

## **Integrating gender needs into drinking water projects in Nepal**

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This article uses the framework of strategic and practical gender needs (Moser 1989) in the context of the drinking-water sector, to argue that understanding how these needs are inter-linked is essential for the sustainability of drinking water projects. This is because the empowerment of women is a prerequisite for development, as well as an issue of justice.

In almost all rural communities in developing countries, it is primarily the women, and sometimes girl children, who collect water, protect the water source, maintain the water systems, and store the water. Women spend a significant amount of their time in these activities. They also determine the use of water, and this decision-making has a direct impact upon the health of children and other family members. Women's pivotal role was recognised during the International Drinking Water Supply and Sanitation Decade (IDWSSD), 1981-90, and has been widely discussed in the drinking-water sector since then. Numerous projects implemented in the past decade have made some provision to recognise women's existing roles in water collection and management, and to promote women's participation in project activities. However, such participation tends to be limited, and often tokenistic. Water projects do not often explicitly focus on the need to promote an equal balance of power between women and men.

We argue in this article that drinking water projects and programmes which aim to meet the practical needs of women, men and children in communities, also need to focus on meeting women's strategic gender needs. The conceptual categories of practical and strategic gender needs (Moser 1989) refer respectively to immediate perceived necessities that women lack in a specific context, and necessities which would enable women to change their subordinate status in society: for example, to control their bodies, bear and rear children, own land and property, fight against domestic violence, claim equal wages, or change the sexual division of labour<sup>1</sup>.

While Moser's concepts are well-known to development practitioners trained in gender analysis, they remain outside the conventional framework for planning and designing water projects. Drinking water projects are nearly always carried out by engineers – most of them men - whose goal is the simple - and laudable - one of bringing adequate quantities of good quality drinking water closer to the homes of the target communities. Nevertheless, most development activists, including many with an engineering background, would agree that their work is ultimately concerned with twin aims of enabling women and men to meet their practical needs, and enabling the marginalised groups within communities, including women, to fight against oppression and exploitation.

We consider a focus on women's strategic gender needs in development projects to be important for two reasons. First, the intervention may then contribute to greater gender equality in society; second, focusing on women's strategic gender needs is the only way to ensure that women's and men's *practical* needs are met fully and efficiently. To put it another way, only if women become active partners in the development process can societies be built where both women and men can thrive equally. The failure of many drinking water projects to achieve a sustainable impact bears out the need to recognise that strategic and practical issues are inter-linked in this way.

The aims of this article are to convince drinking-water project planners of the importance of considering strategic gender needs and developing ways of incorporating them into their plans, and to enable gender-sensitive impact assessment and evaluation work to pinpoint strategic gender needs which have gone unaddressed in projects where these issues have not been considered. The arguments presented in this article are based on the findings of a two-year research project carried out for a Department for International Development (DFID) funded project in Nepal<sup>2</sup>. The research focused on the eastern, western and mid-western regions, and on both gravity-flow schemes (in the hills), and

point sources (on the Tarai plains). The field research has been supplemented by an extensive review of literature from other similar studies world-wide. The main research techniques included the use of participatory methods including activity calendars, access and control profiles, social and resource mapping, transect walks and observation; semi-structured interviews using comprehensive checklists; and focus-group discussions.

### **1. Women's participation in project planning and implementation**

Much research, including that by INSTRAW and UNICEF (1988), and Fong et al (1996), has shown that women from all groups within a community are needed to participate fully in project activities, to ensure that projects are effective in the long run. However, evidence from the recent Nepal research indicated that many drinking-water projects continue to bypass women in the planning, design, implementation, monitoring and evaluation process. Projects and programmes are too often designed with little attention to the links between technical change and social relationships.

Women are not often involved in essential planning activities, although they, as primary collectors of water, are likely to know much more than men about the seasonal availability of water from different sources, about the quality of water from those sources, and about individual and communal rights to use those sources, which can create conflicts after construction if they are not taken into account. In many cases, projects have proven ineffective in the long run, as women stopped using, or could not use, those sources for various reasons. In all the communities involved in the Nepal research, women complained that their water collection time significantly increased (nearly 400-500%) after they received the improved water services. This is because the tapstands and the tubewells are located along the roadside, where they cannot bathe freely and wash their clothes used during menstruation comfortably, for shame of being seen by males. In order to avoid this, women in Hile village in east Nepal, (which is in the hills and therefore cold) carry water all the way to their homes several times each day, spending significant amounts of energy to do this. In three villages on the Tarai plain (Motipur, Magaragadhi, and Gajedi), women reported waiting until dark to undertake these activities. They said they did not have this problem when they had used the more distant traditional sources, where there was no chance of men being around. All these women also complained that the surveyors had not involved them in designing the tapstands or tubewells themselves.

