



Environment

Water Community



Food and Nutrition Security  
Community



## Solution Exchange for the Water Community Solution Exchange for the Food and Nutrition Security Community Consolidated Reply

*Query: WUAs and Water Rights in Irrigation Management - Experiences.*

Compiled by Nitya Jacob and Gopi Ghosh, Resource Persons and Ramya Gopalan and T.N. Anuradha, Research Associates

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From [Atreyee Majumder](#), International Environmental Law Research Centre, New Delhi

Posted 8 February 2008

I am a legal researcher working for the International Environmental Law Research Centre, New Delhi (<http://www.ielrc.org>). As part of our project on legal reforms in the water sector (in the context of privatisation of water), I am looking to put together a case study on the implementation model of the Maharashtra Water Resource Regulatory Authority Act (MWRRA) (<http://www.mahagovind.org/downloads/MWRRA.pdf>) (Size: 115 KB)

The MWRRA is one of the first legal instruments to institute an Independent Regulatory Authority in the water sector. The economic logic behind having such a system in place is quite simple, the 'scarce' and 'valuable' source that is water, will end up being allocated to the 'highest value user' which will ensure efficiency of use. The MWRRA is one of the pilot statutes instituting a regulatory body (for regulation of private actors) in irrigation, and the model it represents (involving tradeable water rights) is one that requires scrutiny in its implementation for it has the potential to become the prototype for such legislations in all other states. The relevant enactment as far as WUAs are concerned in Maharashtra is the Maharashtra Management of Irrigation Systems by Farmers Act, 2005. This Act translates into the largely discretionary power to 'make and break WUAs,' also regulating what might be considered as certain 'service delivery' components with regard to irrigation. This situation begs the question whether this is not compounding the constitutional impropriety generated by the WUAs not functioning through existing PRIs, by not consulting or involving these institutions in this regulatory process (and thus violating the 73<sup>rd</sup> Amendment in spirit).

I am trying to gather responses from organizations in Maharashtra, who encounter as part of their work any aspect of this Act, be it irrigation, water management, panchayat administration, land-related work, poverty alleviation programmes. Other than the legal critique, I look forward to reactions from grassroots NGOs across States working on various aspects of water and agriculture, reactions from Panchayats in various States to get a sense of potential social/economic impacts of such an Authority which is likely to be affecting WUAs, panchayat administration, access to water for marginal sections.

I therefore request members of the SE-Water community to share the following for incorporation into this critical review:

- Experiences of grassroots NGOs and Panchayats working with/in/in relation to Water User Associations on participatory irrigation management
- Experiences of NGOs/panchayats on the functioning of the MWRRA so far
- Socio-economic aspects and lessons learned on the functioning of Water User Associations in different States
- Any inputs on how tradeable water rights are being configured

This study is targeted at creating literature that forms the basis of critical review of the Act, which is the first of its kind (other than the Arunachal Act) rehauling the irrigation management sector. Your responses will be a valued contribution to this study.

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### Responses were received, with thanks, from

1. [Ajit Seshadri](#), The Vigyan Vijay Foundation, New Delhi
2. [Prakash Nayak](#), Tata-Dhan Academy, Madurai
3. [K.J. Joy](#), Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune
4. Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad ([Response 1](#); [Response 2](#))
5. [NPY Raman](#), UN Solution Exchange, New Delhi
6. [Mihir Kumar Maitra](#), India-Canada Environment Facility (ICEF), New Delhi
7. [Jaya Chatterji](#), Asian Development Bank, New Delhi
8. [Parineeta Dandekar](#), Gomukh Environmental Trust for Sustainable Development, Pune

*Further contributions are welcome!*

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[Summary of Responses](#)  
[Comparative Experiences](#)  
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### Summary of Responses

Groundwater resources, stored and built up over centuries are being over-exploited in both rural and urban areas. This was largely the context within which the Query sought experiences on the use of WUAs and water rights in Irrigation Management.

WUAs are being set up in several states, said participants, under participatory irrigation management (PIM). Based on the replies, early assessments of their performance yields a mixed picture. Members provided their own experiences of with WUAs for PIM and described initiatives from different states towards setting up WUAs and PIM. They suggested ways to overcome the inherent challenges in ensuring water rights and groundwater management.

Members noted the enormous interest in India towards improving irrigation efficiency through a management shift and promoting sustainable water management to balance conflicting demands for water. Several states – Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Orissa, Kerala, Bihar, Tamil Nadu, Maharashtra, Gujarat – have passed laws for PIM through WUAs.

The “Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Act” commonly known as PIM Act passed by the Chhattisgarh Government in 2006, was accompanied by an intensive campaign used to create a conducive environment for elections to WUAs for better irrigation management. This was the first such approach in extending the reach of a PIM act anywhere in India.

Under the act, a two-pronged strategy entails an intensive launch of pilot schemes followed by a wider coverage through media applications, participants said. The dissemination strategy is tailored to local conditions and a detailed action plan and was developed to implement and monitor the activities. Based on the Chhattisgarh PIM Act, the strategies/methods, procedures and benefits of PIM were included in the [content guidelines](#), highlighted by members.

[Andhra Pradesh](#), participants said, was the first State to initiate the formation of WUAs and operationalise the model. Under the Chandrababu Naidu's chief ministership in 1996, about 10,000 WUAs were formed and given legal rights to manage water resources under their jurisdiction. However the initiative did not go reach its conclusion due to incomplete institutional building and conflicting interests. The Planning Commission Report of September 2007 recommended due consideration be given to a National Perspective of the Ground Water Status in India.

