



A complex interplay of factors constrains women's participation in water sector planning and limits the accrual of benefits to them. Policy prescriptions in the water sector, howsoever well intentioned, may not benefit women if they are simply mapped on to the existing unequal social context. It is thus clear that for women from diverse social groups to effectively participate in governance and stake their claims on resource rights and its use, policies need to be better informed about the dynamics of gender relations located in the context of caste, class and patriarchy. Analyses in the past have focused mainly on time saved and increased income opportunities, thus overlooking the issue of whether and how the dynamics of the collective changes wherein improved economic status may lead to decollectivisation of women as women or as caste or class groups for that matter. This takes us to the less explored areas to probe into question of how increased access to water through its poverty reducing impact shapes the trajectory towards gender empowerment. It is important to note here that though gender and poverty are inter-related they are not the same and should be recognized as different social processes. This Highlight explores the relationship between women and water and poverty with the help of an empirical investigation in micro settings of two states *viz.* Andhra Pradesh and Madhya Pradesh.

Water Policy Research

HIGHLIGHT

Irrigation, Economic Benefits and Women

**Evidence from Two Case Studies in
Andhra Pradesh and Madhya Pradesh**

Amita Shah and Seema Kulkarni

IRRIGATION, ECONOMIC BENEFITS AND WOMEN

EVIDENCE FROM TWO CASE STUDIES IN ANDHRA PRADESH AND MADHYA PRADESH¹²

Research highlight based on Shah and Kulkarni (2008)³

THE CONTEXT

The growing concerns on gender and water governance rests primarily on the premise that water, being one of the most contested natural resources for enhancing human well-being and poverty reduction, may create space for women's participation as well as empowerment. The trajectory however, may neither be uni-directional nor smooth and certain. The trajectory essentially, is influenced by a complex interplay of factors - natural, socio-economic-political, and cultural.

Various studies are pointing to such a complex interplay of factors that constrain women's participation in water sector planning and limit the accrual of benefits to them. These studies have shown that policy prescriptions in the water sector, howsoever well intentioned, may not benefit women if they are simply mapped on to the existing unequal social context. It is thus clear that for women from diverse social groups to effectively participate in governance and stake their claims on resource rights and its use, policies need to be better informed about the dynamics of gender relations located in the context of caste, class and patriarchy. Analyses in the past have focused mainly on time saved and increased income opportunities, thus overlooking the issue of whether and how the dynamics of the collective changes wherein improved economic status may lead to decollectivisation of women as women or as caste or class groups for that matter. This takes us to the less explored areas to probe into question of how increased access to water through its poverty reducing impact shapes the trajectory towards gender empowerment. It is important to note here that though gender and poverty are inter-related they are not the same and should be recognized as different social processes.

Various processes and possibilities are likely to emerge if we investigate gender empowerment through the route of poverty alleviating impacts of water. This Highlight attempts to look at this less explored relationship between

women, water and poverty by examining key research questions in the light of an analytical framework for carrying out an empirical investigation in micro settings of two states *viz.* Andhra Pradesh and Madhya Pradesh. The paper seeks to explore and understand some of the less understood areas as follows:

- What are the implications of additional availability of the water resource at the household level for poverty reduction and gender empowerment across different groups of caste and class?
- What are the implications - actual and potential - of the saved time and energy in terms of enhanced income and overall well being and the gender differential thereof? Has this resulted in changing gender division of labor as well as aspirations within the household?
- Do women have a different understanding of resource utilization and development and does that vary across diverse groups? How do we explain it?
- How does women's or the poor's participation or the lack of it affect the water resource program in terms of efficient use of the resource and its better management?
- Does women's or the poor's participation in the programs lead to any direct gains for women in terms of access to resources, role in decision making, and improved bargaining power at the household level?

ENQUIRY INTO THE MICRO SETTINGS: EMPIRICAL APPROACH

The study is based on both secondary and primary data. The secondary data have been collected from official publications such as Census of India, Ministry of Rural Development, Ministry of Agriculture, District at a Glance etc. and also from the records of the development agencies in whose field, the study was conducted *viz.* Modern Architects of Rural India (MARI) and HARITIKA in Bundelkhand (Madhya Pradesh)⁴. The

¹This Highlight is based on a larger study conducted jointly by researchers at GIDR and SOPPECOM. See for details, Water Poverty and Gender: Understanding the Interface and Drawing Policy Implications (mimeo), Gujarat Institute of Development Research, Ahmadabad, 2011.