Both these findings echo other research in Nepal (Mustanoja, 1998), in which women said they would like to increase the distance between the wall and the tap and to adjust the elevation of the platforms, to suit the *gagris* (water vessels), which they carry on their waists, and stated that they do not normally find the platforms comfortable for washing laundry (Mustanoja, 1998). A third example of research into the lack of women's involvement in water-project design found that hand-pump handles were either too long or too short, making them uncomfortable for women to operate, and sometimes causing injuries (IRC, 1992).

If design and location of the new water systems is inappropriate, women are not likely to be interested in protecting them. For example, a poor woman from the lower ethnic group called Mallah in Gajedi water project in west Nepal remarked to us with frustration that she and many other women from her ethnic group who live in one location still spend nearly one hour collecting water from the new tubewells. She added that women from relatively well-off families spend hardly 5-10 minutes in this task, as their husbands were able to influence the installation of tubewells to be just close to their homes. She observed that this discrepancy makes her feel as if women who are not getting benefits of the improved water services should destroy the tubewells, so that all women are then on equal footing in the community (personal communication, 1999)..

In other cases, water systems cease to function because women do not control them. Women's participation may be limited to inviting some women to attend meetings, to be nominal members of water committees, or, at the most, to take demanding and often tedious roles (van Wijk-Sijbesma, 1985; IRC, 1992). The few women on water users' committees may be selected by project officials in

consultation with local men from the project community, or the local NGO. As a result, these few women feel obligated to the male members of the committee and, therefore, reluctant or unconfident to disagree with any decisions made by the men, regardless of whether that decision might favour women. In Hile drinking water project in east Nepal, the two women in the local water committee reported that they had not known for months that they had been selected to the committee. Because the male members of the committee were instructed by the project officials that there should be two women in the committee, to activate the process of implementing water project they had put the women's names forward as a token. These women said that they have no chance to oppose what male members of the committee decide: they are not invited to participate in meetings, nor are they included in the sub-committee formed to monitor the project progress (personal communication 1999).

If women committee-members are selected through a democratic process – and particularly if they are elected by other women to represent them – the chances are high that they will be vocal, and concerned to protect women's interests, as they feel accountable to other women in the community. Similar principles apply in women's participation as pump and tapstand caretakers. Provided women are offered a proper role, and any training needed to help them in these tasks, their role as primary users of water means that they are highly likely to be most concerned about the proper use, operation and maintenance of water supplies. This is borne out by a study of the performance of women hand-pump caretakers in Bangladesh, which concluded that after 15 months of maintenance by women, the condition of the pumps was found to be as good as that of the pumps maintained by trained project mechanics (Bilquis et al. 1991).

However, men's prejudice that women do not have the potential to contribute effectively to water projects, since these are technical in nature, causes some involved in the drinking-water sector to think it more difficult to work with women. Various reasons may be given, such as their lower levels of literacy, lack of similar involvement in development projects, and social and cultural factors. In order to overcome these problems, the Nepal research has suggested the following points so as to increase women's participation in water supplies:

- Inclusion of both local men and women, in the project activities. Clear explanation of both the short-term and the long-term benefits - tangible and intangible - of the project to both men and women, from the beginning so that all feel motivated and men are happy to see women participate in the project activities;
- Gender training and awareness-raising for all. A key target group should be men who perpetuate negative stereotypes of women. Training should aim to show the benefits of women's participation in public life, challenging religious, traditional and social attitudes which severely limit this participation. It should also motivate men to share women's work such as child care and household chores, which is one major reason for lack of women's participation in development projects. Projects can also seek the help of local change agents to promote women's involvement – e.g. local leaders, respected elderly women, or school teachers.
- Promotion of women's employment in water projects, so women staff can work with women in the community.
- Allocation of adequate preparation time, including implementation of literacy and awareness raising programmes either directly or through other agencies, to motivate women and build up their confidence, since preparing women to take up new roles should be an essential part of the ongoing development process.
- The use of participatory approaches, along with the presence of gender sensitive men and women in the project team, to create an effective learning environment, even for illiterate people.

