

2073

Lower Modi Khola Hydroelectric Project (20 MW)

Parbat District, Western Nepal
Karthik 2073



Progress Report

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List of abbreviation

Amsl	Above Mean Sea Level
BOQ	Bill of Quantities
BPC	Butwal Power Company
Cumecs	Cubic metre per second
DoED	Department of Electricity Development
GoN	Government of Nepal
GWh	Giga Watt Hour
HSL	Hydro Solutions (P) Ltd.
kWh	Kilowatt hour
LMKHEP	Lower Modi Khola Hydroelectric Project
m	Meter
m ²	Square metre
m ³ /s	Cubic metre per second
Masl	Meter Above Sea Level
Mill	Million
Mm	Millimetre
MTL	Manang Trade Link (P) Limited
MW	Megawatt
MWh	Mega Watt Hour
NEA	Nepal Electricity Authority
(P.)	Private
PPA	Power Purchase Agreement
VAT	Value Added Tax
VDC	Village Development Committee
W	Watt
WRC	Water Resources Consult (P) Ltd.

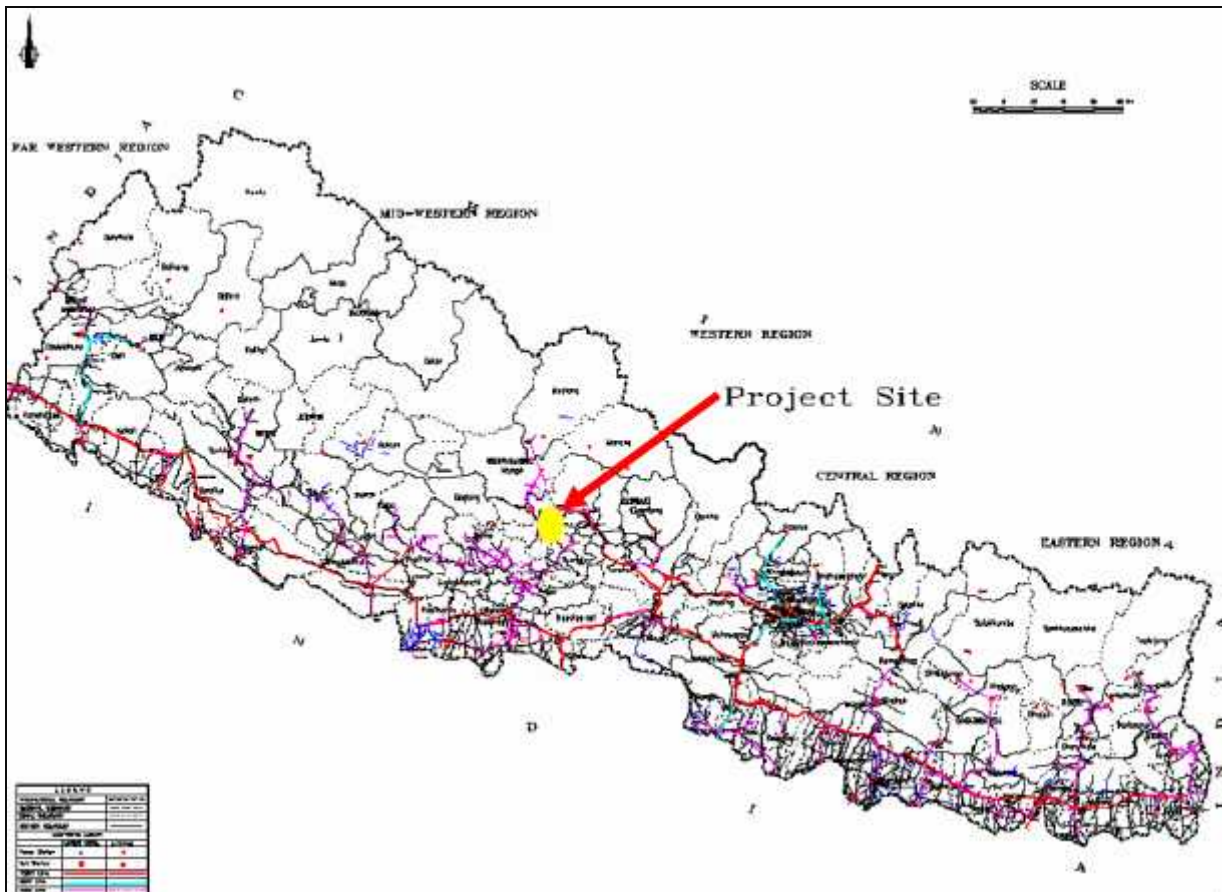
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EXECUTIVE SUMMARY

