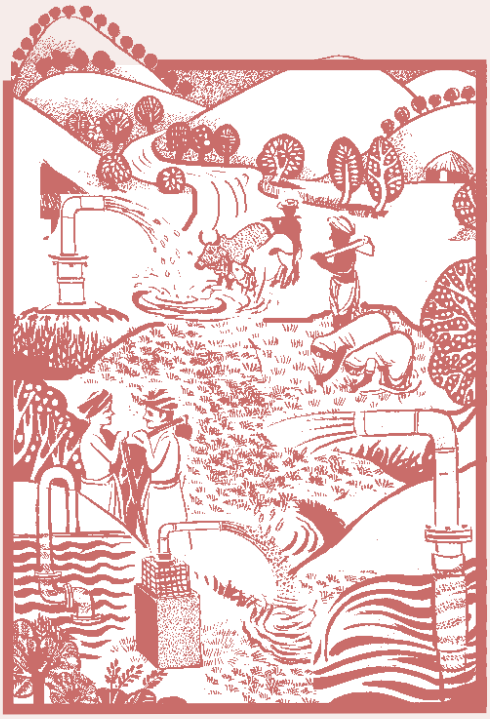
51
2012



The 2010 Rajasthan State Water Policy is a landmark and even path-breaking piece of natural resource legislation. This Highlight argues that this policy represents the culmination of a shift in water development from the rural to the urban. The effects of this shift on irrigation continue to unfold. Moreover, there are questions surrounding the policy tension between the decentralization of decision-making around water allocation and use, versus the devolution of free-market state authority. There are also similar questions about the efforts by the state to change people's thinking with respect to the meaning of water and the legitimate uses to which water should be put. We examine both the historical development of this Policy and its initial impacts on irrigation in Rajasthan.

IWMI-TATA
Water Policy Program

Water Policy Research

HIGHLIGHT

The 2010 Rajasthan State Water Policy and the Urbanization of Water

Trevor Birkenholtz

Download this highlight from
www.iwmi.org/iwmi-tata/apm2012

The 2010 Rajasthan State Water Policy and the Urbanization of Water[1]

Research highlight based on based on paper with the same title[2]

Introduction

The 2010 Rajasthan State Water Policy is a landmark and even path-breaking piece of natural resource legislation. This is so for two reasons. First, the highly contentious politics of resource use in the arid and semi-arid state, and region, where the agrarian voting electorate outnumbers the urban, has all but ensured inaction with respect to any formal government policy that would reduce access to irrigation. It is path breaking, second, because the final policy has a long genealogical history and is a product of multiple iterations of model bills from the Central Government and input from multiple development donor agencies, academic experts, and international and Indian NGOs. The character of the policy reflects these two facts and it is the artifacts of these processes – contentious state politics and outside influences, particularly those of free-market oriented development agencies – that I want to examine in this Highlight. Specifically, the State Water Policy represents the culmination of a shift in water development from the rural to the urban, the effects of which on irrigation continue to unfold. This Highlight, examines both the historical development of this Policy and its initial impacts on irrigation in Rajasthan, which I believe is a proxy for the rest of the country.

The Highlight has four further parts. The first section provides a brief outline of the contentious history of water politics in the state, which have made it extremely difficult to pass comprehensive water legislation. Second, the Highlight examines the historical development of the current 2010 State Water Policy for Rajasthan. In this section, I pay particular attention to the various interventions, especially by development donor agencies, in crafting the guiding principles of the policy. And then, before concluding, the third section discusses some of the initial outcomes of the ongoing implementation of this policy on the redistribution of water, social power and water scarcity.

1. Contentious State Politics of Water

According to 2011 Indian Census Data, Rajasthan's human population is over 75 percent rural, which has increased slightly over the past decade. This is coupled with a voting electorate, where well over 60 percent, sometimes as high as 68 percent (say in 2003 when Chief Minister Gehlot was ousted and Raje was swept to power), regularly turn out in polls. With rural voters vastly outnumbering urban voters, no party, not Congress nor the BJP, has historically wanted to be *THE* party that turned off the rural irrigation tap. This tension is reflected in the history of Rajasthan's efforts to craft and adopt a water policy.