²This IWMI-Tata Highlight is based on research carried out by GIDR and SOPPECOM with support from Water Aid India. It is not externally peer-reviewed and the views expressed are of the authors alone and not of IWMI or its funding partners.

³This paper is available on request from p.reghu@cgiar.org

⁴MARI works in the Warangal district of Andhra Pradesh on issues of rural development, primarily in the area of watershed development, tank irrigation etc. HARITIKA works in the Bundelkhand region of Madhya Pradesh on issues related to water and sanitation, watershed development, women's empowerment etc.

study involved an in-depth enquiry in three locations in each site as noted above. The village selection was based on discussion with the concerned organizations and pilot visits to a few villages. The sample villages included two with specific interventions by the agencies, and one control village in the vicinity. Following criteria were considered while selecting the villages: (a) implementation of project should have been completed at least 3-4 years ago; (b) the project implementation should have augmented some amount of additional resources - land, water, drinking water, sanitation facilities for generating potential impact in terms of an additional economic income/ well being/ poverty reduction/ gender empowerment; (c) the case study should represent an average or above average scenarios of impact rather than the best or nearly a failure case; and (d) village size should be medium.

Primary data were collected through selection of a representative sample with landless, landed and all the major castes and social sections being represented in the study. To study the impact on women, focus group discussions (FGDs) were conducted with women in groups of two. In all, 36 women were covered in these detailed discussions/ interviews. Whereas the sample survey was undertaken using a structured questionnaire, the FGDs were based on a check list of questions.

KEY FINDINGS FROM ANDHRA PRADESH

This section goes onto discussing the impacts of water interventions on women and thereby on gender relations. The water context had shown us that the Watershed Program in GB Thanda and the Tank Restoration Program in Nizamapalli did have a visible impact in terms of crop diversity and increased production, leading to better availability of food and fodder for livestock. Migration too had reduced since better income options became available in the village. Women too were not excluded from these impacts. These impacts were seen in terms of their work, role in decision making, overall well being which is manifested through reduction in drudgery, improved health and time saved.

1. Assessment of benefits

According to women, benefits were not necessarily equitably distributed. Water access has improved for those whose lands were at the downstream of the watersheds and those who have the financial power to extract water. The others have not been so fortunate. Thus lack of a just basis for distribution of benefits has been seen as a serious

concern expressed by some women. But overall benefits accrued due to improved irrigation and water availability have been stated by the women. Improved cash incomes and improved access to drinking water, food, fuel and fodder have led to an overall improvement in health and well being at the household level discussed at a later point.

As far as the institutional sphere is concerned, women do have representation in the formal spaces that have been created. However the effective use of these spaces is largely determined by the gender and social hierarchies and this is amply demonstrated in this study.

2. Decision making

The study revealed that most cropping decisions though jointly taken, become final with the man's approval. During the in-depth interview, women across caste and class in GB Thanda said that things had not changed much since the Watershed Program in terms of decision making related to agriculture. Age and gender hierarchies still prevail in terms of cropping decisions. However, the overall choice of crops has increased for the household after the Watershed Program. Given a choice, women said that they would continue growing paddy, cotton and maize as it has proven to give them a good yield and also has a good market value. Besides their soils are best suited for these crops. Thus the determining factors for choice of crops are market, availability of seed and water and the soil types. Within this context the power dynamics of age and gender play a strong role.

3. Organization of work

Increased water availability for agriculture has meant that both men and women have to engage in additional work on the field. Traditional tasks of weeding, harvesting and engaging labour continue to be done by women and irrigation has added to this burden although women choose not to express this as burden since according to them the benefits to the household outweigh the costs of labour. This fits into the broader explanation of women's priorities leaning towards household welfare over their own. However greater availability of drinking water, fodder and fuel has meant that women and children do spend less time in collecting fodder and fuel although the responsibility continues to remain with them.