Regarding the role of WUAs in irrigation management, Vigyan Vijay Foundation's experience in [Rajasthan](#) shows that WUAs must be prudent in managing water resources to balance supply and demand. Participants cited several studies pertaining to WUAs ad water management such as the one conducted by the Administrative Staff College OF India ([ASCI](#)), Hyderabad on the effectiveness of the institutional model after the constitution of WUAs. Another [study](#) by CESS, Hyderabad says inequities in water distribution persist because elections to local bodies have not been held, and consequently the dominant groups have held onto power. Another study explores conflicts between the state irrigation departments and WUAs and the lack of dispute resolution mechanisms to resolve these conflicts.

Although WUAs have been formed under PIM Acts, it would be too optimistic to assume they can operate and maintain canal systems given their lack of capacity, funds and legal provisions for ownership transfer of such systems to them. Respondents predicted the situation would worsen in the future despite the occasional multilateral funding for sector reforms, given the size of the existing irrigation infrastructure in the country. A lack of maintenance of this infrastructure results in very low capacity utilization, of around 50-60%.

Members raised concerns regarding the on-going reform processes and role of PRIs in irrigation management. For watershed development programmes, panchayats own and run watershed committees but this arrangement does not exist for irrigation. This violates the spirit of the 73<sup>rd</sup> Constitutional Amendment, which mandates transfer minor irrigation, water management and watershed development to panchayats. The Planning Commission's [Report of the Task Force on PRIs](#) (2001) points out this dichotomy and suggests that central funds for PIM be provided

directly to Zilla Parishads as is done for other rural development programmes. This issue however remains to be seriously addressed.

Some “out of the box” thinking is required to resolve the status of groundwater in the country. Participants deliberated groundwater recharge from canals, to be tried out especially in areas where the canal system is so dilapidated that repair costs are unduly high. The danger with such a pilot is that users at the tail end will get no water at all owing to a lack of maintenance. A solution suggested by participants was integrated water resources management, that provided a mechanism for the optimal use of water resources after assessing demand and supply and other factors.

Members from Maharashtra shared their reviews of two State Acts, one on the regulatory authority and the other on PIM. The authority has undertaken a pilot project and a sub-basin project to work out the entitlements, pricing, etc., along with some Pune-based NGOs. Providing a critique on three policy initiatives in Maharashtra, namely, the [Maharashtra State Water Policy \(2003\)](#), [Maharashtra Management of Irrigation System by Farmers Act \(2005\)](#), and [Maharashtra Water Resources Regulatory Authority Act \(2005\)](#) and also the World Bank recipe for water sector restructuring, discussants highlighted the experiences from two innovative cases in Maharashtra. One, the [Ozar WUAs](#) that use PIM to management both surface and groundwater resources. The other was the [South Maharashtra Movement](#) on the Tembu Lift Irrigation Scheme which uses PIM as an Instrument of Equity and Co-Management of Energy and Water.

Water rights continue to be a daunting issue and requires a change from the conventional view. ‘Water’ must be viewed as a common property with equitable rights for individuals, recommended members. Citing international experiences from [Philippines](#), [Mexico](#) and [Chile](#) participants re-emphasised the relevance of community-based initiatives like WUAs.

The discussion concluded state irrigation or water departments would continue to have the final say and legislations did not adequate involve panchayats in the management and operation of irrigation systems. The emergence of WUAs is a positive trend as they bring a sense of ownership and participation in water management among the local people which, if appropriately fostered and strengthened, can ensure efficiency in the operation of WUAs and reinforce equitable rights to water.

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## Comparative Experiences

### Andhra Pradesh

**Operationalising WUAs with Legal Rights** (*from Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad; [response 1](#)*)

One of the first States to form WUAs and operationalise the model, formed 10000 WUAs under the Chandrababu Naidu's regime in 1996 with legal rights to manage the water under their jurisdiction. Supported by the Netherlands government and World Bank, the initiative generated a lot of interest as a pilot. However, the experiment did not proceed due to incomplete institution buildings and conflict with the Government body on legal/institutional framework, act and rules.

### Rajasthan

**4 R's - Reduce, Reuse, Recycle and Recharge Method for WUAs , Churu District** (*from [Ajit Seshadri](#), The Vigyan Vijay Foundation, New Delhi*)

The Vigyan Vijay Foundation along with local NGOs formed groups in each village for development linked with water. Rotary Trust provided the initial grant of 20% while

panchayat/villagers contributed the rest decided after a need based assessment on restoring storage structures. WUA members repaid the money to the village fund and thus continued the process of upgrading/restoring water resources and ensuring water adequacy

## **Maharashtra**

From [K. J. Joy](#), *Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune*

### **PIM for Co-management of Surface and Groundwater, Ozar Village**

WUAs were formed in 1991, in the extreme tail portion of the Right Bank Canal (RBC) of Waghad dam command area. The WUAs performed very well by membership, irrigation efficiency, increase in ICA, maintenance of system, proper management of water, and collection of water charges. Besides being good WUAs, they also struck out in new directions and set precedents in PIM and thus provide valuable lessons for water sector restructuring in India. Read [more](#).

