Alternative energy and women in rural Nepal

Ishara Mahat

Photo: Nalini Lamichane

Women and men participating in a focus group discussion.

Mountain women in rural Nepal are heavily involved in managing the household energy system. Energy is needed for cooking, heating and processing grain and women often spend about 15 hours per week collecting fuelwood and 15 - 20 hours per week processing the grain needed for family meals.

Access to electricity in rural areas of Nepal is just six percent. In 1996, the *Rural Energy Development Programme* (REDP) was launched to help the government of Nepal achieve its aims of sustainable development and alleviation of rural poverty. The programme aimed to take a holistic and participatory approach to development, including the empowerment of women, and has been recognized as a "best practice" programme in Nepal and internationally. Currently the programme is being implemented in 15 hilly districts in Nepal.

Implementation process

The *Rural Energy Development Programme* primarily focused on micro-hydropower schemes as an entry point to improve the rural energy situation. However, it also promoted solar panels, biogas plants and community development activities such as group savings, literacy programs, construction of roads and wells, dairy collection, poultry farming, mushroom and cardamom cultivation and goat keeping. Activities were implemented through the Village Development Committees, the lowest political and administrative units. The programme facilitated the community mobilization process encouraging women's participation from the very beginning by forming community organizations of male and female groups.

The need for a micro-hydropower scheme in a particular village was identified at a higher level by the District Development Committee, which represents several Village Development Committees. Once the need was established at district level, an agreement was made between the programme and the local community to construct the micro-hydropower scheme. During the construction phase, each community organization was assigned different responsibilities such as carrying stones and sand or digging canals. Each community organization selected one member to represent it in the Village Energy Committee, where men and women were equally represented. The energy committee is responsible for continuously monitoring the activities, collecting electricity charges and managing funds.

One of the first districts where the programme was implemented was Kavre, a central, hilly district of Nepal, lying approximately 35 km east of Kathmandu at between 1000 - 3000 metres altitude. The population in Kavre district is a mix of different ethnic groups including *Brahmin/Chhetri*, *Newar, Gurung, Tamang, Tharu, Magar, Kami, Damai* and *Sarki, Bhojpuri* and *Limbu.* There exist considerable differences in traditions and the culture of the different ethnic communities regarding women's mobility, marriage options, access to resources and social status. Women's mobility is very low, especially among high caste families, and they have little access to decision-making processes in household and community activities.

Pinthali village

Located in the eastern part of the district, Pinthali is one of the villages where micro-hydropower supported by the programme has brought about great change. This village is mainly comprised of a Tibeto-Burman *Tamang* community.

In *Tamang* society, women participate in decision-making processes at household level to a much greater degree than the higher caste Hindu women. *Tamang* men share some of the housework and encourage their women to participate in rural energy meetings. More importantly, the men share the knowledge and skills they gain from trainings with their women.

In Pinthali village, the micro-hydropower has been used to its full potential. The power plant has been used for providing electricity to 118 households and for operating a power mill with one huller, one grinder and one oil expeller. The power mill serves the women in Pinthali and also women in neighbouring villages. The mill has helped women reduce their workload, especially in hulling and grinding grain. With traditional technologies it takes four to five hours to hull 30 kg of grain; with the power mill this has been reduced to less than one hour, including travelling and waiting time. In addition, the water from the canal established for operating the mill is used for drinking water and irrigation. The irrigation system has increased vegetable production, especially garlic, income that normally goes to women.

Women were really happy to have lights in the kitchen, animal shed and in the toilets, which made them very convenient to work around. A woman mentioned that it was especially easy to take care of old and sick people when there is light. It was also mentioned that the risk of leopard attacks was minimized.

In a focus group discussion, women mentioned that before, they were very shy to talk with men from outside or to speak in a group of men, but as a result of the awareness programme, they now feel confident to talk with any men or women from outside. In addition, there was no restriction for girls and women to participate in community meetings, and even walk in the evenings (for instance going to each other's house to watch TV). The men felt proud to have electricity in their village and enjoyed entertainment with friends in the evening lights.

Katunjebeshi village

Katunjebeshi is another village located in the eastern part of district closer to the Banepa-Bardibas highway. As the village is well connected with the road network, the communities, mainly consisting of higher caste Hindu *Brahmin* and *Newar* communities, are more involved in the market economy and less engaged in development activities at the village level. Higher caste Hindu women have greater access to technologies because they have greater purchasing power. However, in higher caste households (except women headed households) men are the

decision makers and women are rarely involved in the choices regarding alternative energy technologies. Similarly, women's participation in village energy committees was minimal among the higher caste women.

