

## TSHO ROLPA GLACIER LAKE OUT BURST PROTECTION WORK

### DOLAKHA, NEPAL, NEPAL

#### Channelling Works

##### Problem

Problem Tsho Rolpa Glacier Lake is situated at an altitude of 4560 above MSL and is reachable by 7 days trek. Tsho Rolpa Glacier Lake had become prone to glacier lake outburst flood (GLOF) in 1997, threatening a huge loss of life and property.

To minimize the risk, protection of the bank, and proper regulation of water had been envisaged as the measure to avoid the GLOF.

##### Solution

Lined canal (using Gabions and Reno Mattresses) and a gated structure was constructed for controlled discharge of water which helped lower the water level in turn reducing the risk of GLOF.

This reduced the risk of GLOF occurring downstream in the Rolwaling, Tamakoshi, and Bhotekoshi in the Dolakha district. It helped to save lives and properties worth billions of dollars.

The project included the construction of an open channel lined with gabion and reno mattresses, trapezoidal in cross-section with 6.4 m width at the bottom and designed to cater 14.6 cum/s discharge. The gated structure had been provided designed to regulate the water flow, if necessary.

##### Present Status:

The water level has reduced by 3m thus lowering the probability of GLOF

**Client:** Department of Hydrology and Meteorology, Government of Nepal

**Designer / Consultant:** BPC Hydroconsult

**Contractor:** Himal Hydro General Construction

##### Products used (Qty.)

- Gabion	1,000 cum
- Reno Mattress	1,200 sqm

**Date of construction:** 04/1999 - 06/2000



Photo 1: View of site



Photo 2: View of the site



Photo 3: Undersluice gate



Photo 4: Undersluice gate built with gabions



Photo 5: Lining with Reno Mattresses



Photo 6: Lining with Reno Mattresses