### **Tembu Lift Irrigation Scheme, Satara, Sangli and Solapur Districts**

A government operated high lift in the Krishna basin to divert water to drought prone regions which violates water availability amongst the different sub-basins. Local agitations resulted in government restructuring the scheme in three tehsils wherein water allocation in each village is based on population. This thus shifts membership criteria from land ownership to citizenship in the village, bearing implications for widening scope of PIM, in terms of equity and membership.

### **Farmers Prove Efficient Managers of Water, Chanda Village, Ahmednagar District**

(from [T.N.Anuradha](#), *Research Associate*)

Irrigation from Mula right bank canal began in 1971-72. Farmers practised rainfed agriculture before the construction of the Mula dam. Farmers were distressed by the cumbersome procedure to get water, unreliability of water supply, inequity in water distribution, unfair practices and readily agreed to form the WUA. Under the command of WUA the cropping pattern have improved and income from water charges has increased marginally. Read [more](#)

## **International**

From [N. P. Y. Raman](#), *United Nations, New Delhi*

### **Chile**

#### **Allocation of Water Rights through Auctions**

Chile's water sector underwent a thorough reform defined in the 1981 Water Code. Rights to water were granted to existing users, with new rights allocated through auctions. Subject to certain regulations, these rights can be bought and sold. The physical infrastructure, canals and pumps, was transferred to farmers through their associations. The government's role is now monitoring and regulation with infrastructure privatized to farmers community at nested levels.

### **Mexico**

#### **Roles and Responsibilities of WUAs and Government Agency**

WUAs employ their own technical staff, including one trained engineer as system manager, several technicians, an accountant and office support staff, and sometimes an agronomist as well. The WUAs consisting of 500 to 5000 farmers control 3,000 to 80,000 ha and are expected to make physical improvements to their canals as determined by majority vote of the assembly controlling it. Government agency monitors and approves the maintenance program of the WUA.

### **Philippines**

### **Participatory Approach to Establishing WUAs using Social Mobilizers**

Developed initially for communal irrigation systems where local communities legally owned infrastructure and O & M also a local function. National Irrigation Administration (NIA) transferred functions involving management control of planning, design, and construction to local users. WUAs can operate canal gates as they see fit, and must serve all farmers within their command area. They however have no a priori right to perform larger structural changes. Read [more](#).

### **South Africa**

#### **Irrigation Management Transfer through WUAs** (from [Ramya Gopalan](#), Research Associate)

Any interested person proposes to the Government and after receiving comments, the WUA is established by notice in the Gazette. Process for admitting/terminating membership and functions of the WUA is as per the WUA constitution. Voting rights are one vote per water use entitlement, or pro-rata number of votes proportionate to water quantity. Members elect a management committee to decide mandate/functions and the Government delegates some powers.

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## **Related Resources**

### *Recommended Documentation*

#### **Report of the Expert Group on "Ground Water Management and Ownership"** (from [Ajit Seshadri](#), The Vigyan Vijay Foundation, New Delhi)

Report; by Kirit S. Parikh, *et. al*; Planning Commission, Government of India; New Delhi; September 2007

Available at <http://www.solutionexchange-un.net.in/environment/cr/res08020801.pdf> (PDF Size: 800 KB)

*National report examining the ground water situation in India, includes examples from abroad on water rights*

From [K. J. Joy](#), Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune

#### **The Ozar Water User Societies: Impact of Society Formation and Co-Management of Surface Water and Groundwater**

Paper; by Suhas Paranjape, K. J. Joy and Chris Scott; SOPPECOM, Pune and International Water Management Institute (IWMI), Hyderabad; 2006

Available at [http://soppecom.org/ozar\\_paper.htm](http://soppecom.org/ozar_paper.htm)

*Note based on study "The Ozar Water User Societies," describing the good performance of the Ozar WUAs started by Samaj Parivarthan Kendra with technical support from SOPPECOM*

#### **National Consultation on Regulation and Poor: Note on Issues**

Paper; by K. J. Joy, Suhas Paranjape and Seema Kulkarni; Prayas and Society for Promoting Participative Ecosystem Management (SOPPECOM)

Available at <http://www.solutionexchange-un.net.in/environment/cr/res08020802.doc> (Doc Size: 37 KB)

*Highlights four issues including the theory of and need for IRAs stemming from water as an ecosystem and basic livelihood resource*

#### **Critique of Maharashtra Water Policy Initiatives**

Paper; by Seema Kulkarni and K. J. Joy; National Centre for Advocacy Studies (NCAS); 2006

Available at <http://www.solutionexchange-un.net.in/environment/cr/res08020801.doc> (Doc Size: 816 KB)

*Outlines 3 Maharashtra policy initiatives & World Bank water restructuring plan, critiquing it within a normative framework- 6th part on Ozar WUAs & South Maharashtra Movement*

### **Maharashtra State Water Policy 2003**

Policy Document; Government of Maharashtra; India Water Portal; 2003

Available at [http://www.indiawaterportal.org/data/policies/mh\\_wp.pdf](http://www.indiawaterportal.org/data/policies/mh_wp.pdf) (PDF Size: 104 KB)

*Key policy initiative of the State discusses users participation in planning, development and management of water resources*

### **Maharashtra Act No. XXIII 2005**

Act; Government of Maharashtra; International Environmental Law Research Centre (IELRC); 2005

Available at <http://www.ielrc.org/content/e0505.pdf> (PDF Size: 170 KB)

