



Environment

Water Community



Gender

Gender Community

Solution Exchange for the Water Community Solution Exchange for the Gender Community Consolidated Reply

Query: Community-based Water Harvesting Systems and Gender Equity - Experiences; Examples

Compiled by [Nitya Jacob](#) and [Malika Basu](#), Resource Persons, and [Sunetra Lala](#) and [Dhivya David](#), Research Associates

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From [Kanupriya Harish](#), Jal Bhagirathi Foundation, Jodhpur

Posted 7 July 2009

I work with the Jal Bhagirathi Foundation (JBF). The Jal Bhagirathi Foundation works in the Thar Desert, with the support of Italian Development Cooperation and UNDP. JBF has been promoting community-based, decentralised water harvesting systems in the region.

Equity of access for women is one of the guiding principles of Integrated Water Resources Management (IWRM) for community development. But in practice, issues of equity are often sacrificed for efficiency. Similarly, in water harvesting schemes community perspectives on the role of women and the expected impacts on women are seldom examined during programme development.

Equity and equality are not coterminous, although they are sometimes conflated. Equity requires the presence of justice in outcomes and is intricately linked with local culture and ethics. Equality, on the other hand, implies equal opportunity and access to resources. The two are related and assessment of equity must take equality into account.

We wish to analyse **gender equity** in community-based water harvesting programmes in Rajasthan.

In this context, I seek members' inputs on:

- How we can ensure gender equity in water harvesting projects in particular, and watershed management in general? Please give examples of where this has been achieved in India.
- How can IWRM help improve women's equity in water harvesting schemes?

- Is it possible to develop a framework to ensure women's equity in community-based water harvesting systems? Is there an existing framework that one can adopt?

Based on your inputs it should be possible to draw comparisons between different water harvesting systems vis-a-vis gender equity. Further, we can understand what works, where and why. This will help us in incorporating aspects that promote gender equity in our work in rainwater harvesting; both at the grassroots and policy levels. It will also strengthen IWRM in our work.

Responses were received, with thanks, from

1. [Jayant Kumar](#), ITC Limited, Jaipur
2. [Jahnvi Andharia](#), Sir Dorabji Tata Trust, Mumbai
3. [Rabindra Kumar Gouda](#), Natural Resources International Limited, Bhubaneswar
4. [Krupa Dholakia](#), Sahjeevan, Kutch, Gujarat
5. [Seema Kulkarni](#), Society for Promoting Participative Eco-System Management (SOPPECOM), Pune
6. [Satya Prakash Mehra](#), Rajputana Society of Natural History (RSNH), Rajasthan
7. [Sunetra Lala](#), United Nations Children's Fund (UNICEF), New Delhi
8. [Madhumita Sarkar](#), Ministry of Gender and Development, Liberia
9. [Soma K. P.](#), Gender and Development Consultant, New Delhi
10. [Shalini](#), SEEDS India, New Delhi
11. [Sumita Ganguly](#), Independent Consultant, New Delhi
12. [Apoorva Oza](#), Aga Khan Rural Support Programme (India), Ahmedabad *
13. [Pradeep Mohapatra](#), Udyama, Bhubaneswar

**Offline Contribution*

Further contributions are welcome!

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Summary of Responses

Conventional approaches to water resources planning have ignored the female half of the population. At best, they assign women passive roles in programmes designed and executed by men. On evaluation, they are found to be wanting as they do often fail to 'reduce the drudgery of women' regarding collection of water for domestic use.

Women's leadership in water supply projects has gained ground fairly recently. There are ample examples where, given leadership in managing this vital resource, women so empowered have claimed a substantial space in the larger social life of their communities. A new moniker to water management, Integrated Water Resources Management (IWRM), promises to give women an equitable role in water projects as well as their benefits.

NGOs have successfully trained women to design, execute and manage water resources projects; they have brought in more than an element of equity in women's lives. Women who have been part of these projects have more say and respect in communal life as well.

Cost sharing is another aspect of equity. Women acquire symbolic capital (the right to claim equal membership of the village, participation in decision-making and individual dignity), through sharing costs of building and maintaining water management structures. Research in Alwar district, [Rajasthan](#), shows that women support equal distribution of costs as this helps them gain in intangible benefits.

Similarly, under a UNICEF-supported project in [Bhilwara](#), Rajasthan, women trained as masons bid for and won a contract to make a police station. Even though they could not venture far from home owing to domestic obligations, their skills won them respect at home and in their communities.

In Pune, [Maharashtra](#), the Society for Promoting Participatory Eco-System Management negotiated water rights for a group of landless women. Their experience proves the intervening organisation needs to form coalitions of all the disadvantaged social groups to stake their claim in water programmes. IWRM provides a mechanism for different groups to state their points of view and optimise the use of water in an integrated manner.

In another example from Rajasthan, an [Oxfam](#) project provided women provided resources to construct water tanks and given them entitlement to the adjacent land. The women developed horticulture patches on the land, augmenting their household income. Women entered the decision making process of the projects and their own communities.

In the [Pali](#) district, an NGO worked with women to reconstruct "*chaks*" to address the water crisis in the region. Through this engagement, they also learnt how to assert themselves in governance and raise their priorities in the development of the village. In [Bharatpur](#), the Rajputana Society of Natural History completed a women-led programme of community-based water harvesting and groundwater recharge. Women played a lead role from planning, through construction of structures and maintenance.

In [Gujarat](#), the Self Employed Women's Association (SEWA) mobilized women for its work and water campaign. In 1986, the Gujarat Water Supply and Sanitation Board (GWSSB) requested SEWA members to strengthen village water committees (*pani samitis*) and take over failing water supply systems. SEWA's members identified the need to find non-water based economic work, conserve water, revive traditional sources like surface wells and ponds, and create alternative water sources through rainwater harvesting.

