



green empowerment



2023 IMPACT REPORT

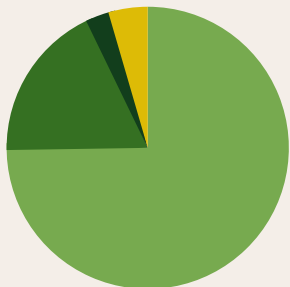
Empowered Conservation in Malaysian Borneo

**Community micro-utility provides
24-hour electricity for all local
residents**

52 metered household connections

**1,379 acres of community
protected rainforest**

BUDGET:



- Materials & Installation: \$53,917
- Operating Costs: \$13,025
- Training: \$1,935
- Management & Admin: \$3,250

Total: 72,127.88

**MADE POSSIBLE BY FUNDING FROM
SEACOLOGY, THE UNITED NATIONS'
GEF-SGP, AND DONORS LIKE YOU**

Until recently, every evening the village of Long Tanid was filled with the buzz of generators and the smell of burning diesel, telltale markers of the only electricity available to this 54 household community. Most families in this remote Lun Bawang ethnic community in Malaysian Borneo had just four hours of electricity a day, and spent significant time retrieving costly diesel from four hours away.

So the community banded together. With help from TONIBUNG, Green Empowerment, and local volunteer groups, they built their own 11.6kW micro-hydro powered micro-utility, generating high quality electricity 24-hours a day to homes and local businesses. The community equally played a role in securing funding. In exchange for a conservation grant from Seacology, the community has committed to protect 1,379 acres of highly biodiverse rainforests within Long Tanid's watershed. By protecting this resource they are safe-guarding both their local power supply and a precious element of our global ecosystem.

What makes Long Tanid's system sustainable long-term is the combination of appropriate technology with robust community organization. Throughout construction, TONIBUNG staff worked extensively with community members, leading community work days, building consensus around rules and tariffs, and providing ongoing technical training. Today, Long Tanid's micro-utility is managed by community members through a locally elected energy committee. With meters at each home, families pay monthly for the energy they consume. The energy committee saves a portion of this money for future repairs and uses a portion to employ one of its members as technician.

With the project installed, community members are paying roughly half the cost for electricity while displacing at least 1,000 liters of fuel each month from diesel generators. Families report investing energy cost savings in education and small businesses.



Ramchie Liwi in his cafe



Mariana Sultan, center, with members of the Long Tanid women's collective

ENERGY FOR ENTREPRENEURS

Ramchie Liwi operates a small cafe in the outskirts of the village. With the new micro-hydro system he is saving about 50% of his energy costs. With these savings and increased energy access he is planning to buy an ice machine and expand his business to start offering car repair for travelers passing through.

AGENCY & CONNECTIVITY FOR WOMEN

Mariana Sultan's aspiration for the micro-hydro system was to use it to facilitate more artisan projects with the local women's collective and to gain increased internet connection to stay in touch with her children and grandchildren who live in the city. During construction, the regional government recognized Long Tanid's efforts and donated a high quality internet router. Now the whole village enjoys 24-hour internet connection. And with overhead lights, the women's collective can work together in the evening.




WHAT IS MICRO-HYDRO?

In micro-hydro energy systems, a small portion of a stream is diverted to turn a turbine – this mechanical power is converted into electrical energy. The water is then returned to the stream, creating a low-impact energy source which can be constructed from relatively inexpensive, locally available materials.

LEVERAGING LOCAL SUPPORT

12 volunteers from a nearby city, Kota Kinabalu, joined TONIBUNG to construct the penstock, a long distance pipeline that brings water from the stream to the powerhouse. They stayed in the community for a week, working alongside community members to mount this crucial and labor intensive piece of the project. Throughout construction, two additional volunteer groups lent their support, Pahang, a neighboring Indigenous community and the Raleigh Group, Kuala Lumpur chapter.



CONNECT:  greenempowerment.org
 info@greenempowerment.org
 PO Box 8802, Portland OR 97207