ReNew
Technology for a sustainable future

Renew magazine No 112 - JUL-SEP 2010 - Page 63

Micro-hydro at its best

This freezer/ice-making cold storage room is powered from a 40kW micro-hydro turbine in the Solomon Islands.

Earlier this year drums, bells and cheering echoed through Masupa Village in the Solomon Islands as the new micro-hydroelectric turbine started up, shining light on the turbine house and foreshores.

Pelena Energy was commissioned to design and construct the project, which cost AU$120,000 and was fully funded by a Rural Electrification Development fund. Over 13 days over 200 community members constructed a 12-metre-wide concrete weir, a concrete settling tank and forebay, finalised the digging of a trench, and joined and buried over 300 metres of 200mm diameter PVC pressure pipe for the penstock. They also constructed the turbine house, installed the turbine and generator with all electrical controls and constructed and assembled a freezer room to produce ice and store fish ready for market. Preliminary training to technicians in operation and maintenance was also provided.

Most of the new turbine's electricity will go towards operating the freezer room, with the community's first esky load of fish delivered to Honiara on February 11. The next stage of the project is to construct a transmission line to the village to provide lighting and help improve income opportunities for the Masupa community.

The Aero Freezer Room Trust Committee was formed to manage the power station and freezer. The trust includes members of the landholding tribe that play host to the facility. This project empowers the rural community to manage their own resources and boost economic activities through fishing, in turn opening up job creation within the community.

Videos of the construction can be found at www.youtube.com/profile?user=pelenaenergy

Top: Inside the turbine house; Left: The cold room helps the community with the preservation of food.