With the help of the *samitis*, [SEWA](#) members repaired traditional sources, with women in the lead. They provided special training, tools and money, as appropriate, to the women to make them efficient water managers, maintain roof rainwater harvesting systems and handpumps. The biggest impact was on the women's household and community power relations.

In the Bolangir district, [Orissa](#), Udyama helped tribal women in several villages redesign the drought mitigation plan. They adapted the traditional water management systems, kata, muda bondh and sagar systems. The women conducted participatory planning, estimated mechanisms for catchment management, and introduced soil erosion control. This ensured water security at the community level. In the Betalghat region of Nainital district, [Uttarakhand](#), Dalit women constructed water buggies that helped ameliorate the water scarcity. They also established their rights to participate in decision-making processes over community forests.

These are examples of addressing gender-based rights through water entitlement. They show that for women's equity, implementers need effective strategies at the field, staff and organizational levels. Gender analysis at the organizational level can identify weaknesses. A

common weakness is women who work in the field are unable to bring their concerns, and those from community women, to the discussion table. Another one is safety at the workplace for women, especially if they have to work in the field at night. Women in senior positions help to engage with women and men at the field level on women's concerns.

Additional research shows IWRM gives all water users an equal say in water allocation and considers the multiple uses of water. This takes a rights-based approach to make room for everybody regardless of whether they are upstream or downstream, from a household or an industry. One of the tools, the stakeholder map and its analysis, perforce gives women, including those from poorer households, an equal voice in planning, execution and maintenance of water resources management projects.

The process begins with identifying stakeholders and giving them weightage based on a SWOT analysis. At the planning stage, these stakeholders consider available water resources, plans to alter them (augment, redistribute, or supplement), and the competing uses of water. They work out allocation plans based on stated or perceived needs. They raise money and labour, and ways to look after their water resources. The gram sabha planning meetings mentioned in the above examples approximate the IWRM process in that both actively seek inputs from women. Once planning is complete, the local authorities execute the project(s) through community volunteers or contracted labour and machines.

To conclude, IWRM provides a holistic approach to solving the problem of water shortages or unequal allocation. This makes it a useful tool to determine water allocation for different uses. For example, a woman may have to get 20 litres a day of drinking water, 160 litres for other uses for her family, and another 200 litres for cattle. Working with an IWRM framework, a local authority (water users' council) can optimally allot these quantities of water from different sources, at the suitable time and place. These would consider her needs, ability and convenience. The design of the local water management system would balance the needs of those living downstream with those living upstream, and the water budget for the watershed. This approach would ensure equity for women and other water users in keeping with the overall water availability in the watershed.

Comparative Experiences

Gujarat

From [Shalini](#), SEEDS India, New Delhi

SEWA ensures Gender Equity through Woman-managed Water Supply Systems

To ensure control of the local communities over the failing water supply systems, SEWA strengthened village-level water committees. The repair of traditional water sources was undertaken by both men and women. Women played a lead role in the process. Through SEWA's capacity building programme they also became efficient water managers and had a say in the upkeep of the structures, ensuring gender equity in the process. Read [more](#).

Imparting Technical Skills contributes to Gender Equity

To meet with increasing water needs, SEWA trained 2500 women to repair handpumps. The trained women technicians were supported with a small fee and vehicles to travel with their tools and spare parts for repairs. This engagement provided them with an additional source of income. It also contributed towards greater gender equity by ensuring women were a part of the decision-making process and participated in local water management. Read [more](#).

Maharashtra

Water Rights do not Improve Gender Equity in the Absence of Land Rights (from [Seema Kulkarni](#), *Society for Promoting Participative Eco-System Management (SOPPECOM), Pune*)

To deal with water stress as a result of droughts, SOPPECOM in the mid-1990's negotiated water rights for a group of landless women from the water user's association in Khudawadi village. This initiative provided new insights into water rights and equity for women. However, it did not succeed as women did not have secure land rights. They also did not have a say within their families regarding how the water should be used. Read [more](#).

Orissa

Involvement in the Drought Mitigation Plan ensures Gender Equity and Water Security, Bolangir District (from [Pradeep Mohapatra](#), *Udyama, Bhubaneswar*)

In this drought prone district the tribal women redesigned the drought mitigation plan to deal with water stress. They conducted participatory planning, estimated mechanisms for catchment management, introduced a series of gully control methods and revived rainwater harvesting structures (RWS). Their active involvement gave them a say in the water management of the area and ensured water security. The women now use the RWS for pisciculture also.

Rajasthan

Participation in Community-based Rainwater Harvesting ensures Gender Equity, Bharatpur District (from [Satya Prakash Mehra](#), *Rajputana Society of Natural History (RSNH), Rajasthan*)

To ensure groundwater recharge in the area, RSNH facilitated community-based water harvesting under the leadership of a woman. This work was taken up by ensuring women were actively involved in planning and constructing the rainwater harvesting structures. The project ensured that 90 per cent of the women participated equally in the construction of the structures, thereby giving them a say in the village-level decision making process. Read [more](#).

Cost Sharing provides Women Leverage to Participate in Decision-making and ensures Gender Equity, Alwar District (from [Sunetra Lala](#), *United Nations Children's Fund (UNICEF), New Delhi*)

Revival of rainwater harvesting structures was taken up in Mandalvaas and Rajour villages to ensure groundwater recharge. Here the community decided that women would share the cost of building and maintaining water harvesting structures. The women supported this move. As a result women acquired symbolic capital and equity at the community level, including the right to claim equal membership of the village and participation in decision-making. Read [more](#).

From [Soma K. P.](#), *Gender and Development Consultant, New Delhi*

Equity for Women in Land and Water Management ensured through Land Rights

In order to deal with water shortages, Oxfam provided women with resources to construct water tanks, on the condition that they would be entitled to the land around it. As a result, the women developed the land into horticulture patches. This significantly added to family incomes and ensured their visibility as innovators and horticulturalists. It also ensured women's equity in decision-making with regard to land and water management.

