

India: Gender and Economic Benefits from Domestic Water Supply in Semi-Arid Areas

The Setting:

Although a high achiever in terms of overall per capita income¹, the economic future of the state of Gujarat in western India is threatened by an ever-growing water shortage. In 1999, a large part of Gujarat suffered from the worst drought in 50 years. Droughts, however, occur every three years on average. The poorer parts of the population are usually the hardest hit, with frequent droughts eroding any interim livelihood gains and keeping them in a poverty trap.

Banaskantha district² is one of the hardest hit districts in this respect and continues to be one of the most backward districts of Gujarat. About 90% of the population of Banaskantha (2,162,578 persons in 1991) live in villages. Many of them lack even the most basic infrastructure such as safe drinking water, electricity, and schools.

Agriculture and dairy production are the economic backbone of Banaskantha. Some 52% and 23% of the population earn their living as cultivators and agricultural labourers respectively. Most farmers are small and marginal and since their income, and that of the agricultural labourers, depend critically on rainfall; livelihoods of the poor are unstable by nature. When monsoons fail, entire communities are forced to migrate for six to eight months in search of work and/or fodder for their livestock.

The drought of the year 2000 has illustrated how dependent semi-arid areas such as Banaskantha are on water. Most households managed to get sufficient drinking water and water for domestic use, although at what price has remained un-assessed. The severest impact was the loss of livelihoods. Direct impacts were clearest in the cases of agriculture and dairying, which came to an almost complete standstill after the rains had failed. The indirect link between the shortage of water and income is the time that women spend to collect water.

Conventional water supply projects, private and government provided, aim at simply providing drinking water in water scarce areas. These projects are expected to increase only general social welfare, not generate specific benefits. Project design is therefore concerned almost exclusively with the technical feasibility for an investment with no economic returns or benefits.

In a newer generation of water supply projects, such as the Santalpur scheme in Banaskantha, it has been recognised that as domestic managers, women are centrally involved in water collection and use. Instead of being just general 'social investments', water supply projects were therefore justified by their potential impact on 'women's

¹ Gujarat has the fourth or fifth highest per capita income (depending on the source of the ranking) among Indian states; the *growth rate* of its per capita income, however, is second only to the state of Maharashtra (Alternative Survey Group, 1999: 158 – 165).

² Although a new district of Patan has recently been carved out of Banaskantha and the two blocks where the study was carried out, Santalpur and Radhanpur, are now in Patan, the project area is referred to as Banaskantha in the report to minimise possible confusion. All data in this section are derived from the first phase report unless mentioned differently.

welfare issues', such as relieving women's drudgery and giving them more time and water for domestic uses. It was expected that women would use these gains to improve personal and domestic hygiene and spend more time on domestic work. The benefits from this work would benefit the welfare and health status of the whole family.

These benefits were, however, expected to occur somehow once the basic technical infrastructure (i.e., pipes, taps and pumps) has been provided. No explicit and simultaneous provision was made to give women a say in the planning and design of the system and the operation of the scheme to ensure that the supply would actually meet their requirements. Inputs to improve health and hygiene have remained limited to the provision of health education for women only. How men, and gender relations between women and men, affect the realisation of these welfare benefits was not questioned.

Objectives of the case study

To test the assumption that in semi-arid areas domestic water projects are not only important for welfare and family health but also have economic benefits, applied research using a case study approach was carried out in 27 villages Santalpur and Radhanpur blocks in Banaskantha district, Gujarat, India. This area was chosen because it has an improved rural water supply, the Santalpur pipeline, to which a holistic rural development program with a focus on women had been added. Part of this program is an income generation program that supports the establishment and management of women's micro-enterprises. The program is carried out the Self-Employed Women's Association (SEWA), and financed by the Dutch bilateral development cooperation.

The study was implemented by the IRC in partnership with SEWA and FPI³. The Swedish International Development Cooperation Agency (Sida) provided financial support. The study had economic as well as gender objectives. The overall aim was to see if and how domestic water supply projects in (semi) arid areas need to be adjusted to maximise the economic benefits of the productive use of water and time. The specific objectives were (1) to assess the relevance of an accessible and reliable water supply for the productive uses of time and water by women in (semi) arid areas; (2) to assess if the income-generating activities by women made a difference for gender relations in the households and communities and (3) to apply participatory learning tools and strengthen the capacities of the implementing organisations, including the women's enterprises themselves, for participatory research.

