios projected for the future.

Of the 11 countries within the Nile Basin, only Egypt and Sudan have made significant investments in large dams or large-scale irrigation schemes to exploit the resource. This infrastructure helps moderate flow variability, and provides water for irrigation and hydropower. However, such capitalintensive approaches are not necessarily the best solution, particularly for the less economically developed countries in the basin and those situated upstream.

Small-scale interventions such as soil water conservation, rainwater management, spate irrigation, water lifting and water storage are more affordable, accessible and oriented to local needs. Research presented in the book's 15 chapters shows that the Nile River could provide its host countries, including the drought-plagued nations of the Horn of Africa, with sufficient water to support flourishing agricultural sectors. Research shows that the Nile River could provide its host countries, including the droughtplagued nations of the Horn of Africa, with sufficient water to support flourishing agricultural sectors.

The authors of the book argue that improving governance, especially coordination among governments of the Nile Basin countries, is key to helping the poor benefit from the basin's water resources. They suggest that authorities should establish a permanent international commission to manage the river; this could help boost agriculture, socioeconomic development and regional integration.

"This book will hopefully change the way people think about the river," said co-editor Vladimir Smakhtin, Leader of IWMI's research theme on Water Availability and Access. "For the first time, hydrologists, economists, agriculturalists and social scientists have pooled their research to focus on agriculture and food security. With significant new dams and development work being planned, and South Sudan joining the river basin countries, the need for solid, science-based evidence to inform policy decisions has never been greater."

The research team is now aiming to work at sub-national levels to identify areas



Photo credit: Petterik Wiggers/IWMI

The work has directly influenced policy decisions involving some USD 2,500 million of public investments, and the knockon impacts of the program are ongoing.



Photo credit: Columbia Water Center on Flickr



With population growth and rapid urbanization intensifying pressure on freshwater resources, farmers are increasingly using urban wastewater to irrigate their crops.

Photo credit: Jim Holmes/IWMI

Ten-year partnership has strongly influenced water research and policy in India

As 2012 drew to a close, IWMI completed phase two of a 10-year policy research and capacitybuilding partnership with the Sir Ratan Tata Trust (SRTT). During its first two phases, the IWMI-Tata Water Policy Research Program (ITP) invested USD 5.2 million to develop participants' skills, produce research, foster collaboration and disseminate results. The work has directly influenced policy decisions involving some USD 2,500 million of public investments, and the knock-on impacts of the program are ongoing.

Altogether, 214 interns and research fellows undertook research with ITP, primarily from India but also from Europe. ITP gave rise to more than 100 papers in refereed international journals, 90 *Policy Briefs* and *Research Highlights* pamphlets, several books, plus scores of book chapters and



Photo credit: Chhandak Pradhan/IWM

articles in influential Indian journals including the *Economic* and *Political Weekly*.

ITP has an exceptional track record of uptake of its research recommendations:

- The USD 250 million *Jyotigram Yojana* scheme, recommended by an ITP paper in 2001, involved the Government of Gujarat rewiring the countryside to achieve 'intelligent rationing' of farm power supply. The approach is now being replicated in five other states.
- The Government of Gujarat and the Sardar Sarovar Narmada Nigam Dam project accepted ITP's suggestion of incentivizing farmers to construct buried pipeline water distribution networks instead of open channels.
- The Government of India invited the leader of ITP to chair the Planning Commission's Working Group on Major and Medium Irrigation and Command Area Development for the 12th Five Year Plan. ITP's involvement led to the government incorporating a USD 1.25 billion National Irrigation Management Fund into the Plan.

IWMI contributes expertise to global UN-Water wastewater capacity-building project

Throughout 2012, IWMI contributed to a major, ongoing UN-Water study of how wastewater is used around the world. The project, *Capacity Development for the Safe Use of Wastewater in Agriculture*, aims to develop national capacities for safely using wastewater in agriculture in developing countries.

With population growth and rapid urbanization intensifying pressure on freshwater resources, farmers are increasingly using urban wastewater to irrigate their crops. This is often un-treated or partially treated at best, leading to considerable health risks. IWMI has built-up a broad base of knowledge and expertise in the field of wastewater use over the past decade. "We have collated a vast amount of knowledge on safe water reuse, even where treatment plants are not available, and it's important to get this knowledge out," explained Pay Drechsel, Leader of IWMI's research theme on Water Quality, Health and Environment. "With this project, we have been able to learn what is happening within about 70 target countries, while bringing our research findings to a very wide audience."



Photo credit: Tom Van Cakenberghe/IWMI

Statement of Financial Position

December 31, 2012 and 2011

(in US Dollars '000)

	2012	2011
ASSETS		
Current Assets		
Cash and cash equivalents	40.318	30.576
Investment	36	46
Accounts Receivable:		
Donors (Net of allowance of \$102		
thousand in 2012, \$468 thousand in 2011)	3,017	3,232
Employees	286	297
Other CGIAR Centers	776	68
Others	1,473	595
Prepaid Expenses	208	214
Inventories	33	38
Total Current Assets	46,147	35,066
Non Current Assets		
Property, Plant and Equipment, net	1,799	1,654
TOTAL ASSETS	47,946	36,720
LIABILITIES AND NET ASSETS		
Doporo	11 010	6 920
Employees	1,910	0,030
Other CCIAP Centers	1,505	1,307
Others	4,027	2 277
Undishursed funds for Challenge Program	5 330	1 521
	958	976
Total Current Liabilities	26 199	16 173
Non Current Liabilities	20,100	10,110
Accounts Pavable		
Employees	2.746	2.626
Total Non Current Liabilities	2.746	2.626
Total Liabilities	28,945	18,799
Not Accore		
Uprostricted		
Designated	4 180	1 180
Undesignated	4,100	4,100
	19,021	17 021
10101 1101 733613	10,001	11,321
TOTAL LIABILITIES AND NET ASSETS	47.946	36.720