*Provides for management of irrigation systems by farmers' and for matters connected therewith or incidental thereto*

### **Maharashtra Water Resources Regulatory Authority Act (2005)**

Act; Government of Maharashtra; LEAD (Law, Environment and Development) Journal; 2005

Available at <http://www.lead-journal.org/content/05080.pdf> (PDF Size: 351 KB)

*Provides for establishing the State's Water Resources Regulatory Authority to regulate water resources and for matters connected therewith or incidental thereto*

*From Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad; [response 1](#)*

### **How Participatory is Participatory Irrigation Management (PIM)? A Study of Water User Associations (WUAs) in Andhra Pradesh**

Working Paper; by V. Ratna Reddy and P. Prudhvikar Reddy; Centre for Economic and Social Studies (CESS), Hyderabad; November 2005

Available at <http://www.cess.ac.in/cesshome/wp/wp-65.pdf> (PDF Size: 87 KB)

*Based after six years of WUAs, attempts to provide a comprehensive view on the status and functioning of the Water Users' Associations in Andhra Pradesh*

*From [N. P. Y. Raman](#), United Nations, New Delhi*

### **Turnaround in Financial Recovery in Maharashtra's Irrigation**

Article; by A Narayanamoorthy; Organization; Economic and Political Weekly, Vol. 42, No. 26; June 30-July 6, 2007; Permission Required: Yes, subscription required

Available at <http://www.epw.org.in/epw/user/curResult.jsp>

*Analyses factors for impressive turnaround in financial recovery rate in Maharashtra, which achieved over 100% recovery in the irrigation sector, specifically looks at the water rates*

### **Two Case Studies on the Role of Water Users' Associations in Irrigation Management in Maharashtra, India**

Case Study; by Gopal Naik and Amar H. Kalro; The World Bank/WBI's CBNRM Initiative; February 17, 1998

Available at <http://srdis.ciesin.columbia.edu/cases/india-038.html>

*Argues that transferring of rights and control over water related resources with the implied expectations appears to be the key to making users effectively manage their resources*

### **Transferring Irrigation Systems from the State To Users: Questions of Management, Authority, and Ownership**

Paper; by David Groenfeldt; International Network on Participatory Irrigation Management; November 19, 1997

Available at [http://www.inpim.org/files/Documents/Gro\\_tran.pdf](http://www.inpim.org/files/Documents/Gro_tran.pdf) (PDF Size: 27 KB)

*Argues for water users to take management control from the state to rescue the irrigation infrastructure from certain decay, and to protect the sustainability of the water resource*

### **Report of the Task Force on Panchayati Raj Institutions (PRIs)**

Report; Planning Commission; New Delhi; 2001

Available at [http://planningcommission.nic.in/aboutus/taskforce/tsk\\_pri.pdf](http://planningcommission.nic.in/aboutus/taskforce/tsk_pri.pdf) (PDF Size: 450 KB)

*Task Force on Panchayati Raj Institutions recommends schemes for implementation of programmes like water users associations that ensures active involvement of panchayats*

From [Jaya Chatterji](#), Asian Development Bank, New Delhi

### **Irrigation Management Transfer: Strategies and Best Practices from International and National Experiences**

Book; Asian Development Bank; Sage India; January 2007; Permission Required: Yes, paid publication; ordering information available at

<http://www.shopping.indiatimes.com/ism/faces/tiles/product.jsp?productID=1507449&catalogueID=20375432&categoryID=&parentCategoryID=&bid=&prc=&sid=101626&q=&k1=Asian+Development+Bank&k2=&k3=&k4=&k5=&k6=&k7=&k8=&k9=&k10=&k11=&k12=>

*Synthesis of strategies and best practices in irrigation management transfer adopted by various countries and by various organizations and states in India.*

### **Integrated Water Management at River Basin Level: An Institutional Development Focus on River Basin Organizations**

Report; by Guy Alaerts and Guy Le Moigne, editors; Institutions for River Basin Management; World Bank; 2003

Available at

[http://www.worldbank.org/html/fpd/water/waterweek2003/Presentations/Session%2027%20-%20Multi-sectoral%20approaches%20in%20River%20Basin%20Management/GuyAlaerts-DevCoopArrangements\\_Paper.pdf](http://www.worldbank.org/html/fpd/water/waterweek2003/Presentations/Session%2027%20-%20Multi-sectoral%20approaches%20in%20River%20Basin%20Management/GuyAlaerts-DevCoopArrangements_Paper.pdf) (PDF Size: 95.9 KB)

*Examines global scarcity of good quality water and the possibility of establishing more basin institutions and the key institutional impediments to better river basin management*

### **Negotiated Approaches to Integrated River Basin Management - Conference Report**

(from [Parineeta Dandekar](#), Gomukh Environmental Trust for Sustainable Development, Pune) Report; Arghyam Trust; India Water Portal; April 10-11, 2007

Available at [http://www.indiawaterportal.org/data/conf/MWRRRA\\_Proc\\_Part\\_I.pdf](http://www.indiawaterportal.org/data/conf/MWRRRA_Proc_Part_I.pdf) (PDF Size: 4.72 MB)

*Report on discussions held on "Maharashtra Water Resources Regulatory Authority Act" to examine it in the context of Integrated River Basin Management and community participation*