Restoring Watershed Structures ensures Women are Equal Contributors in Village Governance and Water Management, Pali District

A group of women in Pali constructed watershed development structures to address the water crisis in the area. Through this process they asserted their roles in water management and raised water priorities in the village development agenda. They were also able to negotiate the interests of vulnerable castes on to access to water. This effort made them equal contributors in village governance and water management projects.

Acquiring Technical Skills provides Equality for Women, Bhilwara District (from [Sumita Ganguly](#), *Independent Consultant, New Delhi*)

UNICEF training women as skilled masons, who were so committed in putting their skills to practice that they succeeded in bidding for the construction of a public building. The skills acquired helped them in doubling their income, enhanced their prestige and position in the families by making them equal contributors. However, they were unable to work outside their own village due to domestic responsibilities. Read [more](#).

Uttarakhand

Water Conservation leads to Right to Decision-making over Community Forests, Nainital District (from [Soma K. P.](#), *Gender and Development Consultant, New Delhi*)

In the Betalghat region Dalit women were struggling with managing forest nurseries and community forest management in the wake of severe water shortages. To deal with the water shortage, they constructed water buggies for water supply. This enabled them to address their immediate water needs and established their right to participate in the decision-making processes over water resources and community forests.

Related Resources

Recommended Documentation

From [Sunetra Lala](#), *United Nations Children's Fund (UNICEF), New Delhi*

The Myth of Community: Gender Issues in Participatory Development

Book; Edited by Irene Guijt and Meera Kaul Shah; Intermediate Technology Publications; London; 1999; Permission Required: Yes; Paid publication

Available at http://developmentbookshop.com/product_info.php?products_id=403

Critically assesses how applying the principles of IWRM and involving women in community water management can ensure their social equity

Linking Sustainability with Demand, Gender, and Poverty: A Study in Community-managed Water Supply Projects in 15 Countries

Report; by C.A. van Wijk-Sijbesma, N. Mukherjee and B. Gross; International Water and Sanitation Reference Centre, Washington D.C. and Delft, the Netherlands; 2000

Available at

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2001/08/29/000094946_01081504110021/Rendered/PDF/multi0page.pdf (PDF; Size: 4.4MB)

A study of community-managed water supply systems; provides participatory tools for ensuring gender equity and inculcating IWRM principles in watershed management

Voice and Choice for Women: Water is their Business

Report; by UNDP India, World Bank and Water and Sanitation Programme South Asia; 1999

Available at

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/12/18/000334955_20081218065516/Rendered/PDF/468980WSP0Voic1Box0334093B01PUBLIC1.pdf (PDF; Size: 1.5MB)

Suggests that both the sustainability and impact of projects can be positively affected by ensuring gender equity, and ensuring IWRM and a gender perspective in project design

Equity Reexamined: A Study of Community-Based Rainwater Harvesting in Rajasthan, India

Article; by Jaquelin Cochran and Esha Ray; KIMEP, Almaty, Kazakhstan and University of California at Berkeley; World Development; USA; 2008; Permission Required: Yes, paid publication;

Available at

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VC6-4SW8B1K-1&_user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&_docanchor=&_view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=6c8496e493db37338b7cf4eab3004ca7

This study investigates how equity in a rainwater harvesting programme is understood, and practiced in two communities in Rajasthan

From [Shalini](#), SEEDS India, New Delhi

Women's Collective Action and Sustainable Water Management: Case of SEWA's Water Campaign in Gujarat in India

Report; by Smita Mishra Panda; Institute of Rural Management (IRMA); CGIAR Systemwide Program on Collective Action and Property Rights (CAPRI); USA; 2007

Available at <http://www.capri.cgiar.org/pdf/capriwp61.pdf> (PDF, Size: 347KB)

Highlights how ensuring a greater role in water committees for women, empowers them, thereby ensuring social equity as well

Attaining the MDG in India, The Role of Public Policy and Service Delivery

Report; by Joep Verhagen and Rajesh Aggarwal, IESE Business School and The World Bank; New Delhi; June 2004;

Available at <http://siteresources.worldbank.org/INTINDIA/Resources/swc.pdf> (PDF; Size: 554KB)

Case study of SEWA's water campaign where women played a prominent role in water management leading to improved water supply and gender equity in the village

From [Dhivya David](#), Research Associate

Mainstreaming Gender in Participatory Irrigation Management: The Case of AKRSP(I)

Report; by Shilpa Vasavada; Gender and Water Alliance; Centre for Environment Education and Foundation Books; New Delhi; 2005;

Available at <http://www.genderandwater.org/page/5785>

Reveals how involving women in water supply schemes empowers them, and leads to efficient, effective and equitable management of water resources

Flowing Upstream: Empowering Women through Water Management Initiatives in India

Book; by Sara Ahmed; Centre for Environment Education and Foundation Books; Cambridge University Press India; New Delhi; 2005; Permission Required: Yes, paid publication;

Available at <http://www.infibeam.com/Books/info/Sara-Ahmed/Flowing-Upstre am-Empowering-Women-Through-Water-Management/8175962623.html>

Presents case studies of civil society interventions to ensure women's equity in community-based water management systems by ensuring their participation

Recommended Organizations and Programmes

From [Jayant Kumar](#), ITC Limited, Jaipur

Foundation for Ecological Security (FES), Gujarat

Post Box No. 29, Jehangirpura, P.O. Gopalpura, District Anand, Vadodara 388370, Gujarat; Tel: 91-2692-261303; Fax: 91-2692-262087; ed@fes.org.in;
<http://fes.org.in/includeAll.php?pld=MioXMyOz>

Uses community mobilization tools to ensure gender equity and bring women's perspectives into planning for water harvesting and watershed development