## **2. Changes in the gender division of labour**

For drinking water projects to have a chance of being effective and of improving the lives of poor rural women, a focus on changing the traditional gender division of labour is essential. While improved water facilities are often assumed to lessen women's workload – and this is often a stated aim of projects – this may not be the case. As stated at the start of the article, the collection of water tends to

fall entirely to women (unless they are absent, sick or possibly – as in some South Asian communities – menstruating). In communities where the water source is very distant from the village, men may help their women so that they feel more secure. This is likely to change when the new water source is activated. Water consumption also often increases once the water-source is nearer to home, requiring water to be collected many times a day. The time and energy expended by women may be almost the same as before.

An example of this from our research was Motipur, Magaragadhi and Gajedi villages in western Nepal. Women work up to 18 hours a day here, while men normally work up to 13 hours. There is hardly any regular activity (except ploughing, which is considered to be a male reserve), which is performed exclusively by men, but many which are exclusively female. In their supposed rest hours, women knit, weave and sew, while men spend their time drinking and playing cards. Men thought their agricultural work, which is mainly ploughing and preparing the fields, is much harder and more difficult than that of women. However, in fact women not only work longer hours but some of their activities, such as collecting fuel, fodder, and water, are at least as labour intensive as men's work in the fields. In all communities, the women reported that they used to collect water 4-5 times a day, amounting to a total of 80 litres per family per day, before they got the improved water services. But, after they got the water near their homes, the collection time increased to 10-15 times, with the use of nearly 200-300 litres of water a day.

Although women's active involvement in drinking water projects is essential, their participation may be hindered by their work-load. Women's triple roles in production, reproduction and community management (Moser 1989) leave them with very limited time and energy to participate in project activities. Planners, designers and implementers may think that women are not interested due to their lack of participation, and proceed to design and implement projects without women's involvement, repeating the mistakes of the past. This is a vicious circle for both women and development.

Projects which aim for both sustainable improvements in water supply and for deeper social development need to create an environment in which men are willing to share the work being traditionally done by women. Without this, neither practical nor strategic needs will be met effectively. In the Nepal research, two women members of the local water users' committee in Gajedi village, western Nepal reported that they attended only one out of ten meetings of the local committee held last year as the meeting place was far and there was no one to share their work at home. They said though their husbands support them to participate such meetings, they do not realise that their wives cannot do so if the men do not share their work at home. The suggestion that came out from these two women was that the projects should focus more on how to motivate men to share women's work, rather than spending time in involving women in project activities which is never meaningful without men's sincere cooperation.

Changes in the gender division of labour do not only enable women to participate in development projects and render them more likely to be sustainable. Such changes may have a positive effect on women's health, which can give rise to many other social and economic benefits for all the members of the family; lead to improvements in family nutrition and health, resulting from more time spent in food preparation and more emphasis on child-care (Jazairy et al, 1992); more time spent on income-generating activities, leading to increased income and other impacts (Van der Laan, 1998; Curtis, 1986), which will be discussed in the next section; more time to participate in other development activities where women's presence is essential for success (Van der Laan, 1998; Jazairy et al. 1992); girls can also go to school since in many societies they are always prevented from going to school for the reason that they have to help their mothers (Curtis, 1986; Aziz and Halvorson, 1999), and, ultimately, as children witness the wider benefits of their parents sharing domestic work, a society with greater gender equality (Regmi, 1999).

Some suggestions to help to bring about changes in the gender division of labour include the following:

- Water projects could initially emphasise that men should share the work of water haulage. Once this is achieved, gradual changes may occur in other activities;
- Awareness-raising through use of participatory methods of gender analysis, including the preparation of activity calendars for both sexes. This process can help to overcome many patriarchal biases; and should involve local authorities such as village heads, religious leaders, traditional healers, school teachers and political leaders;
- Other gender sensitisation activities, such as mass-meetings, film shows, workshops, and cross-cultural exchanges for local women and men, to highlight the negative effects of women's overload, and highlight the positive effects of the involvement of both sexes in domestic work;
- The introduction of non-formal education programmes including literacy training, as well as skills-oriented technical training. Many argue that these can empower women by offering them both practical skills and a chance to increase their confidence and self-esteem, a basis from which to challenge the apparent rigidity of social structures (Waterlines, 1998). In Nepal, women's literacy rate is 25% in Nepal (compared to 55% for men).
- The introduction of income-generating activities targeted at both women and men. The realisation that women can share responsibilities for supporting the family can motivate men to share some of women's traditional work.

The next section looks at this last point in greater detail.