Manang Trade Link (P.) Limited (MTL), a company setup to develop Lower Modi Khola Hydroelectric Project (LMKHEP) has prepared this progress report. Hydro Solutions Group, KL Dugar Group, Murarka Group, Debenara Group, and Mr. Bhujung Gurung as individual partner promoting this project.

The LMKHEP was identified by MTL as a potential hydropower project in the Western Region of Nepal between longitude 83°44'43" and 83°42'30" and latitudes 28°16'18" and 28°14'08" and". The altitude of the project area varies between 869 m and 767 m above mean sea level (masl).



Proposed site

The feasibility study of the project was undertaken by WRC and reviewed by Hydro Solutions Private Limited and BPC Hydro consult in January 2008. The project has already accomplished the financial closure with the consortium of 11 banks lead by Nepal Investment Bank Ltd and co-lead by Sunrise Bank Ltd.

OBJECTIVE OF THE DOCUMENTS

The objective of this progress report is to present the progresses to date.

1. PROJECT STATUS

The following sub-sections briefly describe the status of the project till date.

1.1 FEASIBILITY STUDY

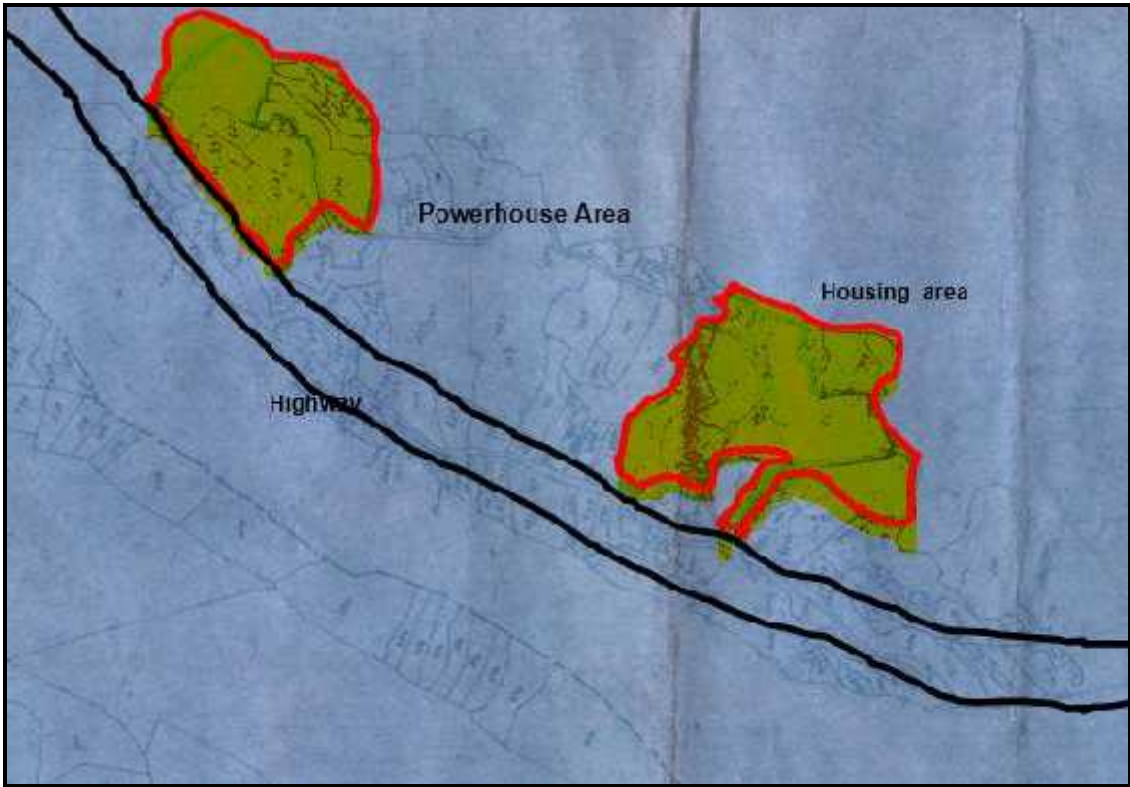
The feasibility study of the project was undertaken by WRC and reviewed by Hydro Solutions Private Limited and BPC. GoN has approved the EIA report of the project.