From [Ramya Gopalan](#), Research Associate

### **The Legal Framework for Water User Associations - Lessons Learned and Challenges for the Future**

Presentation; by Stephen Hodgson; Presented at "Lessons Learned in Developing Sustainable WUAs and Forming WUA Federations in Central Asia and the Caucasus" Workshop; Kyrgyz Republic; 1 - 5 October 2007

Available at [http://siteresources.worldbank.org/EXTECAREGTOPRURDEV/Resources/573581-1196885517690/hodgson\\_presentation\\_eng.ppt?resourceurlname=hodgson\\_presentation\\_eng.ppt](http://siteresources.worldbank.org/EXTECAREGTOPRURDEV/Resources/573581-1196885517690/hodgson_presentation_eng.ppt?resourceurlname=hodgson_presentation_eng.ppt) (PPT Size: 1.5 MB)

*Reviews experience in Central Asia, the Caucasus, and ECA countries on scope of WUA legal framework which includes land tenure, irrigation, environment and other legislations*

### **Confusing Water Rights with Quotas**

Article; by Videh Upadhyay; Opinion; India Together; 27 October 2005

Available at <http://www.indiatogether.org/2005/oct/vup-rights.htm>

*Discusses the MWRRA 2005 and the need to identify the precise nature of water rights and the process of its evolution in the specific social and legal context of the country*

### **Andhra Pradesh Farmers Try their Hand at Water Management**

Article; CatchWater Newsletter; Centre for Science and Environment (CSE); Vol. 1 No. 3; August 1999

Available at [http://www.rainwaterharvesting.org/catchwater/aug1999/newslet3\\_2.htm](http://www.rainwaterharvesting.org/catchwater/aug1999/newslet3_2.htm)

*Discusses the launch of Andhra Pradesh government's Watershed Development Programme which transfers management of irrigation schemes to farmers' organisations*

### **The Institutional Economics of Water: A Cross-Country Analysis of Institutions and Performance**

Book; by R. Maria Saleth and Ariel Dinar; World Bank Publication; 2004; Permission Required: Yes, paid publication. Ordering details available at

<http://books.google.co.in/books?id=sTnemXcoEtMC>

*Evaluates water institutional reform and water sector performance from an institutional economics and political economy perspective, and develops an alternative methodology*

From [T.N. Anuradha](#), Research Associate

### **Water User Associations in India**

Study Report; by Shashi L. Kolavalli; Rural Producers Organisations, World Bank Group; June 1999

Available at <http://lnweb18.worldbank.org/ESSD/ardext.nsf/PrintFriendly/C4F19294E3681B4785256D5D006E1E67?Opendocument>

*Examined how and why management functions were being transferred to water users associations (WUA); study report is based on focused discussions with 21 WUAs*

### **Two Case Studies on the Role of Water Users' Associations in Irrigation Management in Maharashtra**

Case Studies; by Gopal Naik and Amar H. Kalro; The World Bank/WBI's CBNRM Initiative; 17 February 1998

Available at <http://srdis.ciesin.columbia.edu/cases/india-038.html>

*Concludes that WUAs maintain the physical structure better when substantial responsibilities are transferred to them, improves water distribution.*

### **Tertiary Level Irrigation System Management in the Chambal Command by Water User Associations**

Paper; by K.V.G.K. Rao, R.C. Bower, Anju Gaur and N.A. Visvanatha; Food and Agriculture Organization of the United Nations

Available at <http://www.fao.org/docrep/003/X6626E/x6626e18.htm>

*Describes the experience of Rajasthan Agricultural Drainage research project in the implementation of a tertiary-level irrigation system management in Chambal command*

### **The Dynamics of Water User Associations in a Large-scale Irrigation System in Thailand**

Paper; Available at <http://www.tropentag.de/2002/abstracts/full/235.pdf> (PDF Size: 262 KB)

*Deals with the evolution of Water User Associations (WUA) in a large-scale gravity irrigation system in Thailand*

### **Recommended Organizations and Programmes**

#### **Vigyan Vijay Foundation, New Delhi** (from [Ajit Seshadri](#))

C-3 A/126 C, Janakpuri, New Delhi 110058; <http://vigyanvijay.org/project.htm>; Contact Lipika Ahuja; Tel: 98102 48197; [lipika.ahuja@vigyanvijay.org](mailto:lipika.ahuja@vigyanvijay.org)

*Investigated methods to maximize the availability of water through Reduce, Reuse, Recycle and Recharge; worked with a network of NGOs and water user associations in Rajasthan*

From [K. J. Joy](#), Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune

#### **Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune**

16, Kale Park, Someshwarwadi Road, Pashan, Pune 411008 Maharashtra; Tel: +91-020-2588-0786, 2588 6542, +91-020-2588-6542; [soppecom@vsnl.com](mailto:soppecom@vsnl.com); <http://soppecom.org/projects.htm>

*Working on Natural Resource Management primarily in rural areas, piloted action research programmes on sustainable use of land and water using a participatory planning approach*

#### **Prayas: Initiatives in Health, Energy, Learning and Parenthood, Pune**

'Mangeshpushp', Survey No. 133, Swami Vivekanand Society, Near BIAF, Warje, Pune 411052 Maharashtra; Tel: +91-20-2523-1059/2836; Fax: +91-20-2523-2836; [reli@prayaspune.org](mailto:reli@prayaspune.org);

<http://prayaspune.org/reli/index.htm>

*Provides knowledge for civil society initiatives and organizations, its major substantive areas and themes include water sector regulation and development and governance practices*

