



Kankai

Multipurpose Project

(60 MW)



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Electricity Development



Background

The Kankai Multipurpose Project integrates a hydropower and a irrigation system designed to harness the energy potential of Kankai River. The project site is situated in Nepal's Kankai River basin, spans Ilam and Jhapa provinces. It features a significant land area, with a key dam positioned about 3.8 kilometers upstream of the East-West highway in Domukha, Jhapa district. It includes the creation of Kankai Lake, serving irrigation and hydropower needs, while offering recreational amenities like boating to attract tourists to nearby attractions such as Kanyam Tea Estate and Arjun Dhara. A fisheries facility, including an Indigenous Fish Breeding and Research Centre, conserves biodiversity with 51 documented fish species.



Sector
Hydropower



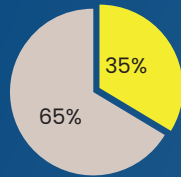
Location
Ilam and Jhapa Districts
Koshi Province



Land Required
51,750 hectares
for irrigation

Salient Feature:

- o Installed Capacity: 60 MW
- o Total Annual Energy: 302.87 GWh



Wet Energy: 185.41 GWh
Dry Energy: 117.46 GWh

Features/ Components

- Catchment area at the dam site is 1,163 Km²
- Design Discharge: 102 m³/s
- Net Head: 67 m
- Concrete gravity dam with a height of 85 m
- 3-gated Submerged Radial Gated Chute Spillway
- Intake structures with rectangular tower type intake and two gates
- 440m long headrace tunnel diameter 6 m, and penstocks spanning 440m.
- Powerhouse: Surface Type Downstream of Main Dam
- Two Francis turbines, each with a capacity of 30.60 MW
- A 132 kV double-circuit transmission line extends 5.4 km from the Anarmani-Damak powerhouse to a tower in Luwabar Forest.
- Main irrigation canals: 37.75 km
- Eastern main canal 15.75 km
- Western main canal 22 km
- Secondary irrigation canals 198.09 km
- Eastern secondary canal (7 nos.) 127.87 km
- Western main canal (9 nos.) 70.22 km
- Branch secondary canals (160.03 km).
- Reregulating pond capacity: 0.6 million m³ and spanning 32 hectares on the surface, connects via an 8-meter diameter tunnel.

Project Outcome



Increased electricity generation capacity



Contribution to sustainable development and environmental conservation



Enhanced regional connectivity and access to remote areas.



Water resource management



Fisheries Enhancement

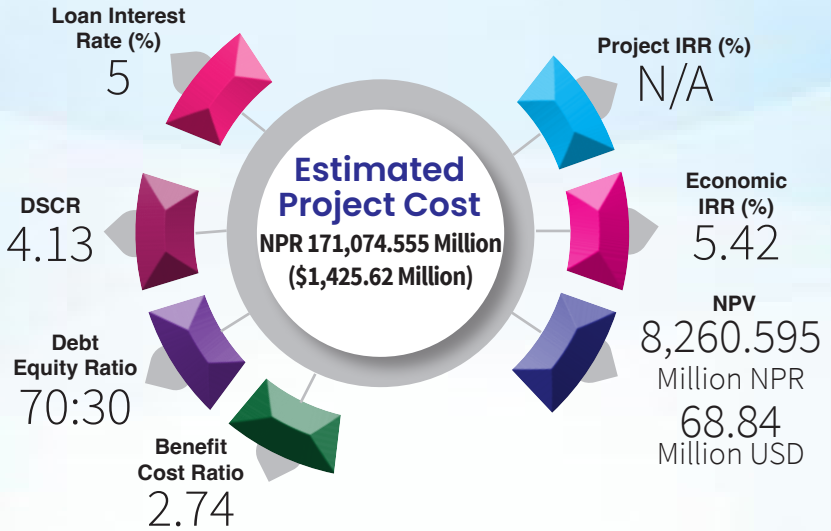


Revenue generation for central, provincial, and local governments



Job creation during construction and operation

Financial Indicators



Note: 1 USD = NPR 132.9

Project Implementation Modality



Public Private Partnership
(PPP model)

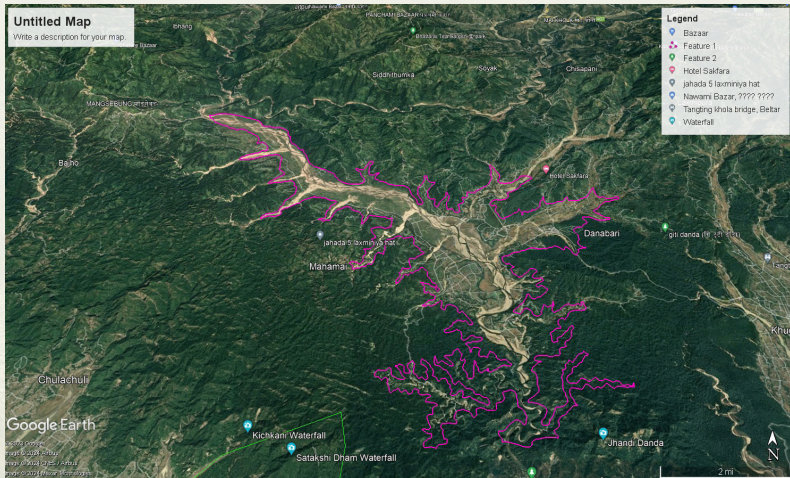
Build Own
Operate
Transfer
(BOOT)

Project Implementation Timeline



Additional Information

A plant can operate at its full capacity generating 60 M.W. from September to December. The generating capacity will be reduced to 47 to 48 M.W. in May and June.



Pic 1: Project Layout

Relevant Agencies

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

About the Agency

Department of Electricity Development (DOED), Government of Nepal

The Department of Electricity Development (DOED), part of Nepal's Ministry of Energy, Water Resources, and Irrigation, envisions facilitating efficient and sustainable hydropower projects to meet the nation's growing energy demands, thereby contributing to economic growth and energy security. Its mission involves promoting private sector involvement and local investment in large, medium, and small hydropower projects, fostering an environment conducive to hydropower development, and ensuring efficient water resource utilization. The agency's objectives include incentivizing private sector participation, developing implementable hydropower projects to address energy needs, conducting feasibility studies and environmental assessments, and enhancing the overall capacity and efficiency of Nepal's electricity sector. The DOED aims to achieve these goals by promoting PPPs, adhering to environmental and social standards, and ensuring equitable electricity distribution.

Website: <http://www.doed.gov.np/>

Email: info@doed.gov.np

Tel: +977-1-4534119