In 2005, for instance, Irrigation Secretary S.N. Thanvi proudly announced that the then new State Water Policy was ready for adoption. Secretary Thanvi indicated that the state government had broadly accepted the recommendations given by the Expert Committee, led by Professor V.S. Vyas, who drafted the legislation. It was simply a matter of presenting it before the assembly and passing it. Of course, it only passed five years later, in 2010, under a Congress-led government, and in slightly different form from either its 2005 or 2008 version. I will return to this transformation in the next section. But going back to the development of the 2005 draft policy, it comes after several efforts in the 1990s to craft a statewide policy, but also after a series of interventions by development donor agencies and the Central Government.

[1]This IWMI-Tata Highlight is not externally peer-reviewed and the views expressed are of the author alone and not of IWMI or its funding partners.

[2]This paper is available on request from p.reghu@cgiar.org

It is to this genealogy that I want to now turn. I will spend the bulk of the Highlight examining some of the high points of this history before turning to the impact of these shifts on water-supply development, governance and use.

2. Crafting Water Policy

Space does not permit a full history of water policy development in Rajasthan. Therefore, I would like to begin in the 1990s, a period characterized by the liberalization of the Indian economy and state. It was also a period that witnessed a considerable push towards rationalizing the use and management of both surface and groundwater. This proceeded in two parallel movements at the level of the Central Government. First, the Central Government crafted the first Model Bill to Regulate and Control the Development and Management of Ground Water in 1970. This was the result of rapidly declining groundwater tables due to the rapid spread of Green Revolution era electrified tubewells. This Model Bill was then revised several times: in 1992, 1996, 2005 and 2011. Simultaneously, the Central Government drafted Model National Water Policy statements in both 1992 and 2002. Together, these two bills were intended to serve as a "model" of surface water and groundwater regulation for states. But before I turn to the impact of these Model Bills on Rajasthan's approach to water governance, I want to highlight the deep parallels between these Model Bills and a 2005 World Bank report.

The report titled, "India: Bracing for a Turbulent Water Future," identifies two major problems exacerbating the groundwater problem: (1) "indiscriminate pumping of groundwater" mostly for irrigation by farmers, and (2) "provision of free power" in the agricultural sector. The World Bank's proposed solutions are straightforward in their presentation and are based on four market-based principles. The first is defining and setting water entitlements – transferable rights over water. Closely related to entitlements is the second principle of clearly defining property rights over water. The third is "increasing supply and efficiency through technological expansion", including more efficient irrigation systems and more surface water dams. And the fourth is establishing water user associations, thereby localizing governance, while noting the need for state-level "Water Authorities". The World Bank supported its recommendations through an increase of rural water sector loans from $250 million between 1999 and 2004, to $1.4 billion between 2005 and 2008 (Briscoe 2005), and to $2.9 billion, for both the urban and rural sector, from 2009 to 2012. These loans have historically funded both infrastructure expansion and technical assistance. With respect to technical assistance, we see the same language, almost verbatim from the World Bank Report, in defining water scarcity and its solutions, in the Central Government's 2005 Model Bill to Regulate and Control the Development and Management of Ground Water.

In that same year, the state of Rajasthan drafted the Rajasthan Groundwater Rational Use and Management Act of 2005 (hereafter the 2005 Rajasthan Groundwater Act). The 2005 Rajasthan Groundwater Act follows the World Bank recommendations, highlighting ownership, pricing, local governing bodies or Water User Groups/Associations, and technological expansion as the foundation for groundwater reform.

But the Act also emphasizes setting up a "State Ground Water Authority", a regulatory mechanism, and the dissemination of awareness and knowledge of groundwater scarcity. The composition and powers of the Authority, which is very hierarchical, are clearly defined in the Act. The Act appoints a "Chief Ground Water Officer" and forms a three-tiered hierarchical Ground Water Authority: the first tier is the "Rajasthan Groundwater Authority" at the state level, composed of 7 high-level elected officials and 15 appointed members; the second tier is the "District Groundwater Authority", composed of 2 elected officials and 10 appointed members; and the third tier is the "Block Ground Water Authority," composed of 1 elected official and 8 appointed members. The composition of the various levels of authorities is, therefore, overwhelmingly appointed rather than elected officials, drawing into question what decentralization really means.

I digress into this discussion of Rajasthan's Draft Groundwater Act of 2005 for two reasons. First, it highlights the close connection between the state, the

central government and free-market oriented development donor agencies. And second, I want to note that the 2005 Rajasthan Groundwater Act has yet to pass, whereas Rajasthan's State Water Policy passed in 2010. But interestingly, there are some subtle but sharp divergences between the 2008 Draft State Water Policy and the 2010 State Water Policy as passed.