#### **Gomukh Environmental Trust for Sustainable Development, Pune** (from [Parineeta Dandekar](#) and [K. J. Joy](#), Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune)

'Durga' 92/2 Gangote Path, Opp. Kamala Nehru Park, Erandavane, Pune 411004 Maharashtra; Tel: +91 20 25651434, 25673324, 25660160; [gomukh@vsnl.com](mailto:gomukh@vsnl.com);

<http://www.gomukh.org/index.html>

*Promotes irrigation management through equitable distribution of water and rural development through an Integrated Watershed Management approach*

#### **Administrative Staff College of India, Hyderabad** (from Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad; [response 1](#))

Bella Vista, Raj Bhavan Road, Khairatabad, Hyderabad - 500 082; Tel: +91-40-66533000; Fax: +91-40-23312954; <http://www.asci.org.in/>

*Undertook a study on the institutional model of WUAs and its working pre and post the constitution of WUAs*

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## **Responses in Full**

### **[Ajit Seshadri](#), The Vigyan Vijay Foundation, New Delhi**

Ground water resources which have been stored and built up over centuries are being over-exploited in both rural and urban areas. In addition, areas that are water surplus are not being linked with deficient ones.

The Vigyan Vijay Foundation has investigated some methods to maximize the availability of water through the 4Rs - Reduce, Reuse, Recycle and Recharge. We have provided inputs to NGOs working in 25 villages in the Churu district of Rajasthan. We formed groups in each village for

development linked with water. The Rotary Trust provided the initial grant of around 20% while the panchayat or villagers contributed the rest. The water-related work pertained to restoring storage structures. They were first assessed and grants given on the need for restoring them. The members had to pay the money back into the village fund to continue the process of upgrading/restoring water resources and ensure water adequacy. Based on this experience, we can state that water users associations should aim to be prudent water managers in their own areas to make the best of the situation by taking care of the supply and demand sides.

In the urban areas, we have recycled drain water for parks and lawns, thus conserving ground water and municipal water. These initiatives can be easily implemented to enhance the water security of a region.

Again coming to Ground Water, which is the source all the year around, we need to give an insight into the National Perspective of the Ground Water Status in India. Please refer to the Planning Commission Report of September 2007 called [Report of Expert Group on Groundwater Management and Ownership](#) (Size: 800 KB) that has examples from overseas on water rights.

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### **Prakash Nayak, Tata-Dhan Academy, Madurai**

Thankyou for initiating this discussion on water community. In 2006, Chhattisgarh Government passed "The Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Act", commonly known as PIM Act. To give a human face and to initiate elections for the Water Users Associations (WUAs) in the state, there was an intensive campaign to create a conducive environment for improved irrigation management. That was first such initiative to extend coverage of the Act fully over any irrigation schemes in India.

#### **Strategy:**

A two-pronged strategy was proposed:

1. Launch an intensive programme in the pilot irrigation schemes
2. To cover the rest of the area through the wider application of mass media and other methods

Initially it was decided to cover entire state with all possible mass media, outdoor media and interpersonal media. Finally, 20 pilot schemes were selected where all the media options could be applied based on the amount of money and time available. The dissemination strategy was tailored to local conditions and a detailed action plan was developed to implement and monitor the activities.

#### **Content Guidelines:**

Based on the Chhattisgarh PIM Act and the papers/notes prepared by the consultants on the concepts, the strategies/methods, procedures and benefits of PIM were included in the content guideline. The messages included:

- Need for improving irrigation management (O&M) for improving crop yields and income, need and potential for diversified cropping
- Need for a comprehensive approach for developing irrigated agriculture including efficient rehabilitation, upgrading, operation and maintenance of irrigation systems, matching water with other inputs, improving agricultural practices and post-harvest operations
- Defining PIM, the need for PIM. benefits of PIM. PIM successes in other states, rights, roles and responsibilities of WRDs, WUAs and farmers under the PIM Act
- Roles and responsibilities of farmers
- Vision of the formation of WUAs
- Leadership issues of the TCs and WUAs in order to get quality leaders in the state
- Women's participation in WUA management and irrigated agriculture
- Need of an O&M cost recovery system

- Coordination and developing partnerships between WRD and WUAs
- Coordination with the Department of Agriculture and other agencies
- Role of Panchayats vis-à-vis WUAs
- Educating people on leadership qualities and responsibilities of good leaders
- Collective service supply, marketing, value-added production
- Develop sense of ownership of irrigation scheme and O&M activities

In addition to these, special emphasis was given on the local culture and issues those affect the productivity of farming community.

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**K.J. Joy, Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune**

Atreyee has raised important issues related to the reform process that are presently underway in Maharashtra on the two Acts - one on the regulatory authority and the other on participatory irrigation management.

The regulatory authority, as I understand is presently working on the issue of entitlements, pricing, etc. Recently there was a meeting on pricing in Pune. They have taken up a pilot project and also a sub-basin to work these out. Many Pune-based NGOs have been associated/connected with some of these at least at the discussion level and they include Gomukh, Prayas, SOPPECOM, etc. These organizations may be able to provide more information.

On participatory irrigation management, there is lot of accumulated experience over the last 10 to 15 years and organizations like SOPPECOM, Samaj Parivarthan Kendra (Ozar, Nashik) have lot of experience on this.