4. Well being at the household level

Across the three villages in Andhra Pradesh women expressed that there was an overall increase in the income,

Table 1 Selected villages

State	District	Taluka/ Block	Village
Andhra Pradesh	Warangal	Ghanpur Station Mandal (1 village)	GB Thanda
		Regonda (2 Village)	Nizampalli, Konaroepet (Control Village)
Madhya Pradesh	Chhatarpur	Nowgoan (3 Villages)	Sigrawankalan, Madhuapur, Manpura (Control Village)

food, fodder and fuel availability. Thus although overall agricultural work may have increased, in terms of time that women spent in collecting fuel and fodder there has been a reduction and a corresponding reduction in the drudgery associated with it. However whether women now consume greater quantities more diverse kinds of food needs to be explored through a different mode although in one of the villages they did report a difference in their own food intake which was also now diverse. Increased fodder availability has led to better milk yields and better overall health of the livestock as well. The health impacts on the communities, whether incomes have led to improved school enrolments for girls or better health care for girl children and women, need to be investigated through a long term observational study.

EVIDENCE FROM MICRO STUDY IN MADHYA PRADESH

1. Economic sphere

The study points out that the average area under cultivation has increased, but only marginally. However the number of landed households reporting cultivated area during *rabi* season, has increased in the two project villages; but this is not true for the control village.

As far as agricultural income is concerned, Other Backward Classes (OBCs) have registered highest increase (55 percent) as compared to Scheduled Castes (SCs) (46 percent) and other communities (21 percent). Strangely, net return reported by households in general category is lower than the other two groups. This could be due to under reporting by a single farmer owning 75 acres of land and also because farmers in this category who hire labour tend to have a higher paid out cost compared to other two groups. Of course, a part of the increase in net returns is due to relative rise in output *versus* input prices.

Like in Andhra Pradesh, increased incomes have led to increased consumption of major food items such as cereals, oil seeds, and vegetables though consumption of pulses has declined marginally. This may be due to steep rise in the prices of pulses in the last one year.

Changes in sources of drinking water

The study shows a significant shift from wells to overhead tanks and hand pump as major sources of drinking water. The proportion of the households dependent on wells for drinking water has reduced from about 80 percent to approximately 50-55 percent and the average distance traveled for fetching drinking water has decreased in most cases except in the control village. Prior to the construction of the overhead tanks, drinking water used to be fetched from wells located mainly on the farms, at an average distance from 1-1.5 km and during summer the distance increased up to 3 km. Presently drinking water is available within 200-300 m distance.

As per the survey, 30-32 out of 50 households reported saving in time in fetching water in the two project villages as against the only 12 households in the control village. The proportion of households reporting saving of time, is higher among SCs (66 percent), followed by OBCs (44.4

percent) and other communities (32.1 percent). This is also because other castes largely stay on their own farms and own wells and thus do not report any change.

2. Gender implications

The above analysis of water related interventions and the impacts experienced by women, by and large, reinforce the existing socio-economic-cultural ethos within the study villages. This of course, is not entirely surprising especially in the light of the fact that the interventions have encompassed only a sub-set of the village communities and also that the improvements in availability of drinking water/ irrigation is perhaps part of a larger process of developmental interventions taking place in the region. Hence, the impact on women, if any, may not be more than marginal at least in the short span of period after the specific interventions have taken place. Nevertheless, in what follows we may highlight some of the important observations that emerged during the interviews with female respondents (36) and also the sample survey of households (150).

Production and economic sphere

As noted earlier water interventions have led to only a marginal shift in cropping pattern, which is largely influenced by availability of irrigation. Women's choice of crops also seems to be determined by irrigation thus giving a preference to intensive crops including vegetable cultivation for market. This is despite the fact that the decisions regarding the crop choice are taken largely (if not entirely) by male members.

As seen earlier there has been an increase in the household income with irrigation and also an increase in disposable income among a sub-set of women. At the same time, the work burden on women does not seem to have increased due to increased farm productivity, which in any case is not very significant. Since decisions on schooling and medical treatments are largely taken by men, it is not quite likely that the increase in disposable income with women (as against the household income *per se*) has led to increased expenditure on health and education owing to increase in their income. In fact purchase of silver and other related assets constituted the largest (38 percent) sub-set of the households reporting positive impact of the intervention.

