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Renewable Energy for Rural India

Project Title

Renewable Energy for Rural Livelihoods

Budget

Total: USD3.60 million

UNDP: USD2.5 million; and Federal Republic of Germany: USD1 million

Duration

January 2005 – June 2008

Partners

Ministry of New and Renewable Energy, Government of India; Confederation of Indian Industry; Social Work and Research Centre; and Alternate Hydro Energy Centre

Project Location

Jharkhand, Uttarkhand and Rajasthan

Challenges

In India around 95,000 villages are not connected to the power grid. Out of these, 18,000 villages are unlikely to ever have access to the national grid due to their remote location. For these communities, renewable energy technologies are viable options as they provide sustainable energy services to meet their energy needs. In the long-term, these eco-friendly and sustainable energy sources will help meet the energy requirements of the large rural population of India.

Response

The Federal Republic of Germany and the United Nations Development Programme (UNDP), in partnership with the Ministry of New and Renewable Energy, Government of India, and others supported efforts to address energy needs of remote villages by providing renewable energy systems.

The project supported promotion and improved accessibility of renewable energy to communities in remote areas through a mix of hydro, biomass and solar energy which not only helped to improve the lives of these communities but also provided much-needed livelihood opportunities. In fact, the training of local communities in managing renewable energy technologies and thus providing them with employment was a crucial component of the project. The project also supported networking of renewable energy-related research institutions to increase the use of renewable energy sources as a poverty reduction mechanism.

Impact

The project has resulted in benefits that go beyond merely meeting energy needs of remote rural communities.

- Training of women to assemble, install and repair solar devices in about 15 villages in the Indian desert state of Rajasthan led to enhancement of their incomes and improved status in society. They are popularly known as 'barefoot solar engineers'.
- Installation of biogas plants and solar powered lights in 20 remote villages particularly benefitted women belonging to marginalised communities. About 400 households in 15 villages in the Indian states of Jharkhand and Rajasthan have taken up livelihood activities such as spices grinding, leaf-plate making and others that were powered by energy from biomass gas-production units called 'Gasifiers'.
- Livelihood activities such as grain grinding, carpentry and welding were undertaken and these were powered by five small hydro sites built in Bageshwar, Chamoli and Garhwal districts of the northern Indian state of Uttarakhand.
- A pilot study linked to Geographical Information System platform, as a cost-effective methodology to assess the small hydro power potential in remote sites, has been completed and disseminated for practitioners.
- As a result of the project, corporate houses are now supporting interventions in Jharkhand state through a consortium led by an industry chamber, the Confederation of Indian Industries. Corporate houses like Usha Martin, Tata Steel Rural Development Society and Lupin Laboratories are part of the consortium and it is envisaged that they will continue to sustain the interventions.
- Through better lighting powered by renewable energy from solar photovoltaic cells and small hydro power sites and supply of smoke free cooking gas, women have benefited directly. A manifestation of their better health has made a significant impact in improving the quality of lives of the rural poor in remote regions across the project areas.
- The project with small hydro power demonstrated the potential for significant impacts on livelihoods for the rural poor.