### **3. Increasing women's control over resources**

#### *Income generation*

Many water projects in developing countries aim to increase women's participation in income-generating activities or employment. The reasoning is that women will save time from collecting water, and will be able to invest this in production for market. Most focus on the practical benefits to the household of increasing income, but there is also evidence that women's visible economic contribution to the household is a key determinant of their status both in the household and the community (for example, Jazairy et al, 1992). Thus, women's involvement in income-generation may have a strategic impact on women.

However, a key criticism to be made of the Nepal projects examined is that none had integrated income generation into their activities. In the absence of such support, while some women had saved time as a result of the water projects and had taken on new activities, they had taken on more knitting or weaving for household purposes, and more agricultural work, rather than income-generating activities. Women's increased agricultural work enabled men in the household to increase the time they already spent in migrant work as wage-labourers in urban areas. Male migration is seen as the key income-generating strategy for many in these areas, since households farm small land-holdings, and lack the agricultural inputs needed to produce for sale, and women in the project areas mentioned other barriers preventing them from embarking on production for cash. It was not seen as profitable to produce processed foods such as jam, jelly, potato or apple chips, due to the lack of markets locally, their inability to compete with producers in larger urban markets due to economies of scale, and the fact that women's mobility is limited due to cultural factors. These findings are in line with other studies which show that a number of factors need to be considered while planning any income generating activity (Mayoux, 1991); these include training offered to women, and the timing of such training, ensuring regular supplies of inputs and resources, easy access to markets, involvement of both men and women, provision for literacy and numeracy training, and so on.

Training offered to women in the Nepalese communities as part of water initiatives tended to focus on health, hygiene and sanitation, and administrative skills including record-keeping; this has also been found in other contexts (Mustanoja, 1998). These skills are not transferable. The training they typically receive during the project lasts only one week, and in any case women stand almost no chance of obtaining employment in a situation where high unemployment and rising numbers of educated young people (mostly male) is increasing in every village. In contrast, technical training offered to men (such as masonry or latrine building construction or maintenance) is always in high

demand, both locally and outside the village. A rationale offered by water-project staff was that the job of a caretaker in a point source is easier than the job of a maintenance worker in a gravity-flow scheme (this is, however, inaccurate, since the tubewells also can demand the same amount of time once they get older) (personal communication, 1999).

#### *Community employment on water projects*

Turning to the question of women's work for the water projects themselves, the tendency of the projects studied in Nepal was to include women only in unpaid roles: water users' committee members, voluntary community health motivators and pump/tapstand caretakers. However, a very small number of women who were relatively active in these capacities did report occasional income from them. In contrast, men were hired as maintenance workers. In the few instances where women were hired with men as wage-labourers – for example, during the construction stage of the Hile drinking water project in Dhankuta district – they were on lower wages than men. The women labourers said men should in fact have been paid less than them, as they spent time chatting and smoking cigarettes, while women are very sincere in their work (personal communication, 1999).

It was observed in all the communities studied in Nepal that most women did not achieve any direct increase in control over household income from their participation in project activities. However, some women did report that they were consulted more by their husbands and other male family members when the men made decisions about household and capital expenditure. (This was true in relation to women in all communities studied, irrespective of socio-cultural differences such as ethnicity, economic status, educational status, and remoteness of the area.)

The issue of payment is important when considering project sustainability. When there is no increase in income to reward the added responsibilities of involvement in managing water projects, women may decide not to take on this demanding work (Green and Baden, 1994). It is critical to ensure that there are motivated, skilled caretakers and village maintenance workers. Women are especially important in these roles, as they are regular users of the service for domestic use, and notice first any defect in the system. Likewise, women are effective in the regular collection of water tariffs for operation and future maintenance. However, although water supplies with women caretakers may have a greater chance of sustainability, most are working voluntarily, and satisfactory long-term operation is therefore placed in doubt; women may be unwilling or unable to give the increasing time needed as equipment ages and needs more regular attention.

#### *Women on project staff*

The Nepal research also focused on women who were formally employed by organisations involved in drinking-water projects. While the ratio of women to men is very poor at all levels - head office, regional office and project office - the presence of women in senior positions and within the technical sector is negligible. The few women who were employed said they are not able to participate on an equal basis with men, and attributed their difficulties to bias about women in these 'hard' roles (personal communication, 1999). An example comes from the government district water supply office in Dhankuta, eastern Nepal, where three women were recruited as water supply and sanitation technicians. However, senior officers considered women should not undertake labour-intensive activities in the field, and so these employees have been re-assigned to perform administrative and typing jobs (personal observation, 1999). It is essential that water projects make every effort to involve women in paid positions, pay them at equal rates to those paid to men, and provide them with training in areas which can give them income in the future, which are necessary not only for the sustainability of practical benefits but also for greater gender equality and justice.

