

Electrical System Development

Orissa, India

Project Cost

\$12,000
(materials)

Background

The Association for India's Development (AID)-Orissa Chapter and Gana Chetana, two local NGOs, requested EWB-USA's help in bringing electricity to an out-of-the-way region.

Gana Chetana is involved in over thirty communities in the Keonjhar district.

In many of these villages, one of the organization's main activities has been the organization of women's self-help groups. These groups generate income for the members through collaborative efforts, taking advantage of economies of scale only exploitable when multiple people work together.



The Need

Residents of Orissa, India needed electricity to support local income-generating opportunities such as spice grinding and rice hulling. This project helped community members establish a sustainable source of electricity.

The EWB-USA Response

In May 2004, five students from EWB-UIUC began a site assessment of three villages in Orissa to learn more about the needs of the villages and determine which village would benefit most from electrification. The EWB team considered existing infrastructure, local oilseed population, projected community participation, and ongoing and new economic projects.

In the end, the EWB team selected the village of Badakamandara because community members were already familiar with electricity and had experience working together on income-generating projects.

After conducting the site visit, students spent the next six to eight months conducting research. They then designed modifications to an off-the-shelf diesel engine. This modified diesel engine can now burn oil created by pressing locally-grown sal seeds to generate electricity for the village.

Students also provided design specifications for construction of a building to house the generator. Though students provided some volunteer labor, the majority of the building was completed by local citizens, creat-



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ing a greater sense of ownership and increasing the odds that the project will be a success over time.

In addition to the building and biodiesel generator, students helped install a solar drier to dry the sal seeds, and a manually operated oil press. They also purchased and helped install a spice grinder and rice huller. A solar powered lighting system was installed as well.

Moving Forward

Students partnered with local groups to train community members on the use of the generator and related machinery. Additional training was provided by AID-Orissa.

The system is expected to produce large quantities of processed spices and rice at minimal cost. An efficient oil expeller/press still under development by AID-Orissa will hopefully make the project even more profitable in the long term.