1.2 PPA AND INTERCONNECTION

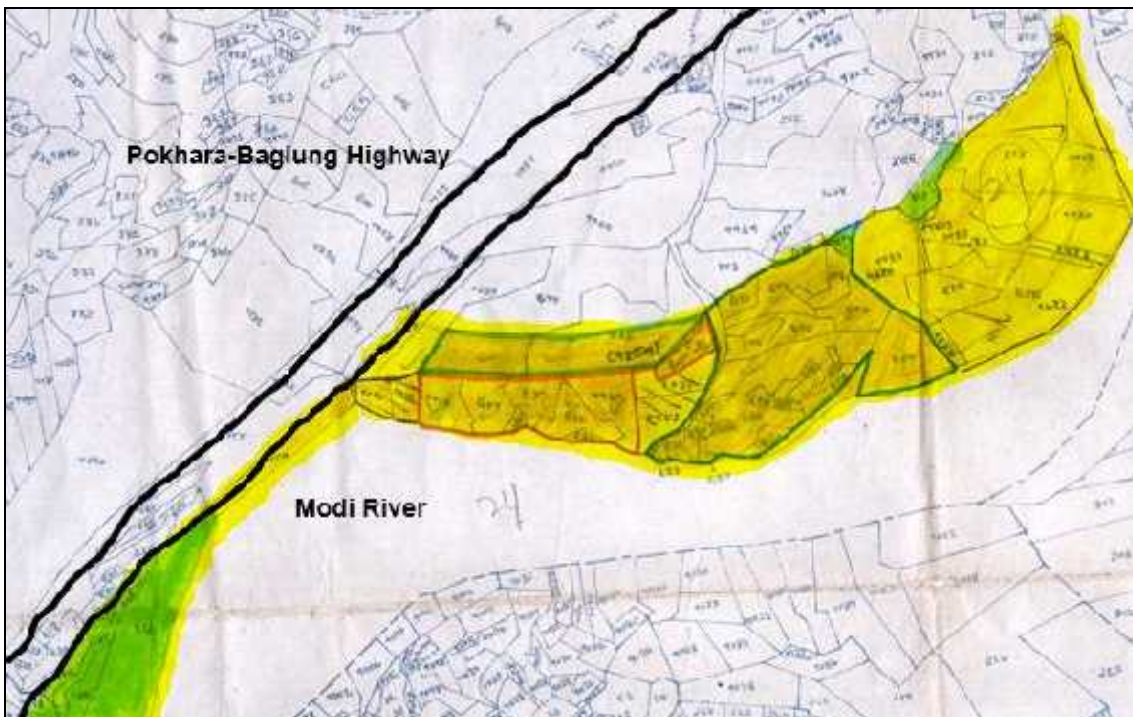
PPA was signed with NEA on Bhadra 2068. The agreed contract energy is 117.14 GWh after deducting 4% outage and loss. The connection agreement was signed on 2066/10/14.

1.3 LAND ACQUISITION

Land required for the construction activities has been completed. Approximately 107 ropanies of land (8.5 ropanies of the land at Powerhouse, 69.5 ropanies at Headworks, 12 ropanies for mucking disposal and 15 ropanies at Housing area) has been purchased. Figures below show the purchased land for powerhouse, housing and headwork areas. Similarly 34 ropanies of land has been leased for safe muck disposal and construction facilities.