The interlinked practical and strategic issues within income-earning, status in the household, and project sustainability are illustrated in the Nepal research. Women members of water committees in Magaragadhi, Bardiya district, and Gajedi, Rupandehi district, agreed that as long as they were not earning income from the project, their husbands would not appreciate their opinions. One participant stated: 'since we have been asked only to do the non-technical activities, and [have] not been provided [with] any technical training, we are not in a position to make any income even after the completion of

the projects, unlike the men, who have received training on latrine building construction and masonry. This is the reason why we have been demotivated to hold any meetings for the last couple of months and to take any initiatives yet to resolve the problem of malfunctioning tubewells which is increasing over the years' (personal communication, 1999).

#### **4. Assurance of benefits to women in marginal groups**

For women to benefit fully from water projects, they need to be seen as individuals whose gender identity links to age, ethnicity, and economic class. In the Nepal research, a widow in Magaragadhi village, whose husband had died years ago, reported that she was never invited to participate in any meetings including that which dealt with the siting of tubewells. Since there was no one to speak for her, and she could not voice her concern due to lower socio-economic status, the tubewell in that community was installed far from her home. This made it difficult for her to go to do the agricultural wage labour which is the chief means of survival for herself and her three children. She asked, 'will there ever be a time when such poor women like me, who cannot voice their concerns, are also equally treated in the community?' (personal communication, 1999).

Water tariffs raise particular issues for women in different household forms. Tariffs are often set at equal levels for all the user households, without considering the factors like number of water users in the family, the number of income earners in the family, and gender relations within the households. In many male-headed households in the Nepal research, men considered paying the water tariff as women's responsibility, as women deal with water. However, some women reported difficulty in paying the fee, since they do not have control over income (Regmi, 1999). In contrast, the problem of paying water tariffs may be particularly acute among female-headed households, where women have control over the income, but more limited resources.

For example, in one meeting related to the collection of water tariff from the user households in the Gajedi village in the west Nepal it was found that the water tariffs were mostly paid by women and among the defaulters were the women from the female-headed households. The decision that was taken in the meeting was that if the defaulters did not pay their dues within the next fifteen days, they would not be allowed to use the tubewells. Two of the women defaulters participated in the research; both women were very poor, living a hand-to-mouth existence. One had two children and the other three. The small pieces of land that they had were insufficient for their survival, and they were labouring on others' farms or as servants for wages in kind. They did not know what they were going to do if they were banned from using the tubewell. In such situations, there is a danger that families may return to unhygienic water resources, risking their health (Evans, 1992; Fong, 1996).

#### **5. Focusing on women's increased status**

It is important to have an explicit focus on improving women's status. Unless the root causes of women's subordination are identified and addressed, and their genuine needs are prioritised, development projects and programmes including those in the water sector, which involve women and must aim to empower them will not lead to significant and lasting improvements in their lives.

This article has raised a number of issues to consider in this regard. Even if projects have a direct impact in improving the lives of only a few women, they can have multiplier effects in the long run on other women in the family and community, as these women can be seen as role models by others.

### **Conclusion**

The lack of adequate water supplies is a major problem in developing countries. The problem is worst in the rural areas and among the poor households in urban areas, as those populations are not able to afford the cost of either installation or operation and maintenance. This article has discussed the

immense need to involve women in the management of water projects, so that such projects become effective in reducing people's hardship. In addition, All development activities, including water supply improvements, should be concerned with improving the lives of women in strategic as well as practical ways – i.e., changing the status of women and increasing their confidence. These aims are not mutually exclusive; rather, they reinforce each other, since the development of a country depends on the active participation of both women and men in the overall development process; it is therefore essential to design drinking water projects which explicitly address women's strategic and practical needs.

Meeting strategic gender needs of women does not demand a huge financial investment from the water projects. What it requires is a genuine commitment from the people involved at all levels, and budgetary provision to build up the capacity of all involved in the sector, including awareness-raising. In turn, the fulfilment of women's strategic gender interests can assure the sustainability of water projects ensuring that governments and international funding organisations do not waste their huge capital investments, and a sustainable human development.

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