Namely, the 2008 version called, first, for the formation of "River Basin Organizations" (RBO), which would interface between Water User Groups (WUGs) and the State, and, second, for the development of "aquifer-based management systems." Both of these were imagined as civil society institutions that would occupy the meso-scale between the local WUGs and the State.

These approaches, which would strengthen civil society, were NOT included in the 2010 State Water Policy. Instead, inserted subtly in the 2010 version, is a section on "Institutional Restructuring" that includes the establishment of a "Water Regulatory Authority" and the institutional restructuring of the Water Resources Department, PHED, and Groundwater Department to "improve efficiency in delivery of services" (State Water Policy 2010, page 16). This is where "efficiency" is meant in the sense of neo-classical economic theory, where the efficient allocation of resources is where those resources are allocated to particular activities that generate the most exchange value, or market value, as opposed to subsistence value.

I will return to this notion in the next section. But perhaps more importantly, the idea of creating an Authority and Institutional Restructuring, but in a much more vague form, was imported from the stalled 2005 Rajasthan Groundwater Draft Bill, itself a product of the Central Government Model Bill, which was itself a product of specific World Bank reports and direct technical assistance. I would like to suggest that this language was added to the State Water Policy because of the inability to pass it in its specific form through the Groundwater Bill, which spelled out exactly the formation, functions, and powers of the Authority, such as setting limits on tubewell construction, but also as a way to reassert state authority from the top to the bottom. Recent work from Narayanan and Kamath working near Udaipur in southern Rajasthan, have shown how decentralization has exacerbated inequalities in access to irrigation water, while leading to a democratic deficit in local governance institutions : something that I have warned of in previous research.

The State Water Policy is vague on a number of further points, including legal entitlements, pricing and the eventual shift towards "full cost recovery" of Operation and Maintenance (O&M) of water provision. It also stresses the need to create awareness of water's scarce character and water's need to be allocated efficiently at the community (block level), mid level (District), and State level. These levels mirror those levels of Authority designed and called for in the stalled 2005 Draft Groundwater Bill.

Rajasthan's 2010 Groundwater Act has yet to pass because it is specific in its goals and mechanisms to meet them. It is, therefore, open to critique and to the political accountability of elected officials, whereas the State Water Policy is sufficiently vague and where implementation is left open to unelected technical experts, both private and public. And I do not need to remind people, this is not the state of Gandhi and Nehru, this is the new state, a state aimed at attracting inward investment, privatizing state assets and governance, and encouraging GDP growth. It is the public-private partnership state, which has been highly contentious. It is a state that Michael Goldman, speaking of Bangalore and Karnataka, has termed the 'speculative state', after the role of International Financial Institutions (IFIs) who are engaging in highly risky behavior, including sub-prime lending and rapid infrastructure expansion.

In other words, the 2010 State Water Policy displaces the need for the creation of unpopular details of water regulation away from elected officials and renders them a technical matter, because to not do so would be to impede GDP growth, even though it may be at the expense of democratic decision-making. In short, it leaves enforcement and strategy open, which is a strength and weakness. But thus far, this has led to unintended consequences in the management of both ground and surface water. It is to these unintended outcomes, or perhaps they are intended, that I now turn.

3. State Water Policy: Implementation and Outcomes

Next, space permitting, I would like to discuss one of the main outcomes of the implementation of the State Water Policy, which I have documented thus far. Specifically, the State Water Policy represents an abrupt change in policy and Indian water development more generally: the reallocation of agrarian water for urban uses. Following a growing literature on water grabbing and urban growth in the Global South, more generally, I will refer to this process as the urbanization of water.

3 a. Transforming Policy and Use Patterns: Urbanizing Water

In 2005, Rajasthan's "Expert Committee on Integrated Development of Water Resources" led by Professor VS Vyas and with the input of the European Commission, the World Bank, Asian Development Bank, Groundwater Board engineers, and others, first, noted that population in the state was expected to double to 100 million by 2050. Second, due to this population growth, water use for irrigation would need to be reduced from 83 percent to 70 percent by 2050. Certainly some of this 13 percent reduction of rural water use could be met through enhancing efficiency, particularly with groundwater, which serves over 70 percent of the state's irrigated area and 80 percent of its drinking water. But some of this transformation will need to be met, particularly in the short term, through transfers that will leave irrigation-dependent farmers of both surface and ground water, in the lurch.

