



Maakali Seti

Cascade Peaking Hydroelectric Project

(54 MW)

Surma Sarowar
Hydropower Pvt. Ltd.



Background

Maakali Seti Cascade Peaking Hydroelectric Project is a cascade of upstream project (Malumel Seti Nadi Peaking HEP 72 MW) which harnesses the energy potential of Seti River. The project is in Bajhang District, Far Western Province with installed capacity of 54.0 MW and total energy generation of 339.59 GWh. The Seti Nadi is a tributary of Karnali River. Approximately, 16 % of the catchment area is surrounded by the Higher Himalayas. Geologically, the project area belongs to Dhading Dolomite.



Sector
Hydropower



Location
Bajhang Districts
Far West Province

Salient Feature:

- Scheme: Cascade Peaking Run of River
- Installed Capacity: 54 MW
- Total Energy: 339.59 GWh



Features/ Components

- Catchment Area: approximately 2569 km²
- Design Discharge 81.19 m³/s
- Gross Head: 85 m
- Headworks: Includes the Tailrace intake of the upstream project, connecting directly to the headrace tunnel.
- D shape headrace Tunnel: Length of 6700 m.
- Throttle surge tank with diameter 18 m and height 28 m
- Powerhouse with two turbines with a capacity of 27 MW each.
- Transmission Line: Connected to Malumela HEP substation via a 6 km transmission line for power evacuation

Project Outcome



Increased electricity generation capacity



Support for the energy export to India

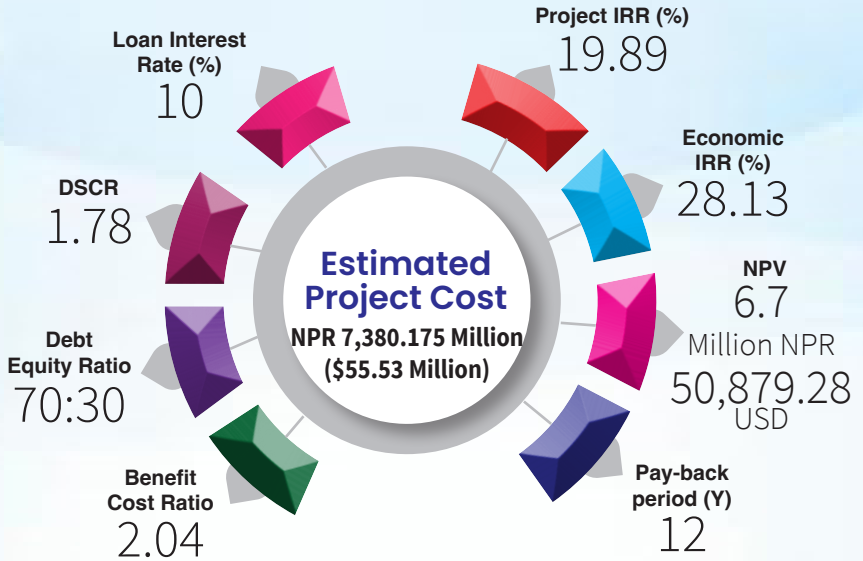


Equity investment opportunities to the entrepreneurs



Job creation during construction and operation

Financial Indicators



Note: 1 USD = NPR 132.9

Project Implementation Modality



Public Private Partnership



Private Investment

Both options are open

Build Own Operate Transfer (BOOT)

Project Implementation Timeline

June 2022

Project Ideation/
Concept Note



Desk Study

June 2022

Pre-feasibility Study



DPR

February 2024

June 2024

EIA



Solicitation

Submitted for PPA
March 2024



Additional Information

Project is the cascade development of Malumela Seti Nadi Peaking HEP (72 MW) and therefore does not require the construction of dam, intake and desander thus, saving the huge cost of the civil works.

Remarks

It is agreed that the Malumela Seti Nadi Peaking (72 MW) and Maakali Seti Cascade Peaking HEP (54 MW) projects shall be combined into single project having combined installed capacity 126 MW at 40 % exceedance flow for the domestic market.

On the other hand, these two projects shall be developed with the installed capacity as 304 MW and energy generation is 4.230 MU/MW at 20 % exceedance flow for the export scenario. In this case, the financial cost/ MW, Benefit Cost ratio, FIRR are 12.39 crore NPR, 2.51 and 33.49 % respectively at the selling price of energy = 10 NPR/unit.



Pic 1: Project Layout

Relevant Agencies

- Ministry of Energy, Water Resources, and Irrigation (MoEWRI)
- Department of Electricity Development (DoED)

Point of Contact

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