Commercialization of renewable energy and energy efficient technologies in India

[Sponsor: British High Commission]

Executive summary

TERI implemented 'Commercialisation of renewable energy and energy efficient technologies' that was funded by the REEEP (Renewable Energy and Energy Efficiency Partnership) Secretariat. It was an extension of the ICEF's (India Canada Environment Facility) 'Dissemination of RETs in rural India through NGOs (non-governmental organizations)'. The REEEP project was executed in the rural areas of Bikaner, Rajasthan and, subsequently, taken to Gujarat, Punjab, Uttar Pradesh, and Bihar.

The objectives of the project were as follows.

- To be a major private player in the market for solar photovoltaic technologies
- To create a decentralized, 'integrated model' for rural energy interventions
- To ensure a strong presence in the local market
- To consolidate and expand the business, with special focus on Rajasthan
- To concentrate on the product portfolio and reduce costs further

As part of the project, ESNs (energy service networks) that comprises local entrepreneurs, retailers, dealers, manufacturers, vendors, trained technicians, NGOs, and SHGs (self-help groups) were established in Bikaner. This was done through a market-based approach to provide need-based renewable energy systems to households.

For large-scale dissemination and commercialization of the product, the focus was on new product development, reducing the cost of systems, better after-sales service, and affordable finance options. In order to meet the energy requirements of rural households, the project team was able to develop and add low-cost products to the Uttam Urja product range. These products were LED (light emitting diode)-based systems, such as LED torches, DLS (dynamic light scattering) (3 types), solar lanterns, garden lights, and so on. Products were also developed for institutional sale, such as Solar Charkha for spinning cotton and wool and Solar Milk Testing Center for testing milk.

All these systems were assembled locally at Bikaner, which reduced the cost considerably. Local assembly also reduced the delivery time of systems and promoted efficient after-sales service. The supply chain was streamlined by establishing an effective procurement

system from the suppliers and vendors. A network of dealers, retailers, NGOs, and SHGs was established for the delivery of the products in villages.

Innovative activities to generate awareness and capacity building were the most important factors for the dissemination and sustenance of these interventions. This led to the launch of a brand, Uttam Urja, which identified with the project and reinforced its attributes to make it one of the most recognizable projects in the area.

The project, which started in a few villages in Bikaner, spread to neighbouring districts of Bikaner as well as other states—Gujarat, Punjab, Uttar Pradesh, and Bihar. This also encouraged the Rajasthan Renewable Energy Development Agency, the Government of Rajasthan body responsible for dissemination of RETs, to follow suit and bring out more products as well as to increase outreach in the above districts.