Detail of Land at Powerhouse and site camp area



Detail of Land at Headworks area



Land purchased for settling basin



Land purchased for power house area

1.4 ENGINEERING AND DETAIL DESIGN

Hydro Solutions Engineering & Consultancy Private Limited has undertaken the detail engineering design of the project. The consultant has created a team of engineers and geologist for providing design and construction management services for the project. All the required investigations for underground and surface works have been completed. Till date the consultant has already submitted the Detailed Project Report (DPR), tender documents for civil construction and hydro-mechanical fabrication and construction drawing of Headworks and underground works. MTL has also engaged Australian based Indian consultant, Entura Hydro Tasmania to check and verify the design of LMKHEP.

The monitoring of the construction works at site by the Consultant is being done through regular site visits. Other experts have also been engaged to provide specialized services to enable to foresee and deal with potential problems that can impact work progress.

2. CIVIL CONSTRUCTION.

The overall civil works has been divided into two parts viz. **1. Surface works** and **2. Underground works.**

2.1 Surface Works:

Asish-Fewa-Nayabato JV has been contracted to accomplish the surface works of the project. The percentage progress of each component is represented by table and pictures below.

S.N	Components	Percentage Progress
1	Construction of labour camp and site office	100 %
2	Installation of crusher and batching plant	100 %
3	Headworks	95 %
4	Gravel Trap	100 %
5	Approach Canal	100%
6	Settling Basin	90 %
7	Anchor block and saddle supports along the penstock	Excavation started
8	Diversion road along the tailrace	100 %

9	Tailrace	100 %
10	Power House	5%



Headworks from upstream



Headworks from downstream



Settling basin



Power House

2.2 Underground Works

South Asian Infrastructure Pvt Ltd (SAIPL) has been contracted to construct the underground works which mainly consists of Adits, Headrace Tunnel, and Surge shaft and ventilation tunnel. More than 60 % of works has been completed so far. The percentage completion of each section is shown in table below along with the progress photographs.

S.N	Section	Total length (m)	% progress
1	Adit-1	110	100 %
2	Adit-2	181	100 %
3	Headrace Tunnel	4019	90 %
4	Ventilation tunnel & Surge shaft		80 %

At present tunnel has been excavated in three sections between, Inlet to Adit-1, Adit-1 to Adit-2 and Adit-2 to outlet thus providing six faces. Out of three section first breakthrough of 1326 meter of section between outlet and adit-2 has been accomplished.



Inlet Portal



Adit-1 Portal



Adit-2 Portal



Outlet Portal



Inner view of tunnel



Breakthrough of 1326 m section between outlet and Adit-2

3. HYDRO-MECHANICAL

Contract has been done with Machhapuchhre Metals and Machinery Works Pvt Ltd (3MW) for the design, fabrication, supply, install and commissioning of Hydro-Mechanical components. Fabrication of gates is in progress. MS plates required for penstock has already been arrived.

4. ELECTRO-MECHANICAL

Contract has been done with B Fouress Pvt Ltd for the supply, installation and commissioning of electro-mechanical equipment. Major heavy equipment like turbine, generator, transformer, valves, cranes etc has been arrived at site.



EOT Crane



Inspection of Generator



Inspection of Transformer



Inspection of Turbine



Inspection of valve

5. TRANSMISSION LINE

The evacuation of the power generated from Lower Modi Khola Hydroelectric Project needs about 4.5 km of 132 KV transmission line. We have already for the survey license for the route alignment of the transmission line. Detail study of the line is still ongoing. The New Modi substation, which is the delivery point for evacuating power generated by the Lower Modi Hydropower Project, and which is to be built by NEA, has yet to begin construction. As discussed with NEA in various meetings they have provided the schedule to complete with at end of Asadh 2074.

6. MITIGATION AND ENVIRONMENT

MTL has involved various local employees for the construction works as an enhancement of local skills. Beside supports for various organization to conduct awareness program has been done. MTL has provided significant support in construction and upgrading of local rural roads, water supply and sanitation. MTL is has conducted various training programs too. Till date more than twenty million amount has been expended in social infrastructure development and mitigation works.