Domestic sphere

A large proportion of the sample households and almost all of the female respondents of the detailed interviews had reported positive impact of improved access to drinking water and also toilet facilities, especially in Madhaupur village. This, invariably, has resulted in time saving for fetching water. However, the saved time is found to be largely used for domestic work rather than productive work or leisure among women. In fact, what seems to be making a significant impact on the lives of women is access to tap water at the door step and that too free of cost. This suggests that the reduction in time spent and drudgery involved in fetching water is a welcome

development, but not significant enough to change their overall gender relations since work/ drudgery on the part of the women is deeply ingrained into almost everyone in the community, including women. Interestingly, concerns were raised by women about quality of drinking water in the village.

Compared to this, access to toilet has been seen more favorably despite the fact that the structures are not well constructed and likely to last only for a few years. Nevertheless, having the access within their household premises is seen as major potential benefit especially for the adults and the old; besides this it carries a symbol of social status.

Institutional sphere

While the project has made a significant inroad into opening up institutional space for women by providing them exclusive membership, the actual space appears to be fairly limited. This reflected in the fact that much of the project design and institutional provisions are already pre-determined rather than evolved through consultation with the communities. As a result, the members of the various institutions, male or female, have fairly limited say in the actual implementation of the project. In fact, certain experiences in the implementation of the project have left people with a feeling that the initial benefits have remained confined only to a few, perhaps to the relatively powerful in the village. Those, especially the landless, were provided with some food grains from the project fund. The issue is that of making the process transparent among the entire village community that also constitutes the Village Development Committee.

A silver lining in the process at this stage is that, literacy is perceived as an important empowering tool by women. The real empowerment perhaps comes through broadening of the base of the village *Panchayat* and *Gram Sabhas*; the positive spaces created by such institutions could feed into the mainstream processes of decentralization and effective community participation, thereof, by women and men.

Overall the changes observed in the villages are positive; more tilted in favour of the project villages and households from OBC and general categories as compared to the SCs and landless. In this sense the scenario reflects the deep-rooted stratification and hierarchies within the society, which is difficult to break within a shorter timeframe of project interventions of a limited type. This suggests inclusion of the marginalized though at a slower pace than experienced by the rest of the communities in the villages. Women have exclusive representation in the executive committees. This potentially may open up huge amount of space and scope for women to get into the public sphere of decision making and as an equal partner in shaping the nature of

benefits from water related interventions.

SUMMING UP

The foregoing analysis has brought home certain new insights along with reinstating several of the existing understandings on the complex interplay between the resource, socio-economics, and gender dynamics prevalent in large parts of rural India. The latter is not very surprising, for a) to a large extent, inequity in access to water - for productive as well as domestic uses - is structurally determined; and b) transforming gender power relations consequential to improved access to water is neither direct nor, linear or straightforward given the existing caste/class hierarchies on the one hand, and the deep rooted gender-stereo types on women's roles across different spheres on the other hand. The attempt here is to capture a somewhat nuanced understanding on the changes at margin that may/ may not have taken place following a water related intervention in the context of specific micro settings in rural communities. Conducting an empirical enquiry into the inter-linkages between water-poverty-gender across two micro settings thus, is an important step forward.

Following observations from the study may be useful while exploring a future pathway.

- For Policies: Emphasizing inclusion of women and the poor is a necessary but not a sufficient condition for increasing livelihood status and addressing gender power relations. The policies need to be more comprehensive and intensive so as to be able to hand hold the households that have received economic benefits from such programs.
- For Project Implementation: A specific thrust on coverage, quality and appropriateness of the drinking water/ sanitation facilities is essential. Also the scope for enhancing effective participation of women remains to be tapped. This could, possibly, be attained by linking the project related institutions with other community based organizations/ women's groups for carrying out activities of social awareness with cultural activities and exposure on a recurring basis.
- For Researchers and Academics: The two case studies have thrown open quite a few methodological challenges that need to be sorted out in the light of inter-disciplinary approaches and tool for impact assessment especially with central thrust on women. This study has, at best, only scratched the surface of the vast challenge for developing such methodologies for empirical investigations. The strength however, lies in the fact that issues highlighted here are borne out of hands-on experiences of conducting such investigation in a micro setting.

REFERENCE

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About the IWMI-Tata Program and Water Policy Highlights

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

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