In Katunjebeshi, the micro-hydropower was only used for lighting. In this village, traditional processing technologies were only used occasionally since they have access to a diesel mill. In addition, the way the mill was constructed meant that village people could only make use of the water for irrigation when the mill was not operating. Only 45 households out of 65 were covered by the electrification and the power system, which was not well maintained. Some of the households did not use electricity because they could not afford to pay regular charges, while others could not contribute labour during the construction of canals.

Quite a few households installed biogas plants in this village, but they did not see much benefit from these plants. Especially the women who used biogas for cooking found it troublesome. The plants frequently needed repairs, technicians were unavailable when needed and it proved difficult to produce enough gas during the winter season to cook a complete meal. Contributing to the low appreciation of the biogas was that local people were not made aware of the full potential of the plants, such as the use of biogas slurry for making compost.

Implications for women

The *Rural Energy Development Programme* has, in general, had more positive impacts for women than for men, as women are the primary managers of household energy system. In general, women's workloads were reduced. The saved time was not always visible as women were always occupied with additional work such as working in kitchen gardens, collecting more fuelwood to store and weaving mattresses.

However, impacts were not universally positive. Women mentioned that cooking takes longer with biogas than with fuelwood. Biogas plants require the collection of dung and water. The availability of electric light also meant the women could work for longer hours, for example waking up early to do additional work.

In many cases, children have more time for schoolwork with the electrical light, though this did not apply equally to all communities. Some women complained that with electricity, young boys became idle listening to radios and watching television. There was also some dissatisfaction among women and children in those households which were not able to access technologies like electricity.

As part of the programme, women have participated in more development activities, for example taking part in community meetings for awareness development, creating and mobilizing saving funds and participating in village energy committees. However, men participated more actively in the energy committees and they were able to visit other communities to learn more about the technologies.

The fact that energy planning activities are limited to the district level means that the diffusion of technologies such as biogas plants and solar photovoltaic systems was mainly based on the promotion of the technologies and the availability of subsidies, rather than the needs and priorities of local people. In the absence of community-based energy planning, women's involvement in decision-making processes on issues such as technology installation and the location of plants is still very low.

Changing gender roles

Among all ethnic groups, grain processing is mainly the responsibility of women. However, with the introduction of alternative energy technologies, the division of labour started to change. Although the men never helped with the traditional grain processing technologies, they have started to join women in carrying the grain for milling to the nearest micro-hydro mill, so that the women do not have to wait a long time before bringing back the grain and flour. Similarly men, especially from the *Tamang* community, became involved in cooking with biogas stoves. The traditional stoves were used exclusively by women.

Potential for more women's involvement

If tapped properly, the involvement of women in energy planning could improve women's self-esteem and lead to the successful implementation of alternative energy technologies. Women have demonstrated good skills in mobilizing the community: Through their involvement in saving and credit groups, women were often able to motivate others to become involved in activities such as the construction of micro-hydro canals and the installation of biogas plants. In some cases, the women were then able to convince their husbands to support these ideas.

Women are very interested in participating in energy activities, though they have very limited spare time. They were especially interested in knowing about the proper use of these technologies and how to make small repairs, so they would not have to depend upon either technicians or other family members. Women could prove to be good technicians in constructing and promoting improved cooking stoves, which might help increase their adoption. However in most cases, men were trained for such purposes and women have had difficulties in maintaining the stoves. Similarly, involving women in deciding on the location of the biogas plant, where they must perform a number of operational tasks such as collecting and mixing water and dung, would have reduced women's workload and encouraged them to adopt the biogas technology. Similarly, women should be involved in deciding the location of micro-hydro mills, where they travel for processing. They should also be made aware of the safety measures in using new energy technologies, since they are the ones who primarily stay around the house and supervise their children.

Conclusion

The rural energy programme with its focus on micro-hydropower has been of a great importance to local people, especially to women, in reducing their heavy workload. However, despite the fact that the new energy technologies have had positive impacts on local people's quality of life, they are still not being used to their full potential.

The programme has been less successful in achieving its social objectives, like women's participation and empowerment. Although local-level planning and participatory approaches are in the planning framework of the programme, much still needs to be done in practice in order to achieve equity and real participation and empowerment of people, especially women. For instance, participation of women in alternative energy initiatives has to be improved to provide sufficient space for women's voices. ■

Ishara Mahat. Institute of Women's Studies and Gender Studies, New College, 40 Willcocks Street, University of Toronto, ON M5S 1C6 Canada.
Email: i.mahat@utoronto.ca or Ishara_m@hotmail.com

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