Aga Khan Rural Support Programme-India (AKRSP-I), Gujarat

2nd Floor, Choice Building, Swastik Char Rasta, Ahmedabad 380051, Gujarat; Tel: 91-79-6427729; akrspl@icenet.net; http://www.akdn.org/india_rural.asp

Has developed guidelines for ensuring gender equity in watershed management by involving women in all stages of planning and implementation

ITC Ltd, West Bengal

Virginia House, 37 Jawaharlal Nehru Road, Kolkata 700071, West Bengal; Tel: 91-33-22889371;
<http://www.itcportal.com/sets/itc-research-development.htm>

As part of its social investment programme, it supports agencies in involving women in water harvesting and watershed development projects

Area Networking and Development Initiatives, Gujarat (from [Jahnvi Andharia](#), Sir Dorabji Tata Trust, Mumbai)

B 3/1, Sahajand Towers, Jivraj Park, Ahmedabad 380051, Gujarat; Tel: 91-70-26820860;
<http://www.anandiindia.net.in/>

Undertook a study to identify elements that led to gender equity and gender mainstreaming in water harvesting and watershed management projects

Natural Resources International Limited, United Kingdom (from [Rabindra Kumar Gouda](#))

Park House, Bradbourne Lane, Aylesford, Kent, ME20 6SN, United Kingdom; Tel: 44-1732-8786867; Fax: 44-1732-220498; info@nrint.co.uk; <http://www.nrinternational.co.uk/>

Supports watershed projects in Orissa under the Western Orissa Rural Livelihoods Programme; promotes gender equity through their participation

Department for International Development (DFID) India, New Delhi

British High Commission, B-28 Tara Crescent, Outab Institutional Area, New Delhi 110016; Tel: 91-11-26529123; Fax: 91-11-26529296; enquiry@dfid.gov.uk;
<http://www.dfid.gov.uk/Where-we-work/Asia-South/India/>

Supports watershed development projects in India and promotes gender equity in the management of community-based water management systems

Rajputana Society of Natural History (RSNH), Rajasthan (from [Satya Prakash Mehra](#))

Shanti Kutir, Keoladeo National Park, Bharatpur 321001, Rajasthan; 91-5644-225950;
greenmunia@yahoo.co.in; Contact Satya Prakash Mehra; Tel: 91-9829144163;
greenmunia@yahoo.co.in

Initiated a watershed development programme in Rajasthan, which succeeded in ensuring gender equity and participation of women

Society for Promoting Participative Ecosystem Management (SOPPECOM), Maharashtra (from [Seema Kulkarni](#))

16, Kale Park, Someshwarwadi Road, Pashan, Pune 411008, Maharashtra; Tel: 91-20-25880786;
Fax: 91-20-25886542; soppecom@gmail.com; <http://www.soppecom.org/focus.htm>;

Works to ensure gender equity in community-managed water harvesting projects and ensure equitable access and management of natural resources

Udyama, Orissa (from [Pradeep Mohapatra](#))

Nayagarh, Post Box 9, District Nayagarh, Bhubaneswar 752069, Orissa; Tel: 91-674-2475656;
Fax: 91-674-2475656; udyama.pradeep@gmail.com; <http://www.udyama.org/aboutus.htm>;

Contact Pradeep Mohapatra; Team Leader; Tel: 91-674-2475656 ; pradeep@udyama.org

Works to ensure gender equity and participation of tribal women in the maintenance of community-based rainwater harvesting structures

UNICEF, New Delhi (from [Sumita Ganguly](#), Independent Consultant, New Delhi)

73 Lodi Estate, New Delhi 110003; Tel: 91-11-24691410; Fax: 91-11-24627521;

newdelhi@unicef.org; <http://www.unicef.org/india/wes.html>

UN agency, which has ensured the participation of women in water projects, thereby ensuring equity and gender mainstreaming

Self Employed Women's Association (SEWA), Gujarat (from [Shalini](#), SEEDS India, New Delhi)

SEWA Reception Centre, Opposite Victoria Garden, Bhadra, Ahmedabad 380001, Gujarat; Tel:

91-79-25506444; Fax: 91-79-25506446; mail@sewa.org; <http://www.sewa.org/Movements.asp>;

Has trained over 2500 women to repair and maintain water supply structures, and promoted the participation of women in water committees to ensure equity

Tarun Bharat Sangh (TBS) Rajasthan (from [Sunetra Lala](#), United Nations Children's Fund (UNICEF), New Delhi)

Tarun Ashram, Bhikampura, Kishoree, Via Thangazi, Alwar 301022, Rajasthan; Tel: 91-1465-225043; rajendrasingh@tarunbharatsangh.org;

<http://www.tarunbharatsangh.org/about/abouttbs.htm>

Involved in reviving traditional rainwater harvesting structures in Rajasthan, by involving women's participation

Related Consolidated Replies

Gender Equity in Participatory Irrigation Management, from M. S. Prakash, DHV-MDP, New Delhi (Experiences). Gender Community and Water Community, Solution Exchange India,

Issued 28 July 2006. Available at <http://www.solutionexchange-un.net.in/gender/cr/cr-se-gen-wes-28070601.pdf> (PDF; Size,176 KB)

Deliberates on legal, political, socio-cultural and capacity building constraints, preventing women from being members of Water Users' Associations (WUAs), exercising voting rights and contesting elections

Responses in Full

[Jayant Kumar](#), ITC Limited, Jaipur

I work with ITC Limited and am responsible for the management of its social investment programmes in Rajasthan. I have had the opportunity to work closely with two renowned NGOs of the country addressing gender issues in NRM projects. They are AKRSP(I) where I worked for more than two years and Foundation for Ecological Security (FES), an implementing partner of ITC's watershed development projects in Rajasthan and Madhya Pradesh. These agencies use

different community mobilization tools to bring women's perspectives in the planning process related to water harvesting structures in particular, and watershed development in general. Particularly in AKRSP(I), the Harvard Framework (a tool used for gender sensitization) is used to sensitize communities to address gender equity in the planning and implementation processes for NRM projects. You may approach these agencies for further details.

