Malumela Seti Nadi

Peaking Hydroelectric Project

(72 MW)

EMERGING NEPAL INVESTMENT SUMMIT 2024

26-29 APRIL, KATHMANDU

Background

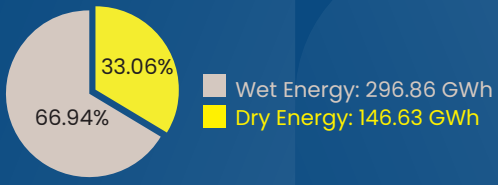
Malumela Seti Nadi Peaking Hydroelectric Project is a Peaking run-of-river type which harnesses the energy potential of Seti River. The project site is in Bajhang district with installed capacity of 72.0 MW and energy generation of 449.37 GWh. The Seti Nadi is a tributary of Karnali River. 16 % of the catchment area is surrounded by the higher Himalayas. The catchment area of Seti Nadi basin upstream of dam site is about 2569 km2.Geologically, project area belongs to Dhading dolomite. The project area is located near Tamil village is about 20 km south from Bajhang District Headquarter (Chainpur Bazar). Both intake and powerhouse sites are located on the left bank of Seti Nadi.

Sector
Hydropower

Location
Bajhang Districts
Far West Province

Salient Feature:

- Scheme: Peaking Run of River
- Installed Capacity: 72 MW
- Total Energy: 443.49 GWh



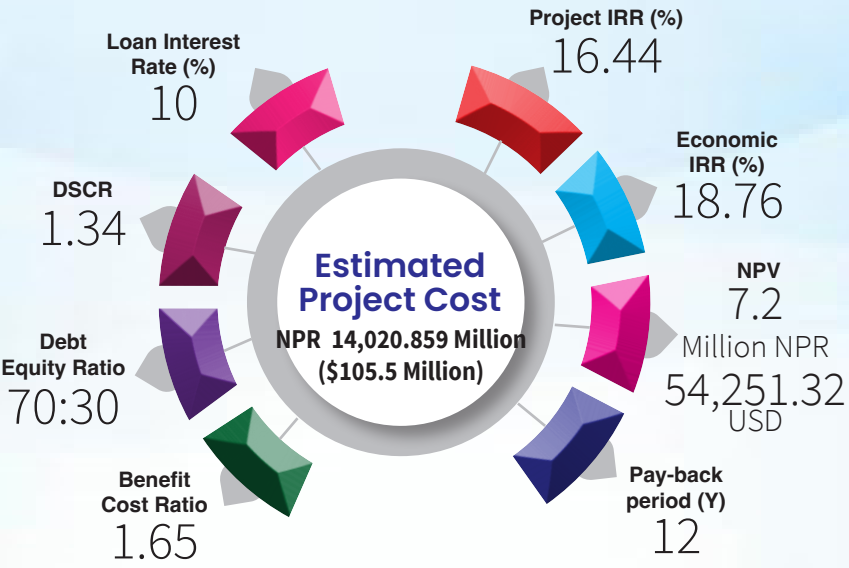
Features/ Components

- Catchment Area: 2569 km^2
- Design Discharge: 81.79 m^3/s
- Gross Head: 115 m
- Earth and Rock fill dam includes a barrage dam retaining 0.791 million m^3 of water for 4-hour peaking
- Multiple hopper type desander with a total length of 149 m
- D shape bell mouth tunnel intake
- Concrete line, D shape headrace tunnel with length 8598.5 m
- Throttle surge tank, diameter 16m and height 28 m
- Surface Powerhouse
- Two vertical axis Francis turbines with a capacity of 36 MW each
- Transmission Line: Connected to Basti 220 kV (NEA) substation via a 33 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

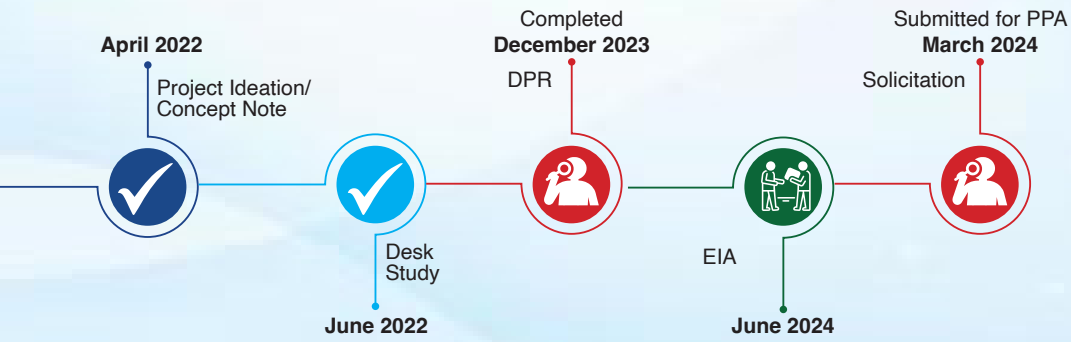
Public Private Partnership

Private Investment

Both options are open

Build Own Operate Transfer (BOOT)

Project Implementation Timeline



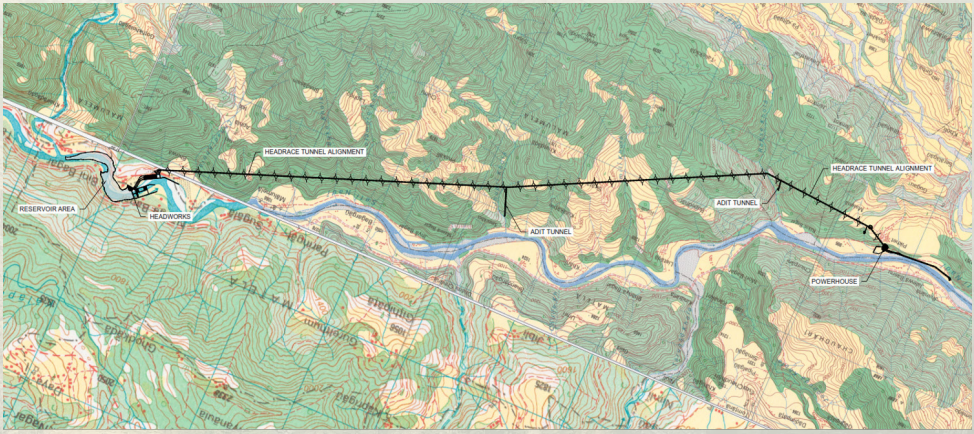
Additional Information

This Project shall be develop in combination of downstream project Maakali Seti Cascade Peaking HEP (54 MW), the total capacity of the project being 126 MW. In this case, the project shall have the length of headrace tunnel 15.88 km. This is the cost effective scenario

Remarks

It is agreed that the Malumela Seti Nadi Peaking (72 MW) and Maakali Seti Cascade Peakiong 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, Benifit 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

Gopal Datta Pandey

BOD

Mobile: +977-9851089120

Email: gopal.rckne@gmail.com