

Langtang Microhydro Electricity Project

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In news– Nepal's first hydropower project from a glacial lake has become functional recently.

About the project–

- It **was built three years after the 2015 earthquake-avalanche** that devastated the valley, **with help from the Hong Kong-based Kadoorie Charitable Foundation.**
- The \$534,000 scheme **has a weir and spillway at the moraine, and the water is taken through a fiberglass-insulated penstock pipe** to a powerhouse that **generates 100kW of electricity.**
- It provides 24 hours of electricity to 120 households and tourist lodges in Kyanjin and Langtang.
- **Langtang Lirung Glacier lake** at 4,100m is being drained to lower its level, and the water is used to generate electricity.



- The project is a **first-of-its-kind in Nepal to power a village**, and holds promise for other remote Himalayan valleys where the risk posed by expanding glacial lakes can be mitigated.
- **Micro hydro** is a type of hydroelectric power that typically produces from **5 kW to 100 kW of electricity**

using the natural flow of water.

Similar projects–

- **There are other dangerous glacial lakes in Nepal like Imja in the Everest region and Tso Rolpa in Rolwaling Valley**, where the water level has been lowered at enormous cost, but the schemes have not added the hydropower component.
- **Imja was financed by the UNDP** with funding from the **Global Environment Facility**, while **Tso Rolpa was funded by the Dutch government**.
- **Glacial lakes have been used to generate power in the Peruvian Andes, and in the Swiss Alps** existing reservoirs filled with glacial melt have been generating 4% more electricity because of accelerated melting.

What is a glacial lake?

It is a body of water with origins from glacier activity. They are formed when a glacier erodes the land, and then melts, filling the depression created by the glacier.

What is glacial moraine?

A moraine is any accumulation of unconsolidated debris, sometimes referred to as glacial till, that occurs in both currently and formerly glaciated regions, and that has been previously carried along by a glacier or ice sheet.