Jahnvi Andharia, Sir Dorabji Tata Trust, Mumbai

I was part of the study done by ANANDI which was published by the Aga Khan Foundation (AKF). This was an action research funded by AKF and sought precisely to see what elements lead to gender mainstreaming in Watershed projects/NRM projects. The study looked at AKRSP(I), Agragramee, DDS, KMVS and dalit women's experience of getting land rights in Maharashtra. Based on their experiences it concluded that in order to be effective strategies must be undertaken at different levels – field level, staff level and at the organizational level. There are no quick fix tools to engender watershed/NRM projects. Some the other findings were:

- Gender analysis at the organizational level can lead to identifying the weak areas. Often women are found only at the field staff level with no enabling environment to bring the concerns of women to the discussion table
- There are issues like making the workspace safe for women to conduct meetings with women when they are available in the field, which is often at night
- Having women in senior positions create role models of what women can do and why women should participate in “perceived” male activities. As suggested by the Harvard Framework this helps to engage with women and men at the field level on women's concerns.
- Sometimes some alterations have to be made to accommodate the needs of women.
- There is a need to keep an open eye to find out what the women are already doing in NRM activities and use that from where to begin and upscale them.

These are just some of the ideas. The study also outlines several other strategies. The study should be available with Aga Khan Foundation.

Rabindra Kumar Gouda, Natural Resources International Limited, Bhubaneswar

I work with Natural Resources International Limited (NRIL) and NRIL is a partner of DFID. I am presently monitoring the watershed projects at Orissa under the Western Orissa Rural Livelihoods Project (WORLP). This is a bilateral project funded by DFID and implemented by the Government of Orissa. As a civil engineer, I have been working in the development sector for the last 20 years on issues of land and water management. In my experience women are very good in managing projects once they are completed. Once a project is completed, women user groups can be formed. As per the land use, they can collect user fees for the management of structures and equitable distribution of water can be managed by them to avoid conflicts in water management.

Krupa Dholakia, Sahjeevan, Kutch, Gujarat

I work with Sahjeevan, which is working in the Kutch district of Gujarat. My focus area is gender and NRM. I have worked closely on issues of NRM, water harvesting and watershed management projects, and feel that organizations need to develop clear strategies on gender equity and implement the same. This is being done by AKRSP(I), which has developed a guideline for the role of women in watershed management. This guideline gives a perspective on how to address women's participation in all stages of watershed management. There is also a need for advocacy at the policy level with governments. I also believe that land ownership is a major impediment in

empowering women, since women do not inherit property. They, therefore, do not have a say in the management of land, water works undertaken therein, and watershed management.

Seema Kulkarni, Society for Promoting Participative Eco-System Management (SOPPECOM), Pune

I work with SOPPECOM, Pune and we have been working on, among other things, issues of gender and water. First, we may need to be clear about what we mean by gender equity in the context of water as that would determine our set of actions. In SOPPECOM's work over the last 15 years on gender and water we have been consistently trying to unpack this term in different contexts. Our work in the area of gender has largely been in the context of surface irrigation, so I would like to share learnings from there.

If we were to take a quick review of various understandings/work on gender equity in the water sector we will get a spectrum of meanings around equity. Whereas, the water policy and legislations in different states prefer to remain ambiguous on this issue, different NGOs and donors largely understand gender equity in terms of enhancing women's participation in water programmes. They strive to do so through demanding representation, conducting various trainings and capacity building exercises without really commenting or acting upon the property rights regime and the structures of patriarchy that determine them. Some do think about it, but find it difficult to translate it into meaningful actions.

For any practitioner then the question is how do we articulate gender concerns in a water programme:

1. Do we construct women as a separate constituency and carve out specific water rights for them as either individuals or collectives? How then do we tackle the household, caste and class identities that are an integral part of women's identities? Is there any experience of collective actions where women across diverse social groups have rallied together for a right over water apart from a few instances of drinking water? Right to water often becomes a tricky issue in the context of water for women, especially because at one level women are divided across social groups such as that of caste, class, religion, etc and across households. At another level water itself is divided into sectors of domestic and production. What then is the notion of individual access, independent entitlements for women? How do we understand equity in this regard? Do we consider women as equal stakeholders in the water sector or are they seen only as part of these larger social groups?
2. If that is not our aspiration then do we remain satisfied with their participation in meetings, sometimes limited to only visible presence? Then our demands become simpler because we want quotas, we look for suitability of timings for meetings, etc i.e. we work within the framework of women's current roles.
3. Or do we challenge the patriarchal system, which does not allow women a say in how resources are owned and used?

Where does our action begin? The answer is obviously at all levels if we are concerned about social and gender justice. Work at the field level brings in all these complexities and addressing gender equity therefore becomes a difficult task.

If we are to look at sectors - gender equity in drinking water and sanitation is about basic human rights – the right to water and sanitation has been well stated and women, like others, are adequately covered in principle at least. While that is so, women are overtly sought in drinking water programmes due to their privileged location as those concerned with household health and

hygiene. Where they lose out though is in not being able to participate in decision-making at micro and macro level.

On the other hand, in watershed or irrigation programmes issues are far more complex as rights to water are determined by access to land and not by virtue of your right to livelihood; secondly, does an independent right to water for women as individuals or collectives hold any meaning for women? In Khudawadi village in a drought prone district of Maharashtra, SOPPECOM in the mid 90's negotiated for a water right to a group of landless women from the water users association. Though the experiment allowed new insights into water rights and also provided a direction for policy advocacy it did not move ahead for various reasons. Importantly because women did not have secure land rights and did not have a say within the family to decide on how water can be used. Therefore, a notion of independent water right or representation within the decision-making bodies makes little sense if it is not complemented with various actions at different levels.

