



Filipino Micro Hydro Project

Powering a corn mill and lighting 60 homes in the Philippines

Project Location

Sitio Datalnay and Dlumay
in the Philippines

Project Dates

August 2007-Current

Villagers impacted

Sixty (60) households for
lighting and more than 260
households for the corn mill
enterprise.

Technology Used

Electricity from MHP
managed by the community
organization of Sitio
Datalnay

River Source

Bangat /Spring Creek
Capacity 11kw

Costs

Total Budget = \$105,240

Installation Costs

\$78,030

Building, operation and
training

\$8,415

Operation & Maintenance

\$4,600

Project Management

\$14,195

Funding Sources

Local Funding

\$32,240

Wisions

\$43,000

Canyon Hydro

\$15,000

Funds Needed

\$15,000

An Enterprising Project

Green Empowerment is working to establish a community-based micro-hydro power (MHP) project. The power enterprise for Sitio Datalnay and Dlumay in the Philippines will consist of an 11kW micro-hydro power generating system providing off-grid electricity to at least 60 households and powering a community-owned and managed 7kw corn mill facility. The establishment of the corn mill will be coupled with a marketing activity to collect, transport, and sell both the milled and unmilled corn.

The power enterprise will generate income to support its operation and have some funds for micro-enterprise within the village. The energy users are expected to pay electricity tariffs at the unit energy cost. The net revenue will then be used as a development fund to pre-finance future livelihoods or other commercial community enterprises.

The MHP will be supported and sustained by tariff payments from household consumers and corn mill users. The income from the corn mill



Labor intensive traditional manual corn shelling found in Sitio Dlumay



Sitios Datalnay and Dlumay in the Philippines

enterprise will also help supplement low incomes in rural households in Datalnay and Dlumay, through savings on transportation costs and by milling their corn in Datalnay instead of Alabel, and for the benefits they will reap through a development fund resulting from the corn mill enterprise.

The Projects Unique Factors

1) Datalnay/Dlumay will be one of the first Community-Based Microhydro Power Enterprise projects in the region. All others had been more simply MHP projects providing electrification to households. There is real potential to increase community income from operating the corn mill and selling the bran from the corn mill's operations.

2) The proposed marketing of corn grits and bran will generate capital that can be used to purchase horses for haulage, corn sacks, and daily living marketing expenses.

Micro Hydro Power- How It Works

Micro Hydro Power technology is an environmentally friendly form of energy which can produce electricity in isolated communities in need of reliable, clean energy wherever there are mountains and streams. A MHP system uses rapidly flowing stream water to turn a turbine – generator to produce electricity. The two key components of any MHP system are a vertical drop where the water is taken from to provide sufficient flow to power the turbine. A great advantage of MHP is that once installed, it provides continuous power generation 24 hours a day. In this case allowing villagers the ability to operate a corn mill.



Operational SIBAT Micro Hydro project in the Philippines

3) Renewable energy guarantees environmental and economic sustainability through the fee-for-service utility and enterprise development that provides “added value” to agricultural goods sold at market.

4) The project will result in a locally owned, operated, and maintained, clean renewable electricity system. Currently villages rely on kerosene for lighting, on average spending PHP400 (\$10.00) each year per household. They use almaciga, tanga and jathropa seeds for lighting, when money for kerosene is not available. This project means substantial financial savings for the villagers.

5) The power enterprise innovation will build a combination of MHP, corn mill, community-based development, micro-credit, micro-enterprise, and the capability trainings necessary to enable the community to handle the financial and management aspects of the project.



Rice mill from Ngibat Micro-Hydro project

How to Donate to Datalnay and Dlumay Corn Mill Project

Green Empowerment has committed to the project and needs to raise \$15,000 to guarantee the pilot project can go ahead. You can help us bring power and economic sustainability to more communities by making a tax deductible contribution to this project. Send a check to the address below, or give online.

Thank you for your generous donation.



Tulgao, site of an operational SIBAT MHP project in Northern Philippines



Green Empowerment

140, SW Yamhill St.
Portland, Oregon 97204

Phone: (503) 284-5774

Fax: (503) 460-0450

www.greenempowerment.org