

Women as Energy Entrepreneurs

Successes from a Pilot Project in Phobjikha and Limukha Villages, Bhutan

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With a venture to produce solar dryers and the establishment of an LPG depot in two remote locations, some women in Bhutan are emerging as energy entrepreneurs. These endeavours are taking place through a UNEP/ICIMOD and RSPN partnership project.

An LPG depot in Phobjikha

Phobjikha Valley is the winter home of the protected black-necked crane. The Royal Society for the Protection of Nature (RSPN) is also implementing its Integrated Conservation and Development Programme here. Development interventions in this valley are thoroughly scrutinised to assess their impact on the black-necked cranes and their habitat. The valley remains unconnected to grid electricity from fear that the high voltage transmission lines may hinder the flight of this rare and endangered species.

Firewood is the main source of energy used by households for cooking and space heating. An increasing number of households have also begun to use LPG for cooking, but its use has not been widespread because of the difficulty in obtaining LPG. LPG cylinders have to be transported from the market centre at Wangdi, half a day's distance away.

Improved cooking stoves (ICS) as demonstrated by the project were not in demand given their incompatibility with the housing structures in Bhutan. The women preferred LPG and sought project help to establish an LPG depot in Phobjikha. The women had several good reasons for selecting this activity. First, it was the most suitable energy option available as it did not have any effect on the conservation efforts being made in the valley, and the use of LPG helps reduce pressure on the forests. Besides saving time and energy in collecting

firewood, establishing a local depot would reduce the time and effort needed to obtain gas cylinders. The saved time could then widen the women's options for productive activities, with the use of LPG also clearing the air in the kitchen environment and promoting health benefits.

The LPG depot in Phobjikha was established after gaining the necessary approval from the Ministry of Trade and Industry, including an order by the Ministry to the LPG distributor from Tashi Commercial Corporation. The capacity of the LPG depot is 340 cylinders, of which the women from the Bjena, Gangtey, and Phobji blocks contributed Nu. 1400/per person to purchase 240 cylinders. An additional 100 cylinders was supported by the project and are kept in reserve to provide refilling facilities for the Phobjikha community. The women's welfare association formed in Phobjikha is responsible for managing the depot. According to their rules, income from the sale of each cylinder is



LPG depot run by the women's group in Phobjikha, Bhutan

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distributed as follows: a) Nu 3 for the Phobjikha Conservation Area Project community fund b) Nu 10 per cylinder as incentive for the salesperson; and c) Nu 2 per cylinder to cover rent. From the funds generated, the women plan to provide loans to members of the women's group for income generating activities. At present, a treasurer of the women's group is also serving as salesperson. The depot functions twice a week: Mondays and Thursdays (9 am to 1 pm).

The LPG depot in the Phobjikha has reduced the time and effort needed to obtain gas cylinders as well as reduced pressure on the forests in the area. The use of LPG has also promoted health benefits through reduced indoor pollution. Besides fulfilling the women's energy needs, the venture demonstrates how women can become successful energy entrepreneurs.

Solar dryer production in Limukha

A women's group at another project site, Limukha village, selected solar dryers as a safe technology that can be used to dry meat, chillies, and other vegetables in a hygienic manner. Following the

interest women showed in setting up a solar dryer production business, RSPN trained the women to make solar dryers with the help of a skilled carpenter hired for eight days, and provided seed money to produce solar dryers for commercial sale. The women were also supplied with raw materials to make 20 solar dryers. To minimise transport costs, they set up a production outlet in one of the member's houses close to the market (see photo, below).

If women are to be economically empowered, an enterprise-based approach to energy management with the active participation of women in decision making is vital.

The group has already produced nine dryers. While RSPN is planning to help the women market this product through the media and exhibitions, the women of this group have, on their own, decided to do their own market promotion by displaying their solar dryers at vegetable markets and have fixed the price at Nu 3000 per system. Profits made from the sale of the solar dryers will be retained as their community fund, which will be used to provide small loans to members for income generating activities.

These two examples demonstrate how an enterprise-based approach to energy management with the active participation of women in decision making is necessary for their economic empowerment. The advantages of promoting women as energy entrepreneurs include their advancement, the expansion of economic activities and diversification of productive options, and the creation of new sources of wealth and income to support family investments in education and health. The enabling conditions created, particularly the formation of women-only groups, has clearly helped this process. In such groups women have felt comfortable taking charge of the technology instead of handing over control to men and being relegated to passive 'beneficiaries'. Once their level of confidence has been adequately enhanced through the initial women-only initiatives, these leaders and entrepreneurs will, it is believed, continue to provide leadership in their communities.



Solar dryer produced by women's group in Limukha, Bhutan