This means that:

- Coalitions of all the disadvantaged social groups need to be formed - class, caste and gender to assert their rights and stake claims in water programmes
- Alliances need to be built with other social justice groups that will see this as not a sectoral attempt alone, and one for bringing in greater justice in societies
- Re-conceptualization of water as a resource and women as a category - neither is static. Water for livelihoods (unlike the present sectors around sources) and women as part of diverse social groups therefore, become useful ideas. The value of IWRM can be seen in this context - to hear out different social groups and to pool different sources and uses of water in an integrated manner
- Most importantly bringing in discussions around democracy within family units - where decision making is a democratic process and women have a say, for example, in this context on deciding water use priority, crops, cropping practices or at the community level in governance functions.

Satya Prakash Mehra, Rajputana Society of Natural History (RSNH), Rajasthan

I am sharing one of the examples of "Community-based Water Harvesting Systems and Gender Equity" in the rural areas of Bharatpur by Rajputana Society of Natural History (RSNH). The most important feature of this work completed by RSNH was that it was lead by a woman, Sarita Mehra, Secretary, RSNH. Under her leadership, community-based water harvesting and recharging of groundwater through natural solutions were completed successfully. Two villages namely, Achalpura and Nagla Maliyan (Murwara Panchayat, Bharatpur, Rajasthan, India) were undertaken for the work. To begin with, women were included in planning activities. Fortunately in this work 60-70 per cent of the planning activities were undertaken by women. The women took part at every step of the work, even in the construction of structures, and where ever required, women worked as unskilled labours.

The views of women were taken on a priority basis at every level of the work. This was possible only because women face problems in the collection of potable/drinking water. They knew that it is more important for them so they took part with great enthusiasm. The work was sponsored by OADB-DRT and BPCL and implemented by RSNH. The working teams were divided into a three tier system:

- Specialist Team: two women and three men;
- Field Team: one woman and three men;
- Volunteer Team: three women and five men.

The ratio was reversed at the community level, where a major proportion (60-70%) was women. Thus, in summary womens' involvement in woman lead RSNH work of water harvesting was as follows:

- Managerial Team: 40:60
- Initial planning and meetings: 90 per cent participation of women and 80 per cent participation of men in two villages. Structural and Construction Works: 60-70 per cent women and 30-40 per cent men.

Men only worked as skilled labours. Due to the nature of the work women did not work as skilled labour but they were encouraged to acquire the necessary skills.

We learnt that it is easy to motivate and convince women from the community to work for water conservation instead of men. Since it was community based work, therefore, males were less interested due to low income whereas womens' interest was the work within the village near their residence so they agreed to work after completion of their routine household works. Due to their (womens') involvement at every stage, they realized their importance in the community and also the importance of the work which motivated them to work. The women leaders further boosted and encouraged the women to show their skill. The details of this success can be shared along with photographs for those who are interested.

[Sunetra Lala](#), United Nations Children's Fund (UNICEF), New Delhi

I was involved in a study (for Jaquelin Cochran's research on A Watershed for Equity in 2005) to understand equity in rainwater harvesting projects in two villages, Mandalvaas and Rajour, Alwar, Rajasthan. Here rainwater is captured in *johads*, or check dam. Tarun Bharat Sangh (TBS) has mobilized communities for revitalizing the *johads* in the area. My response to the first question is based on the findings of that research.

How we can ensure gender equity in water harvesting projects in particular, and watershed management in general? Please give examples of where this has been achieved in India.

Women's equity is an essential development goal but remains ill-defined and seldom takes into account the perspectives of the beneficiaries. The usual indicators of equity, such as water allocation, may not necessarily reflect community perceptions of equity. In development literature, under the concept of equity, costs are equated with inputs and benefits with outputs. The research shows women acquire symbolic capital (the right to claim equal membership of the village, participation in decision-making and individual dignity), **through sharing costs of building and maintaining *johads*.**

Given the gender inequalities that prevail in many social and political contexts, it is essential for development programmes to consider how they differentially empower women and men. One important dimension of empowerment is participation of women as an important avenue to ensure a balanced and gendered approach. In the context of rainwater harvesting systems, gender differences can be extremely important.

Despite the fact that the *johads* economic benefits were not distributed universally, the research shows almost all villagers, especially women, support the equal distribution of the costs. Women derive significant benefits from output-based resources of rainwater harvesting, as well as from the inputs – the accumulation of symbolic capital through equal cost allocation.

It also demonstrates the importance of accounting for the benefits both from a project's *outputs* and its *inputs*. The people here incorporate this into their assessment of cost allocations, so they contribute to the project irrespective of the gains. On the other hand, using just theoretically derived definitions of equity might exclude the poor, and reinforce existing social inequalities. For example, the landless who get no benefits, will not be included in cost allocation, and this will deny them the rights of participation.

Moreover, something that seems inequitable for women from an outside perspective in this research – equal cost allocation despite unequal allocation of economic benefits – may not be inequitable considering the symbolic values that accrue when taking community perspectives into account.

How can rainwater harvesting policies be designed to incorporate community perspectives of equity, particularly gender equity? By sharing costs, all villagers, including women, acquire valuable symbolic capital. The expectation of symbolic capital from cost inputs is thus critical to understanding community perspectives of equity, and gender equity. Theoretical and empirical treatments of equity, which equate input with costs and output with benefits, do not take this factor into account. By ignoring symbolic capital and the benefits from cost contributions, rainwater harvesting projects can overlook a significant benefit to women.

How can IWRM help improve women's equity in water harvesting schemes?

Integrated Water Resources Management (IWRM) offers an opportunity to create a paradigm shift in water resources management. Continued gender inequalities point to the need for a fresh approach to governance of water. Water should be treated as an economic, social, and environmental good. While it is desirable for water supply to be paid for, it is also important to take into account people's ability to pay. Even though women often do not have control over cash, they are still expected to pay for water and sanitation.

