

People and Health

Deepa Narayan-Parker

Self-help in a rural water project

Measures taken to improve water supplies in four Indonesian villages are described. Women played a leading part and both they and their children, as bearers of water, benefited significantly when the scheme came to fruition. Increased vegetable production and better health were among other gains accruing to the communities.

The background to this project was discussed in a previous article (*World health forum*, 9: 356–360 (1988)).

In 1985, under the leadership of Dr Nafsiah Mboi, the Indonesian Family Welfare Movement (*Pembinaan Kasejahteraan Keluarga*) in the remote province of Nusa Tenggara Timur decided to undertake a rural water project. A community-based approach was adopted in which women were encouraged to play a leading role. Activities were undertaken in four poor villages of Kupang and Belu districts.

The Movement worked closely with the Ministries of Health, Planning and Home Affairs, as well as with a long-term WHO/UNDP water supply project. Funding came from the Movement, the provincial government, the national government, PROWWESS/UNDP and the Ford Foundation.

Dr Narayan-Parker is Senior Planning and Evaluation Officer with the Programme for the Promotion of the Role of Women in Water and Environmental Sanitation Systems (PROWWESS), United Nations Development Programme, One United Nations Plaza, New York, NY 10017, USA.

Strategy

In Nusa Tenggara Timur the Movement had no experience of managing a water project. It did, however, have a growing network of volunteers with some experience in organizing activities in the fields of health, nutrition and small-scale enterprises.

The findings of a baseline study conducted in 1985 were used to develop an appropriate strategy. A majority of men and women did not perceive the provision of water as being of first importance even though the selected villages were judged to have severe problems in this matter.

The Movement was not yet seen as having strong leadership in the villages, and its activities were inadequate. Many village women lacked confidence and perceived themselves as being less intelligent than men and as having inferior problem-solving and leadership abilities.

Only a few people could identify women leaders, even though, under the official system, the wife of an administrative head is automatically the leader of women's organizations at the level concerned.

Water users' groups were the main vehicle ensuring user involvement in decision-making.

The study led to methods for involving women such that men would not be alienated, and for involving ordinary village people, both men and women, such that their leaders would not feel threatened.

The Movement decided to utilize sustainable, replicable processes. This meant avoiding schedules, evaluation criteria, a large infusion of external funds, and dependence on external experts. The existing organization of the Movement and its volunteers were to be used at the provincial, district, subdistrict and village levels; participatory methodologies were to be employed to encourage autonomy and the acquisition of skills; and where community initiative and interest resulted in some groups progressing faster than others, this was to be accepted.

Activities were carried out by teams of volunteers attached to the Movement and by workers from the departments of Planning and Community Development. Two male field workers formed a link between village activities and the Movement at provincial level. Only after winning the trust and confidence of the village leaders did the field workers contact other members of the communities. Technical assistance from the Ministry of Health was requested after water

users' groups had been formed and cash and local materials had been collected.

The Movement's workers made it clear to the villagers that:

- they did not have a water programme of their own but wished to help the villagers to develop one;
- the "women, water and sanitation" activity had little money and no fixed-term contract;
- women were in charge of domestic water and should therefore give leadership in the activity through the formation of water users' groups;
- decisions should be made by water users' groups associated with each water source;
- the decisions had to be made by the villagers, while the Movement's workers provided information and acted as a bridge to the technical ministries.

Water systems

By mid-1987, 25 water users' groups, each comprising 10-75 households, had evolved in the four villages. Limited government resources combined with the scattered nature of settlements made full coverage impossible.

The groups contributed designs, local materials, cash, labour and, to a limited extent, cement and pipes. They also agreed to maintain the completed systems. With the assistance of technicians from the Ministry of Health the groups built, rehabilitated or improved 42 water points. These included six boreholes, nine springs, five shallow wells, and 22 reservoirs and standposts which were part of five gravity-fed systems. Substantial savings in capital outlay and

maintenance costs made the approach attractive to planners and technicians.

Although coverage was uneven, 65% of the population were using the improved sources by mid-1987. Some women used water from the protected sources for cooking and drinking in preference to more convenient and traditional sources. Water use increased at source for washing and for the irrigation of vegetable plots. More water was brought into homes. In Belu district the daily per capita water consumption at home doubled from 4.8 litres in 1985 to 10.2 litres in 1987. In Kupang district, because of uneven coverage, the average per capita water consumption remained approximately unaltered at 10 litres per capita per day. Where additional water was obtained it was used to wash food and irrigate crops.

All installed and repaired systems were functioning in late 1988. The water user's groups at most sources had bought spare parts on the open market and undertaken repairs, including several on a pump that had remained out of service for two years. When systems broke down they remained out of action for between a day and a week. The groups kept records of both maintenance and cash flow.

All the groups collected Rp 100-500 (US\$ 0.06-0.30) monthly from each household for a maintenance fund. By mid-1988 three groups had opened bank accounts and eight had spent over Rp 100 000 (\$ 60) on their water systems.

Actors and beneficiaries

The methodologies did not aim to focus exclusively on women but provided opportunities, training and organizational support so that they could express

themselves, experience responsibility and practise leadership. The leaders on all management teams, from provincial to village level, were women, although the teams included a few men.

At village level, water users' groups were the main vehicle ensuring user involvement in decision-making. Statistics derived from 240 interviews conducted in 1987 indicate that women played important roles in these groups.