And this is exactly what is happening in the Banas River Basin, which serves the Bisalpur Dam. The Bisalpur Dam was built during the late 1990s as both an irrigation and drinking water project. But in 2009 a project was completed, with funding from the ADB and Japan Bank for International Development, that would supply Jaipur with water through a 130 km long pipeline. In 2009 there was a poor summer monsoon and no water flowed to Jaipur. It supplied some water in 2010, but only 40 mld, not even close to its 400 mld capacity. As a consequence, in April of 2010, just after the passage of the State Water Policy in February, the Water Resources Department declared illegal 27000 private *anicuts* in the Banas basin and issued an order for their removal. The implementation of this policy, based on my fieldwork conducted in 2011 and 2012, has effectively shutoff surface water irrigation in the Bisalpur Command Area.

This shift in WRD policy is ironic because throughout the 1990s and early 2000s the WRD provided technical and financial assistance to farmers to construct these minor *anicuts*, but of course these limited runoff from the Aravalli Hills into the Banas and its minor tributaries, therefore reducing Bisalpur's replenishment. How can we understand this stark reversal of policy? This shift is not only a result of urbanization and population growth driving the need to redirect the flow of water from the rural to the urban. It is also about a shift from a focus on rural to urban growth, which is reflected in both the five-year plans at the state and central government level, and in particular a shift towards GDP growth rather than subsistence production.

As mentioned, the State Water Policy had come into effect prior to the WRD removal order. Moreover, the State Water Policy clearly spells out the prioritization of drinking water and the Expert Committee Report highlighted the need to reduce water-use for irrigation to meet these needs. But this is also about the desire to stabilize the supply of specifically urban water, of which only a fraction goes to domestic uses for "drinking" but also serves commercial and industrial uses. Here I would like to highlight a 2010 ADB report. The report, which focused on water development in Asia, generally, concluded that every dollar spent on rural water infrastructure resulted in one dollar of GDP growth. Whereas, every dollar spent on expanding urban water infrastructure, would lead to six dollars in GDP growth. Therefore, returning to the notion of water as efficiently allocated when it produces the most exchange value, urbanizing water makes sound financial sense and, thus, investment in urban water and transfers of rural water to the urban, would realize the scarcity value of water through its efficient allocation to urban uses.

This shift is problematic both from the perspective of irrigation and the need to supply water to a growing population. With respect to irrigation, farmers have been

making significant investments to enhance their irrigation capacity, including in pumps, piping and the like, since the early 2000s. Much of these investments have been through high-interest moneylender loans. The canals have stopped flowing, production has declined, but the loans are still due. This is now resulting in forced land sales, proletarianization and reductions in farming family's livelihood capacities. For instance, families are abandoning their children's educational pursuits so that they can put them to work, earning wages in support of the family.

But this is also problematic with respect to population growth, because Rajasthan is still projected to be 65 percent rural by 2020. To be fair there has been a growth in rural drinking water supply projects but since irrigation is at the center of most rural household livelihoods it draws into question what their future livelihood strategies will be. Therefore, the urbanization of water is not only in support of specifically urban demographic growth, it is a form of supply-side urbanization, where the continuation of rapid GDP growth is predicated on growing urban populations and economies and a stable water supply. Existing economies and livelihoods based on irrigated agriculture, particularly in the short-term as efficiency enhancing technologies diffuse across the landscape, are exceptionally vulnerable to various forms of ecological and social shocks, such as climate change and market variability.

Conclusion

To conclude, the 2010 Rajasthan State Water Policy represents a significant moment in the development of water policy for India, generally, and for the arid and semi-arid state of Rajasthan, specifically. While I focused here on the implications for the SWP on irrigation and urbanization, there are other equally important changes occurring. For instance there are serious questions surrounding the policy tension between the decentralization of decision-making around water allocation and use, versus devolution of free-market state authority (Narayanan and Kamath 2012). So too, efforts by the state to change people's thinking with respect to the meaning of water and the legitimate uses to which water should be put are of immense importance because as Agrawal and others have shown, resource dependent people not only resist these efforts to remake them as subjects of water conservation but simply making people aware of the problem, which they are already likely to know all too well, will not in itself change the water use practices of people already living at the margins. We have seen this before in the state, where in three separate episodes between 2004 and 2006, 17 farmers in total were shot and killed for protesting their lack of access to adequate irrigation water.