Women have traditionally played a major role in water resources management and should be included in planning and practice. This will ensure their support for projects on the ground. Involving both women and men in IWRM can increase project effectiveness and efficiency.

The positive impact of paying attention to gender issues can be seen in the Philippines Communal Irrigation Development Project. This project exceeded physical development targets and appraisal estimates of irrigation intensity and paddy yields. The project was successful because of the full participation of the intended beneficiaries. It partly draws on a tradition of farmer-built irrigation systems and responds to a cultural context in which women exercise independent land rights.

To conclude, three specific studies have looked at this issue:

1. *Voice and Choice for Women - Linkages on Demand, Gender and Poverty from 44 Water Schemes in Asia and Africa*. A research project of the UNDP/World Bank Water and Sanitation Programme, 2001.
2. Shah, M. K., 1998. *Gendered Perceptions of Well-being in Darko, Ghana*, in I. Guijt and M.K. Shah (eds.) *The Myth of Community: Gender Issues in Participatory Development*.
3. Wijk-Sijbesma, C.A. van, Mukherjee, N. and Gross, B., 2001. *Linking sustainability with demand, gender, and poverty: A study in community-managed water supply projects in 15 countries*. International Water and Sanitation Reference Centre, Washington, D.C. and Delft, the Netherlands.

[Seema Kulkarni](#) has raised some very pertinent questions. When we look at gender equity in the water sector it is not just about representation in committees, or training. When we talk of unpacking gender equity we need to look at who are the users men/women, for what purpose is water being used and who decides how water will be used.

A response to these questions will give us a clear picture of the water users and also who has control over water in the community and the family.

In India caste, class and religion play an important role in everyday life, it determines who has what, and impacts the roles and responsibilities of individuals/communities. It is thus important that any water policy or legislation takes into consideration all these elements.

Finally when the water users come from marginalized communities (based on caste, religion, economic status, disability, sexuality and to some extent tribal/non-tribal) then both men and women are affected. However, all these lenses must be combined with the gender lens to come up with a holistic policy that addresses the specific needs of men and women.

[Soma K. P.](#), Gender and Development Consultant, New Delhi

I have been reading with great interest the contributions of various practitioners and researchers to this discourse on IWRM. I hope that I can in some small way contribute to take this discourse. I have had the opportunity to learn from many of you and the women and communities you work with, as well as others, through their project initiatives , strategies to address gender issues in the context of right to water, as well as strategies to enhance women's livelihoods rights through efforts directed towards women's empowerment. My comments below are based on some of these associations.

I view the right to water as an intrinsic part of the right to livelihoods as much as it is a factor to be given due consideration for environmental sustainability. The two are not contradictory views but are often postulated as such since the rationality for sustainable livelihoods seldom informs the arguments of those making claims to water rights for commercial or market based uses.

Thus if we view water from the point of view of both these needs, it is as significant to claim the right to water as an intrinsic right in itself, as it is for women to have water in adequate quantities to attend to the tasks they must address for survival of household, community and production, etc single women in north Jharkhand were given access to resources under the Jharkhand watershed program to construct wells despite having very small land holdings. This investment in their entitlement to the water created legitimacy for them to negotiate other rights with their own community, as well as become part of the watershed management committee - I wonder if this is the symbolic right that one contributor refers to.

Elsewhere in Rajasthan women have been provided resources to construct water tanks (under an Oxfam project) provided they are given entitlement to the land on which the water structure will be created. This has enabled the women to gain entitlement to land and they have developed the land into horticulture patches which have significantly added to family incomes and to women's visibility as innovators and horticulturalists. Both these provide examples of addressing gender based rights through water entitlement. (Details can be sought from Oxfam Ahmedabad). While in both instances the right to water resources created a means for women to leverage entry into the decision making spaces of the projects as well as to some extent in their communities, it neither impacted the community's patterns of gender relations significantly. However it did give those women and others associated with them a sense of aspiration to challenge the stereotypes and rigid patterns of discrimination and courage to challenge their lack of access to learning opportunities and entitlement to resources.

Another group of women in Pali district worked with the NGO to learn how to construct "chaks" and other watershed development structures in order to address the water crisis in the region, which had given rise to a fodder and livelihoods crisis. Through their engagement in the watershed restoration efforts, they also learnt how to assert their roles in the structures of governance and to raise their priorities in the development agenda of the village. Through the support that this initiative mobilized for them in their communities, they were also looking to negotiate the interests of their vulnerable caste and class groups with leaders of dominant caste groups of the village. The sense of entitlement was created not through a right to a piece of the land or a water body, but through the efforts made to restore community water resources - this gave them a high ground to initiate such a process, which they were unwilling to hand over to the men in their communities.

In Uttarakhand Dalit women who were struggling with managing forest nurseries and community forest management in the wake of severe water shortages constructed water buggies (under the GEF program) that enabled them to address the immediate needs as well as to establish their rights to participate in decision making processes over community forests in Betalghat region of Nainital district.

As in the arena of gender so in the agenda of water, there are numerous implications of any actions and these have a bearing on several other factors along the process, and need to be tracked along space and time. We need to evolve a matrix that allows us to track the implications of any initiative on all the segments of the matrix - across the aspects of empowerment and across the domains of water use and value - as intrinsic rights, for production, for consumption etc.

I would be happy to share a preliminary matrix that I have developed for this purpose on livelihoods rights and gender equity and equality parameters with those who would be interested in a more detailed dialogue on this. I am afraid communication over email networks may not be adequate for that - the limitations stem entirely from my limited ability to communicate it succinctly, space and time required, etc and not intended as a comment about the medium).

