

# **EXPRESSION OF INTEREST (EOI)**

**Title of Consulting Service:  
DOED/EOI/05/NCB/2075/76/S**

**Method of Consulting Service: National**

**Project Name : Feasibility and Environmental Impact Assessment (EIA) study  
of Middle Inkhu Hydropower Project (25.3 MW), Solukhumbu District**

**EOI : DOED/EOI/05/NCB/2075/76/S**

**Office Name: Department of Electricity Development**

**Office Address: Sanogaucharan, Gyaneshwor Kathmandu**

**Funding agency : Government Budget**

## **ABBREVIATIONS**

CV	-	Curriculum Vitae
DoED	-	Department of Electricity Development
EA	-	Executive Agency
EOI	-	Expression of Interest
GON	-	Government of Nepal
MOFE	-	Ministry of Forest and Environment
MoEWRI-		Ministry of Energy, Water Resource and Irrigation
PAN	-	Permanent Account Number
PPA	-	Public Procurement Act
PPR	-	Public Procurement Regulation
PRoR	-	Peaking Run-off River
RoR	-	Run-off River
TOR	-	Terms of Reference
VAT	-	Value Added Tax

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## **A. Request for Expression of Interest**

# Request for Expression of Interest

## Government of Nepal (GoN)

Name of Employer: Department of Electricity Development

Date: 30-04-2019 05:00

Name of Project: Feasibility and Environmental Impact Assessment (EIA) study of Middle Inkhu Hydropower Project (25.3 MW), Solukhumbu District

1. Government of Nepal (GoN) has allocated fund toward the cost of Feasibility and Environmental Impact Assessment (EIA) study of Middle Inkhu Hydropower Project (25.3 MW), Solukhumbu District and intend to apply portion of this fund to eligible payments under the Contract for which this Expression of Interest is invited for National consulting service
2. The Department of Electricity Development now invites Expression of Interest (EOI) from eligible consulting firms (“consultant”) to provide the following consulting services: Feasibility and Environmental Impact Assessment (EIA) study of Middle Inkhu Hydropower Project (25.3 MW), Solukhumbu District
3. Interested eligible consultants may obtain further information and EOI document free of cost at the address Department of Electricity Development, Department of Electricity Development  
Sanogaucharan, Gyaneshwor  
Kathmandu, Nepal during office hours on or before 21-05-2019 12:00 or visit e-GP system [www.bolpatra.gov.np/egp](http://www.bolpatra.gov.np/egp) or visit the client’s website <http://doed.gov.np/>
4. Consultants may associate with other consultants to enhance their qualifications.
5. Expressions of interest shall be delivered online through e-GP system [www.bolpatra.gov.np/egp](http://www.bolpatra.gov.np/egp) on or before 21-05-2019 12:00
6. In case the last date of obtaining and submission of the EOI documents happens to be a holiday, the next working day will be deemed as the due date but the time will be the same as stipulated.
7. EOI will be assessed based on Qualification 35.0 %, Experience 55.0 %, and Capacity 10.0 % of consulting firm and key personnel. Based on evaluation of EOI, only shortlisted firms will be invited to submit technical and financial proposal through a request for proposal.
8. Minimum score to pass the EOI is 60

## **B. Instructions for Submission of Expression of**

# Instructions for Submission of Expression of Interest

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms.
2. Interested consultants must provide information indicating that they are qualified to perform the services (descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions, general qualifications and the key personnel to be involved in the proposed assignment).
3. This expression of interest is open to all eligible consulting firm/ company/ organization or JV of consulting firm/ company/ organization.
4. In case, the applicant is individual consultant, details of similar assignment experience, their location in the previous 4 years and audited balance sheet and bio data shall be considered for evaluation.
5. The assignment has been scheduled for a period of 24 months. Expected date of commencement of the assignment is October 2019.
6. A Consultant will be selected in accordance with the QCBS method.
7. Expression of Interest should contain following information:
  - (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
  - (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
    - EOI Form: Letter of Application (Form 1)
    - EOI Form: Applicant's Information (Form 2)
    - EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))
    - EOI Form: Capacity Details (Form 4)
    - EOI Form: Key Experts List (form 5).
8. Applicants may submit additional information with their application but shortlisting will be based on the evaluation of information requested and included in the formats provided in the EOI document.
9. The Expression of Interest (EOI) document must be duly completed and submitted in sealed envelope and should be clearly marked as "EOI Application for Short-listing for the Feasibility and Environmental Impact Assessment (EIA) study of Middle Inkhu Hydropower Project (25.3 MW), Solukhumbu District. The Envelope should also clearly indicate the name and address of the Applicant. Alternatively, applicants can submit their EOI application through e-GP system by using the forms and instructions provided by the system.
10. The completed EOI document must be submitted on or before the date and address mentioned in the "Request for Expression of Interest". In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.

## **C. Objective of Consultancy Services or Brief TOR**



## **A. OBJECTIVE OF CONSULTANCY SERVICES OR BRIEF TOR**

### **1. OBJECTIVE OF STUDY**

The main objective of the consulting services is to conduct the Feasibility and EIA Study of the Middle Inkhu Hydropower Project. The current consulting service seeks the attractiveness of the Project for development. The Consultant needs to evaluate the viability of the project in technical, financial, socio-economic, institutional, and environmental along with other relevant aspects of project development based on detailed field surveys, investigations analysis, design, cost estimate and economical & financial analysis.