Therefore, while the State Water Policy leaves open the specific strategies of water governance, and in doing so the possibility of true democratic participation in the rule-making process, the current outcomes of the policy are troubling. Now and in the coming years, we will continue to see the evolution of this document with respect to entitlements, property rights, which so far have been held in the public trust (but are problematic with respect to the landless), technological expansion, cost recovery, and the decentralization of environmental governance. In the State Water Policy, we see a level of outside influence on natural resource policy not seen since the colonial period, when India's current inequitable system water access began. What I fear most is that the implementation of the State Water Policy will take place outside of the public eye behind closed doors by government, appointed and outside experts, who while well intentioned, are focused on implementing a particular notion of efficiency.

References

Agrawal, A. 2005. *Environmentality: Technologies of Government and the Making of Subjects*. Durham and London: Duke University Press.

Birkenholtz, T. 2008a. Contesting Expertise: The Politics of Environmental Knowledge in Northern Indian Groundwater Practices. *Geoforum,* 39: 466-482.

Birkenholtz, T. 2008b. Environmentality' in Rajasthan's Groundwater Sector: Divergent Environmental Knowledges and Subjectivities. In Goodman, M., Boykoff, M. and Evered, K. T. (Eds) *Contentious Geographies: Environment, meaning, scale,* Aldershot: Ashgate Press, pp. 81-96.

Birkenholtz, T. 2009a. Groundwater governmentality: hegemony and technologies of resistance in Rajasthan's (India) groundwater governance. *Geographical Journal,* 175: 208-220.

Birkenholtz, T. 2009b. Irrigated Landscapes, Produced Scarcity, and Adaptive Social Institutions in Rajasthan, India. *Annals of the Association of American Geographers,* 99: 118-137.

Birkenholtz, T. 2010. "Full Cost Recovery": producing differentiated water collection practices and responses to centralized water networks in Jaipur, India *Environment and Planning A,* 42: 2238-2253.

Briscoe, J. 2005. India's Water Economy: Bracing for a Turbulent Future. New York: World Bank.

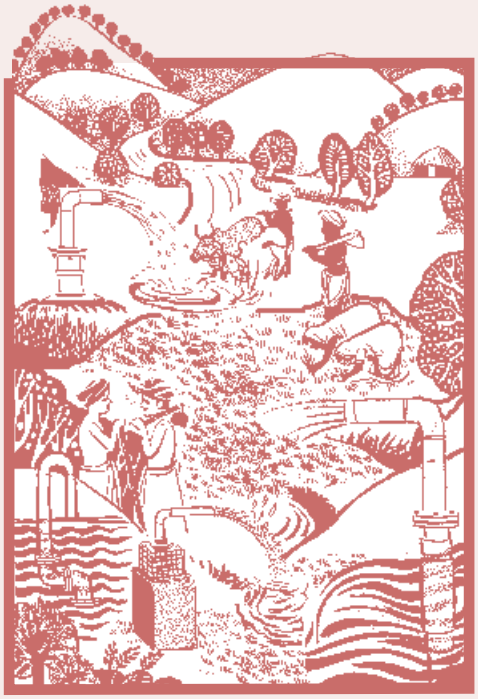
GOI. 2011. Rajasthan Population Census data 2011, New Delhi: Government of India.

Mehta, L., Jan Veldwisch, G. and Franco, J. (Forthcoming) Water Grabbing? Focus on the (Re)appropriation of Finite Water Resources. *Water Alternatives*.

Narayanan, N. and. Kamath, L. 2012. Rural Water Access: Governance and Contestation in a Semi-Arid Watershed in Udaipur, Rajastahn. *Economic and Political Weekly,* 47: 65-72.

Shah, T. 2009. Taming the Anarchy: Groundwater Governance in South Asia. Washington D.C.: Resources for the Future.

Swyngedouw, E. 2004. Social Power and the Urbanization of Water: Flows of Power. Oxford: Oxford University Press.