Methodology

The study used study used participatory rural appraisal (PRA) methods and tools for time use data, gender data, and part of the enterprise data. Several of the tools were especially developed for the study. Secondary sources were the census data and the enterprise accounts. Representatives of women enterprise members participated in the design of the research tools, the analysis of the collected data, and the discussion of the findings and conclusions of the study.

³ IRC International Water and Sanitation Centre
SEWA Self—Employed Women's Association
FPI – Foundation of Public Interest

The community-level participants were women from eleven women's micro-enterprises in nine villages and from five control villages. In ten other villages, interviews with women enterprise leaders took place. All women's micro-enterprises (crafts, dairying, salt farming, gum collection, and tree and fruit plantations) needed time or time and water as one of their inputs.

Findings on economic impacts

The findings showed that despite the improved water situation, water collection is still time-consuming. Women in both enterprise households and households in control villages have a working day of 15 to 16 hours throughout the year. On average, women spent 3 hours of this time on fetching water. Daughters 83, sons 12, and husbands 15 minutes per day. This brings the total average time spent on water collection to almost 5 hours a day. This still high time in water collection occurs in a situation where, on paper, all households have year-round access to a piped domestic water supply meant to reduce the drudgery of water collection.

Women provide income to the family in four ways: by doing agricultural work on the land of the household, by engaging in expenditure-saving activities, e.g., fodder collection and vegetable gardening, by hiring themselves out as daily wage labourers, and by doing micro-enterprise work. The work in the micro-enterprises, the crafts enterprises in particular, provides family income at crucial times: in the dry season when income from other sources is absent. During the monsoon as well as summer, women from the micro-enterprises spent significantly more time on income generating activities than women in the control villages.

The quality of the water service had significant economic consequences. Breakdowns of the water supply caused women enterprise members a loss at an average of Rs. 50 per person per month in earnings. Actual losses varied with the profitability of the enterprise. Extrapolating the average loss to all SEWA micro-enterprise members in the two blocks, the inadequate operation and maintenance of the water service constitutes a loss of Rs. 2 million for 40,000 women. Actual losses were higher because the income data included a period of extreme drought during which especially income from dairying, plantations, and agriculture has been virtually non-existent. In addition to financial losses, each woman lost, on average, seven hours per month in summer, for reproductive and/or personal activities. An improvement of the water supply to the extent that women spend one hour per day on collecting water would result in an improvement of their annual income with upper boundaries of between Rs.750 and Rs. 5520 depending on type of enterprise and local conditions. Alternatively, each woman might gain between 45 and 152 eight-hour days annually for domestic, social, and management activities.

Findings on gender relations

In all villages, gender relations had changed in favour of women during the last ten years. From possession of assets, participation in decision taking, and community management activities, progress has been significantly greater for members of women enterprises than for women in the control villages.

On all accounts, participation in community level affairs was higher for women in enterprise households than for women in control villages. This applied to attendance of public meetings in their own and other villages, speaking up at such meetings and being a women's leader in their own village or a cluster of villages. Women in enterprise households were furthermore involved in the management of community water resources.

In both types of villages, gender relations have changed. More women went out alone and more children go to school. In the households of women entrepreneurs, women have savings and own assets. Men referred to economic benefits for the family as a whole, a greater equality between the sexes and women's empowerment as improvements in women's traditional roles. Interestingly, men also mentioned how the empowerment of poor women has also empowered them as poor men.

Conclusions and implications for domestic water supply projects

Combining effective income-generating projects for women with an improved, well functioning domestic water supply results in valuable extra income for livelihoods and improved gender relations. The design and management of most water services have not been adjusted to the economic use of water and time savings. When women have no say in planning and design of services, and no influence on water distribution, service hours and speed of repairs, valuable productive time, water use and income is lost and the service does not maximise its economic potential.

Source: Unknown. If you the reader know the source of this case study, please let us know.