Below are the links for two papers/notes, which give our critique of the water policy initiatives in Maharashtra. The first link named "Critique of Maharashtra Water Policy Initiatives - Joy Seema" is a paper prepared by me and my colleague Seema Kulkarni for NCAS, Pune. The fifth part of the paper deal with the three policy initiatives in Maharashtra, namely, the Maharashtra State Water Policy (2003), Maharashtra Management of Irrigation System by Farmers Act (2005), and Maharashtra Water Resources Regulatory Authority Act (2005) and also the World Bank recipe for water sector restructuring, and offers a broad critique of these initiatives within our normative framework. The sixth part deals with two innovative cases: the Ozar WUAs and the South Maharashtra Movement. So feel free to extract out use what you think is relevant.

<http://www.solutionexchange-un.net.in/environment/cr/res08020801.doc> (Size: 816 KB)

The second link "notes - joysuhas seema" is a note prepared by me, and my two other colleagues Suhas Paranjape and Seema Kulkarni for the National Consultation on regulation and poor in Delhi by Prayas.

<http://www.solutionexchange-un.net.in/environment/cr/res08020802.doc> (Size: 37 KB)

Hope these are of use as a starter.

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**Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad (response 1)**

Andhra Pradesh was perhaps the first State to come out with the formation of WUAs and operationalising the model. Under the Chandrababu Naidu's regime in 1996 about 10,000 WUAs were formed and were given legal rights to manage the water under their jurisdiction. It was perhaps for the first attempt in South India and Netherlands government and World Bank had

helped in getting it taken off. There was a lot of interest in this as it was one of its first kind. However, the experiment did not move beyond that. However, the institution buildings appears to be incomplete and it rather conflicted with the Government body, which points to careful drawing up of the legal and institutional framework, act and rules.

ASCI, Hyderabad had carried out a Study some time ago on the institutional model and how it was working / had worked after the constitution of WUAs. Apart from that there was a recent study by CESS, Hyderabad on the (by V Ratna Reddy), which pointed to several drawbacks such as lack of elections and even when elections held - dominant group's power capture which led to inequity in water distribution. Refer link: <http://www.cess.ac.in/cesshome/wp/wp-65.pdf> (Size: 87 KB). There was also another study, which pointed to conflicts between State government irrigation department and WUAs and the lack of dispute resolution mechanisms in place.

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### **NPY Raman, UN Solution Exchange, New Delhi**

It augurs well that several States in India – AP, MP, Chattisgarh, Orissa, Kerala, Bihar, Tamil Nadu, Maharashtra, Gujarat - have enacted legislations for Participatory Irrigation Management (PIM) through WUAs. These legislations however uniformly fall short on one thing, that being the involvement of Panchayats in the management and operation of irrigation systems. That means that the final say would continue to rest with the irrigation or water departments of the state government.

Obviously, this is against the spirit of the 73<sup>rd</sup> Constitutional Amendment, which mandates transfer of subjects relating to minor irrigation, water management and watershed development to panchayats. While in the case of watershed development programs, watershed committees operate under the panchayats, no such arrangement exists for irrigation. In fact, the Report of the Task Force on PRIs published by the Planning Commission (2001) points to this dichotomy. To remedy the situation, it suggests that central funds for participatory irrigation management programs be provided directly to Zilla Parishads as in the case of various rural development programs. The issue however remains to be seriously addressed.

Nevertheless the emergence of WUAs shows positive results and seems to be slowly bringing in a sense of ownership and participation in water management among the local people which, if appropriately nurtured and strengthened, can eliminate or at least seriously dent the operation of 'waterlords' in the rural scene. In this context, I would like to invite Mr Atreyee's attention to a report on the financial recovery of irrigation sector in Maharashtra published in the Economic & Political Weekly June 30-July 6, 2007, which credits the rapid progress in WUAs as a contributing factor for reducing the O&M costs and increasing the revenue of the state. Another case study on groundwater sharing in West Bengal in the same issue of the journal *ibid* throws light on alternative institutional arrangements for groundwater sharing and involvement of village panchayat in resolving water price dispute and fixing water rates for different crops.

On the lessons learnt on the functioning of WUAs, I may draw attention to the World Bank sponsored case studies by Gopal Naik *et al* in Maharashtra, accessible at <http://srdis.ciesin.columbia.edu/cases/india-038.html>

But 'water rights' continues to be a daunting issue. The conventional view of linking groundwater rights to the ownership of the land or in the case of river water, upstream users having precedence over those downstream, have to drastically change. 'Water' has to be viewed as a common property with equitable rights for individuals. It is here where community-based initiatives like WUAs become relevant. The experience of Philippines, Mexico and Chile, in this context, offers graded lessons: in the Philippines, the irrigation system is owned by the state agency with WUAs involved in operating and maintaining water channels; in Mexico the irrigation

system is loaned to the WUAs, which are expected to operate within the terms of loan; and in Chile, the WUAs by far enjoy the fullest autonomy by way of owning and operating the irrigation networks, with the state's role being limited to monitoring and regulatory functions. For details, see article by David Groenfeldt of Economic Research Institute, The World Bank at [http://www.inpim.org/files/Documents/Gro\\_tran.pdf](http://www.inpim.org/files/Documents/Gro_tran.pdf) (Size: 27 KB)

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**Mihir Kumar Maitra, India-Canada Environment Facility (ICEF), New Delhi**

This is in continuation to the concerns raised by some members on the on-going reform processes and role of PRI in irrigation management. It is generally accepted that the actual area irrigated in many State managed irrigation projects is around 50-60% of the potential created, owing primarily to lack of Maintenance.