About the IWMI-Tata Program and Water Policy Highlights

The IWMI-Tata Water Policy Program (ITP) was launched in 2000 as a co-equal partnership between the International Water Management Institute (IWMI), Colombo and Sir Ratan Tata Trust (SRTT), Mumbai. The program presents new perspectives and practical solutions derived from the wealth of research done in India on water resource management. Its objective is to help policy makers at the central, state and local levels address their water challenges – in areas such as sustainable groundwater management, water scarcity, and rural poverty – by translating research findings into practical policy recommendations. Through this program, IWMI collaborates with a range of partners across India to identify, analyze and document relevant water-management approaches and current practices. These practices are assessed and synthesized for maximum policy impact in the series on Water Policy Highlights and IWMI-Tata Comments.

Water Policy Highlights are pre-publication discussion papers developed primarily as the basis for discussion during ITP's Annual Partners' Meet. The research underlying these Highlights was funded with support from IWMI, Colombo and SRTT, Mumbai. However, the Highlights are not externally peer-reviewed and the views expressed are of the author/s alone and not of ITP or either of its funding partners.

IWMI OFFICES

IWMI Headquarters and Regional Office for Asia
127 Sunil Mawatha, Pelawatte
Battaramulla, Sri Lanka
Tel: +94 11 2880000, 2784080
Fax: +94 11 2786854
Email: iwmi@cgiar.org
Website: www.iwmi.org

IWMI Offices

SOUTH ASIA
Hyderabad Office, India
C/o International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
401/5, Patancheru 502324, Andhra Pradesh, India
Tel: +91 40 30713735/36/39
Fax: +91 40 30713074/30713075
Email: p.amerasinghe@cgiar.org

New Delhi Office, India
2nd Floor, CG Block C, NASC Complex
DPS Marg, Pusa, New Delhi 110 012, India
Tel: +91 11 25840811/2, 65976151
Fax: +91 11 25842075
Email: iwmi-delhi@cgiar.org

Lahore Office, Pakistan
12KM Multan Road, Chowk Thokar Niaz Baig
Lahore 53700, Pakistan
Tel: +92 42 35299504-6
Fax: +92 42 35299508
Email: iwmi-pak@cgiar.org

SOUTHEAST ASIA
Southeast Asia Office
C/o National Agriculture and Forestry Research Institute (NAFRI)
Ban Nongviengkham,
Xaythany District,
Vientiane, Lao PDR
Tel: + 856 21 740928/771520/771438/740632-33
Fax: + 856 21 770076
Email: m.mccartney@cgiar.org

CENTRAL ASIA
Central Asia Office
C/o PFU CGIAR/ICARDA-CAC
Apartment No. 123, Building No. 6, Osiyo Street
Tashkent 100000, Uzbekistan
Tel: +998 71 237 04 45
Fax: +998 71 237 03 17
Email: m.junna@cgiar.org

AFRICA
Regional Office for Africa and West Africa Office
C/o CSIR Campus, Martin Odei Block,
Airport Residential Area
(Opposite Chinese Embassy), Accra, Ghana
Tel: +233 302 784753/4
Fax: +233 302 784752
Email: iwmi-ghana@cgiar.org

East Africa & Nile Basin Office
C/o ILRI-Ethiopia Campus
Bole Sub City, Kebele 12/13
Addis Ababa, Ethiopia
Tel: +251 11 6457222/3 or 6172000
Fax: +251 11 6464645
Email: iwmi-ethiopia@cgiar.org

Southern Africa Office
141 Cresswell Street, Weavind Park
Pretoria, South Africa
Tel: +27 12 845 9100
Fax: +27 86 512 4563
Email: iwmi-southern_africa@cgiar.org

IWMI SATELLITE OFFICES
Kathmandu Office, Nepal
Jhamsikhel 3, Lalitpur, Nepal
Tel: +977-1-5542306/5535252
Fax: +977 1 5535743
Email: l.bharati@cgiar.org

Ouagadougou Office, Burkina Faso
S/c Université de Ouagadougou Foundation
2iE 01 BP 594 Ouagadougou, Burkina Faso
Tel: +226 50 492 800
Email: b.barry@cgiar.org

IWMI-Tata Water Policy Program
c/o INREM Foundation
Near Smruti Apartment, Behind IRMA
Mangalpura, Anand 388001, Gujarat, India
Tel/Fax: +91 2692 263816/817
Email: iwmi-tata@cgiar.org

IWMI International Water Management Institute

2012 STOCKHOLM WATER PRIZE LAUREATE

IWMI is a member of the CGIAR Consortium and leads the:

CGIAR Research Program on Water, Land and Ecosystems