One final comment - rural poor women have invariably addressed the issues of sustainable use in their efforts to restore and manage water resources as essential to the process of water management and claiming rights to water - this is not to essentialize the argument but to point to fact that it is their own intrinsic necessity of having to deal with scarcity at the bottom of the supply chain and their dependency on the "free" resources that emanate from the availability of water - the grass, the sub soil humidity to undertake some agriculture, etc that compel them to make those connections. Hence issues of sustainability are not a negotiable element from a gender point of view, and need to be integrated into the frameworks of any processes or programmes we adopt to address right to water.

[Shalini](#), SEEDS India, New Delhi

There are several instances in India and across the world illustrating the inherent potential of woman to contribute to protection and management of natural resources. The effort of the Self Employed Women's Association (SEWA) to mobilize women for its work and water campaign in Gujarat in Western India is one such commendable initiative. In 1986, the Gujarat Water Supply and Sanitation Board (GWSSB) invited SEWA to use its grassroots base to strengthen village-level water committees (*pani samitis*) so that the local people could take over the failing water supply systems. Through regular meetings with women and men in the villages, SEWA was able to identify - the need to find non - water based economic work and the need to conserve water,

revive traditional sources like surface wells and ponds, and create alternative water sources like rainwater harvesting.

Under this campaign, with the help of the *pani samitis*, SEWA organized the execution of actual repair/up-gradation work of the traditional water sources such as (wells and ponds) ensuring that women play a leading role in the entire process of revival of the traditional water sources, and undertake tailor-made training and on-the-spot capacity building to become efficient water managers. Rainwater harvesting was also realized as a viable alternative to transporting water over long distances by pipelines and/or tankers. Women were trained to maintain the roof structures, including cleaning the tank with lime to store water and flushing out the first rainwater collected

In many villages, where hand pumps were the sole source of drinking water, SEWA trained more than 2500 women technically supporting the trained women technicians with a small fee and vehicle expenses to travel to villages with their tools and spare parts for repairing hand pumps. Initially, women faced problems as technical knowledge is considered a male domain and their work was not taken seriously by the villagers. Only after women proved themselves as able technicians were they accepted by the community.

Through this initiative, women could engage themselves in income-generating activities. Such a change also had an impact on gender/power relations both at the household and community levels and has also contributed towards greater gender equity in terms of women's decision making and participation in local water management

References:-

- Women's Collective Action and Sustainable Water Management: Case of SEWA's Water Campaign in Gujarat in India
- Attaining the MDG In India: The Role of Public Policy and Service Delivery, Conference Delhi 17/18 June 2004

[Sumita Ganguly](#), Independent Consultant, New Delhi

It is good to know about women's leadership role in Bharatpur district's community water management project, as described by [Satya Prakash Mehra](#). But this is nothing new. Rajasthan has been a pioneer in women leading on water issues. However it is disappointing to read that women get pushed into community based water management simply because men are not interested in a 'low wage' job.

One wonders why the project facilitators have not encouraged interested women members to acquire the necessary skills by providing them training in masonry work. In late nineties when I worked in Rajasthan, women's groups in Bhilwara district were trained to be skilled masons. This was a one month training funded by UNICEF. The women were so committed in learning their new skills and putting it to practice that they succeeded in bidding for the construction of a public building and bagged the contract - construction of a police *thana*.

However they were limited by family obligations - many were mothers of small children, therefore unable to take up work outside their own village. However almost all of them said that the skills acquired helped in doubling their income, enhanced their prestige in the family, provided extra money, as well as enhanced their position. In general it was a leap of confidence to realize that they could do a piece of work as good as their male counterparts.

If there should be one test of empowerment for both men and women in community water and sanitation work, it should be in the parity in skills - analytic, technical, managerial, and financial and the accrual of benefits and burdens.

Apoorva Oza, Aga Khan Rural Support Programme (India), Ahmedabad *

I really disagree strongly with [Rabindra Kumar Gouda](#); women need to be involved upfront, not after the project is completed. Asking them to manage a project after completing is akin to dumping responsibility without any role in design or application! Women know enough about their needs, and how a project should be designed and implemented to address their basic needs, I have seen villages with canals running through them, and women trudging 2 kms to wash clothes, because nobody had the sensitivity to ask them, and at a fraction of the cost, a small washing platform could be constructed. There are numerous such examples in the water sector which engineers don't consider.

**Offline Contribution*

Pradeep Mohapatra, Udyama, Bhubaneswar

A few evidence based activities in relation to water harvesting structure were managed by tribal women in the villages of Muribahal, Charpani, Brala, Batharla, Badanki, Bolagir District, Orissa. In 2005 when Bolangir was declared drought prone the women of Badakanki came forward to redesign the drought mitigation plan.

The technology used was very simple and water management in western Orissa is very old concept, including the kata, muda bondh and sagar systems. These systems have been prevailing in order to protect and conserve water without disturbing and damaging the low land areas. These ensure that there is no bund breakage or sand casting in low lands. Introducing regulatory systems for drought mitigation ensured prevention of nutrition erosion, saved labour cost and crop loss.

During this period women conducted participatory planning, estimated mechanisms for catchment management, and introduced a series of gully control methods in the upstream areas with adequate vegetative bonding. The backward and forward linkages of conservation protected the water harvesting systems from falling apart and enhanced the water percolation for longer period. This ensured water security at the community level as well. The women in the area are now doing pisciculture in the rainwater harvesting structures.

What is interesting is that more than 100 water harvesting structures were revived without cement, and were only constructed with stones. These have now turned into community assets. These efforts were promoted by CBOs namely, Sramik Sakti Sangh, Sramik Shakati Sangh and Shramik Shakti Sangh. They have been partners with Udyama since 2005.

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 and Gender Community in India at se-gen@solutionexchange-un.net.in with the subject heading "Re: [se-watr] [se-gen] Query: Community-based Water Harvesting Systems and Gender Equity - Experiences; Examples. Additional Reply."

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