During household interviews, individuals were first asked if there were any water users' groups in their villages; 81% of women and 74% of men were aware of the presence of such groups. People were then asked if they themselves belonged to groups; 76% of women and 62% of men replied in the affirmative. Women were more knowledgeable than men about the history of the groups.

Overall, 47% of interviewees perceived women to be more active than men in the groups, while 26% perceived men to be more active than women; 27% perceived women and men to be equally active. Whereas 55% of women perceived themselves as more active than men, only 40% of men agreed with this assessment;

The activities would have been less effective had they been restricted to one sex or the other.

15% of women perceived men as more active than women, while 37% of men did so. Overall, 30% of women and 23% of men considered both sexes to be equally active. The people who viewed women as more active did so because they considered that

women perceived water users' groups to be "women's groups" and because water collection was viewed primarily as a responsibility of women. On the other hand, the people who stated that men were more active did so because they thought that men were more caring about the groups, had more experience, and had more duties and responsibilities within the groups. Many men undoubtedly perceived themselves to be in the latter position.

When asked why the water users' groups were successful, most villagers said it was because the people had been able to cooperate.

The most important indicator of participation is people's involvement in decision-making. Any transfer of decision-making away from village heads should be viewed as positive. It was found that 27% of all decisions were perceived to have been made by women, including female leaders, 9% by men who were not leaders, 19% by the groups, 21% by male leaders and 24% by the field workers of the Family Welfare Movement.

Men were an integral part of the groups and some acted as advisers. However, the chairpersons and treasures of almost all the groups were women. Both women and men received training as technical caretakers of water facilities.

The inclusion of men in the groups resulted in the pooling of different perspectives, skills and abilities, making effective functioning possible. When asked about the purposes of the groups, men referred mainly to maintenance and repairs, whereas women most frequently mentioned construction and

cleanliness. Among men the most frequently mentioned activities were growing vegetables and ensuring cleanliness at sources, while women concentrated on construction work at sources and the growing of vegetables. Significantly fewer women than men were aware of plans for future activities. When members of groups were asked what they would tell someone wanting to improve a water supply, men referred primarily to the process of group formation and the need to collect money, whereas women gave prominence to ways of ensuring that drinking-water was clean. Clearly, the activities would have been less effective had they been restricted to one sex or the other.

One of the strongest arguments for improving access to water that this reduces the drudgery of carrying water and saves time for both women and children. In 1985 and 1987, 88% of water-carrying trips were made by women and children. However, the average time per trip made by women declined from 41 minutes in 1985 to 21 minutes in 1987. Because more frequent shorter trips were made in 1987, women spent almost the same amount of time fetching water in 1987 as in 1985. In other words, women chose to use at least some of the time saved as a result of having water supplies closer to their homes by acquiring more than previously.

The most important perceived spin-off was the increased possibility of growing vegetables for both home consumption and sale. When men were asked what activities of women they valued, 2% mentioned vegetable growing in 1985 whereas 19% did so in 1987. Only 21% of women mentioned that they were selling vegetables in 1985, whereas in 1987 60% said they were doing so. Thus closer proximity of water and its effective utilization resulted in increased cash receipts. Some women reported using

income from vegetable sales for the payment of water maintenance fees.

A marked decline in diarrhoea and skin diseases evidently accompanied the improved water situation, at least in Belu district. Women often said that their children had been cleaner and healthier since the improvements had been effected.

The scheme induced feelings of pride, self-confidence and competence in women, enabling them to emerge as leaders and undertake new challenges. Women's low self-esteem and men's low expectations of them in 1985 were evident from the low ratings given to women by members of both sexes regarding leadership, intelligence, knowledge, problem-solving abilities, and other attributes. In 1987 an increased number of women rated themselves to be of higher intelligence than men.

When people were asked whether men or women made better leaders, 82% said that men did, 7% that women did, and 9% that both men and women could make good leaders. However, when in 1985 people were specifically asked if there were any female leaders in their villages, only 39% (women 49%, men 29%) said there was at least one female they considered a leader, whereas in 1987 the corresponding value was 86% (women 92%, men 80%). People who were perceived as leaders included those women attached to the Movement who, although appointed as leaders, had not previously been viewed as such.

The public image of the Movement, often viewed as a women's organization, also improved. In 1985, 74% of village people viewed it as useful; by 1987 the figure had risen to 97%.

When asked why the water user's groups were successful, most villagers said it was

because people had been able to cooperate. Only two people directly mentioned the field workers of the Family Welfare Movement.

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Technical ministries are now interested in having the Movement as an equal partner in the provision of water for rural areas. In the province of Nusa Tenggara Timur the Movement has agreed to work with the Ministry of Health on five new piped-water systems in two additional districts. Convinced about the merits of the community-based approach, in which women are encouraged to come to the fore, the Ministry of Health is seeking assistance to develop a new training curriculum for sanitarians. The possibility of giving advice on water and sanitation at the thousands of health posts managed by the Movement's volunteers, primarily women, in rural and low-income urban neighbourhoods, is being explored at national level.

Female leaders have become more vocal at village meetings. Five new water users' groups have been spontaneously formed by villagers themselves. One group has built three rainwater tanks and is constructing one new household toilet every month. Five neighbouring villages have initiated the formation of water users' groups and construction activities on their own. Male village leaders talk with pride about water and sanitation projects at district meetings and emphasize village initiative, responsibility and the importance of women in improving the water situation.

In only two years the scheme demonstrated a significant impact, not only on water supplies but also on the self-confidence of women. Furthermore, it stimulated a broad desire for development in other fields. □