Though, Water Users Associations have been formed under PIM Acts, it will be too optimistic to assume that adequate operation and maintenance of the canal systems would be performed by them. The constraints amongst others are a) lack of capacity, b) lack of funds and c) lack of legal provisions for actually transferring the ownership of the systems to the Farmers Organizations. The situation is likely to worsen in future notwithstanding the occasional multilateral funding for sector reforms. It appears to be a losing battle considering the enormous irrigation infrastructure already developed in the country.

In order to make best out of the situation, some "out of the box" thinking is required. I would therefore suggest the command area authorities to consider using groundwater within the command extensively or at least conjunctively to begin with. Dilapidated or partly flowing canal systems even if not maintained properly can perform the task of groundwater recharge through "water spreading method". Recharge from canals can be enhanced by various methods including recharge tube wells in canal beds.

Resistance to this approach is often offered by saying that the farmers are not willing to bear the cost of pumping when the surface water from the canal is obtained at a lower cost. When the sector reforms will rationalize the water charges from canals, the difference in cost between the two will reduce. Several researchers and farmers have demonstrated that higher crop productivity and diversity are obtained by controlled application of water from wells. One needs to go into the issues of real cost and the administered cost of water from both these sources.

In a country where the planners do not hesitate to transfer water from one basin to another through pumping and farmers are too eager to pump water directly from a canal, the farmers should be willing to meet the pumping cost, if it is the only but a dependable source. The changes required for this transformation would be to use the canal water only for recharging and not for direct supply. Farmers would use the water through individual or community wells under a larger water management regime, which would eventually help developing a farmer executed groundwater management models in which the PRI could play an appropriate role.

This proposed "canal recharge based groundwater use" model could definitely be tried as a pilot project with necessary modifications in a command area where the canal system has already become dilapidated enough to incur a high rehabilitation cost.

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**Jaya Chatterji, Asian Development Bank, New Delhi**

There is an enormous interest in India in improving the efficiency of irrigation infrastructure through a management paradigm shift and promoting sustainable water management that balances the conflicting demands made on water resources. In response to this interest and as

part of its commitment to supporting knowledge development and dissemination, India Resident Mission, Asian Development Bank has undertaken two studies relating to water management: (i) *"Irrigation Management Transfer: Strategies and Best Practices from International and National Experiences"* and *"Institutional Options for Improving Water Management in India: The Potential Role of River Basin Organizations"*.

Those interested in copies of the books may write to:

The Country Director,  
Asian Development Bank,  
4, San Martin Marg,  
Chanakyapuri,  
New Delhi 110021

giving the postal address and other relevant information and we will be happy to send one set by post.

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**Ramakrishna Nallathiga, Centre for Good Governance, Hyderabad (response 2)**

I think the model suggested - Ground led management through recharge from canal water - might be misleading in the first instant and may go against integrated water resource management at the second instant and may lead to inequitable water distribution/ access.

Canal water supply is/was planned itself to overcome the enormous leakages and seepages to the Vadose zone which is not ground water (read it, it is the water supporting the trees and shrubs that grow over land). By this way, canal water would transfer efficiently to the tail end of the distribution system - though lack of maintenance may lead to erratic supply at tail end of the system.

Integrated water resource management is about optimal management of water resources - not through sub-optimal use and inefficient recharge (losses during the process) and then repump with electricity. Such deliberate solutions are worse than disease itself. It is the conjunctive use of water that is required for crop cycles rather than to those nearer to canal system.

Moreover, such system will be able to benefit those nearer to canal fully from the recharge - and even trade with distant farmers by pumping out water as is done in Narmada canal system in Gujarat, which is foul by design, as it brings with it a designed inequity (as opposed to that brought out by excess pumping).

One ought to be careful in evaluating such models.

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**Parineeta Dandekar, Gomukh Environmental Trust for Sustainable Development, Pune**

Hello. Last April, we had organised a multistakeholder conference on the MWRRA and its implications on integrated river basin management. The Chairperson (Shri. Ajit Nimbalkar) and Secretary (Shri. Suresh Sodal) also presented their views on the Act.

Tradable water rights is an important issue raised by MWRRA. At the same time, the question of bulk entitlements is also tricky. For example, how can we decide environmental water allocations?

The conference, supported by Arghyam Trust, led to prolonged discussions. You can find detailed report of the conference at:

**Negotiated Approaches to Integrated River Basin Management - Conference Report**  
[http://www.indiawaterportal.org/data/conf/MWRRA\\_Proc\\_Part\\_1.pdf](http://www.indiawaterportal.org/data/conf/MWRRA_Proc_Part_1.pdf) (Size: 4.72 MB)

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*Many thanks to all who contributed to this query!*

*If you have further information to share on this topic, please send it to Solution Exchange for the Water Community in India at [se-wes@solutionexchange-un.net.in](mailto:se-wes@solutionexchange-un.net.in) and/or Solution Exchange for the Food and Nutrition Security Community in India at [se-food@solutionexchange-un.net.in](mailto:se-food@solutionexchange-un.net.in) with the subject heading "Re: [se-watr][se-food] Query: WUAs and Water Rights in Irrigation Management - Experiences. Additional Reply."*

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