These financial statements were approved on .04. May 2013



Statement of Activities

For the Years Ended December 31, 2012 and 2011

(in US Dollars '000)

Ur	nrestricted	Restricted - CRPs	Restricted Other	Total 2012	Total 2011
Revenue and Gains					
Grant Revenue	446	45,187	1,706	47,339	34,148
Other Revenue and Gains	1,368	-	-	1,368	981
Total Revenue and Gains	1,814	45,187	1,706	48,707	35,129
Expenses and Losses					
Research Expenses	979	40,425	1,601	43,005	27,702
General and					
Administration Expenses	4,622	-	-	4,622	4,742
Sub-total	5,601	40,425	1,601	47,627	32,444
Indirect Cost Recovery	(4,867)	4,762	105	-	-
Total Expenses and Losses	734	45,187	1,706	47,627	32,444
Surplus (Deficit)	1,080	-	-	1,080	2,685
Expenses by Natural Classific	ation				
Personnel	3,725	11,107	888	15,720	14,915
Supplies and Services	541	7,547	400	8,488	8,487
Collaborators - CGIAR Center	rs 30	11,580	(25)	11,585	579
Collaborators - Partners	-	7,950	175	8,125	4,121
Travel	693	2,065	155	2,913	3,584
Depreciation	570	164	7	741	665
System Cost (CSP)	42	12	1	55	93
Sub-total	5,601	40,425	1,601	47,627	32,444
Indirect Cost Recovery	(4,867)	4,762	105	-	-
Total	734	45,187	1,706	47,627	32,444

Principal Donors

ACIAR	Australian Centre for International Agricultural
	Research
ADB	Asian Development Bank
AfDB	African Development Bank
AusAid	Australian Agency for International Development
CIDA	Canadian International Development Agency
DGIS	Netherlands' Directorate-General for International
	Cooperation
EC	European Commission
FAO	Food and Agriculture Organization of the United
	Nations
Finland	Government of Finland
France	Government of France
Gates Foundation	Bill & Melinda Gates Foundation
GIZ	Deutsche Gesellschaft für Internationale
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada
GIZ IDRC IFAD	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development
GIZ IDRC IFAD India	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India
GIZ IDRC IFAD India Ireland	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland
GIZ IDRC IFAD India Ireland Japan	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan
GIZ IDRC IFAD India Ireland Japan Rockefeller	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation Swiss Agency for Development and Cooperation
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC Sida	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation Swiss Agency for Development and Cooperation Swedish International Development Cooperation
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC Sida	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation Swiss Agency for Development and Cooperation Swedish International Development Cooperation Agency
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC Sida South Africa	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation Swiss Agency for Development and Cooperation Swedish International Development Cooperation Agency Government of South Africa
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC Sida South Africa UNEP	Deutsche Gesellschaft für InternationaleZusammenarbeit (GIZ) GmbHInternational Development Research Centre, CanadaInternational Fund for Agricultural DevelopmentGovernment of IndiaGovernment of IrelandGovernment of JapanRockefeller FoundationSwiss Agency for Development CooperationAgencyGovernment of South AfricaUnited Nations Environment Programme
GIZ IDRC IFAD India Ireland Japan Rockefeller SDC Sida South Africa UNEP USAID	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH International Development Research Centre, Canada International Fund for Agricultural Development Government of India Government of Ireland Government of Japan Rockefeller Foundation Swiss Agency for Development and Cooperation Swedish International Development Cooperation Agency Government of South Africa United Nations Environment Programme United States Agency for International Development

IWMI thanks all our donors for their support and contribution to our research in 2012 and looks forward to further strengthening partnerships in the future.

IWMI reports are made available via the Institute's website.

Annual reports

http://www.iwmi.cgiar.org/publications/corporate-publications/

Performance indicator reports

http://www.iwmi.cgiar.org/about/iwmi-performance/

Publications

http://www.iwmi.cgiar.org/publications/latest/

Front cover image

Joe Ronzio/IWMI

International Water Management Institute (IWMI). 2013. **IWMI Annual report 2012**. Colombo, Sri Lanka: International Water Management Institute (IWMI).14p. doi:10.5337/2013.209

ISSN 1017-5954

Copyright © 2013, by IWMI. All rights reserved. IWMI encourages the use of its material provided that the organization is acknowledged and kept informed in all such instances.

IWMI Headquarters:

127 Sunil Mawatha, Pelawatte, Battaramulla, Sri Lanka Mailing Address: P. O. Box 2075, Colombo, Sri Lanka Tel: +94 11 2880000, 2784080 Fax: +94 11 2786854 Email: iwmi@cgiar.org Website: www.iwmi.org