The Feasibility Study shall include collection of secondary data, literature review, reconnaissance of project area, relevant baseline investigations, assessments and plans, alternative layout, optimization and cost estimates regarding technical, economic/financial, environmental, and socio-economic aspects, preparation of drawings, carry out economic and financial analysis within the stipulated time.

The objective is also to conduct an Environmental Impact Assessment (EIA) Study based on the plan and design of the project proposed at feasibility level including social safeguard related studies. The output should be in the form of a bankable report that will analyze and document all important aspects required for the formal approval of the project by concerned government authorities of Nepal as well as potential financing partners.

The Consultant shall follow National/International best practice during survey, design and report preparation in close coordination with DoED.

### **2. SCOPE OF WORKS**

The Consultant shall collect and review all available, relevant reports, data and information. The Consultant shall then identify and recommend the extent of studies that will be necessary to complete the full feasibility study and EIA study of the project. The Consultant shall submit all the drawings, formats, engineering calculations and reports to DoED for review. If DoED requires any changes, they shall be incorporated accordingly. However, the Inception Report must be accepted by DoED before any further work is embarked upon. The plant capacity should be designed based on the optimization study.

Topographic surveys and field investigations shall be described in the proposal and a program for this work shall be further detailed and updated in the Inception Report. The work plan prepared as part of the proposal shall be updated in light of the information collected and program for surveys and field investigations shall be updated. The work plan shall show all contemplated activities which will be performed during the course of the study work. The work shall be broken down into discrete elements and the duration, scheduling, and resources required for each element shall be displayed on Critical Path Method Scheduling.

The Consulting Service is divided into two components:

- Feasibility Study, and
- Environmental Impact Assessment (EIA) study including social safeguard related studies

Both of those services shall be carried out simultaneously. The Feasibility Study report shall contain, apart from other studies a short description of the EIA component, while the detailed report on EIA shall be presented separately. The Feasibility Study shall be carried out in accordance with this TOR. For any other matters not covered in the TOR, the Consultant should refer the Guidelines for Study of Hydropower Projects (2018) or equivalent study guideline for similar works and Design Guidelines, published by GoN. The EIA study will be carried out by the EIA team of the Consultant as per EPA and EPR in conjunction with the technical team of experts for the feasibility study. The study shall be carried out in accordance with the TOR and scope approved by the Ministry of Forest and Environment (MoFE), as per requirements of the prevailing Environment Protection Act, 2053 and the Environment Protection Rule, 2054 and its amendments.

The scope of works and details of the work for the Feasibility Study and Environmental Impact Assessment are described in the following section:

### **Scope of Work of Feasibility Study**

The scope of consulting services for the Feasibility Study shall include but not necessarily limited to the followings:

- Collect and review of previous study reports, manuals, standards, guidelines, legislations, policies & plans, maps, drawing etc.
- Conduct desk study and field reconnaissance survey, analyze the available data and identify data gap of previous study & recommend the further additional study needed with justification
- Prepare preliminary project layout for different alternatives in inception survey for further field survey and investigation
- Conduct engineering survey and field investigation for:
  - (i) Topographical surveys including L-section & X-section survey,
  - (ii) Hydrological studies, sediment studies and hydro-metrological surveys,
  - (iii) Geological survey, engineering geological mapping, geophysical & geotechnical investigations including drilling, seismicity/seismic study,
  - (iv) Construction materials survey and testing,
  - (v) Communication surveys for transportation of equipment,
  - (vi) Construction power survey,
  - (vii) Power evacuation survey,
  - (viii) Alignment survey of transmission line,
  - (ix) Alignment survey of access road,
- Compile, analyze outcome of field survey & investigation tests
- Carry out optimum project scheme selection and alternative configuration studies (RoR/PRoR/Storage).
- Prepare and establish design criteria for the design of all major project components and associated structures as per recognized best practices and applicable standards.

- Prepare conceptual/preliminary layout & design considering alternative configuration of project component and conduct optimization of the components & associated structures of hydropower project.
- Conduct planning and design of switchyard, transmission line and associated substation.
- Carry out design of the access road, project road, bridges and cross drainage structures.
- Conduct planning of office complex, camp site and their required facilities such as water supply system, power supply.
- Conduct engineering design of each component of hydropower project including civil structures, hydro-mechanical components, electro-mechanical components and associated structures of optimized options, prepare quantity estimate, cost estimate, prepare drawings, maps and reports as per requirement of scope of work detailed in subsequent heading.
- Prepare construction plan/schedule and project implementation plan.
- Conduct economic and financial analysis including sensitivity and risk analysis.
- Incorporate the recommendation of EIA study report in feasibility study report.
- Analyze and propose appropriate contract/implementation module and institutional arrangement for project implementation.
- Prepare a complete feasibility study report of the hydropower project including associated structure.

## **ENVIRONMENTAL IMPACT ASSESSMENT (EIA) STUDY**

The Consultant shall make a detail study of the project area and project affected area for the environmental impact (EIA) study including social safeguard related studies. The EIA study will be carried out by the EIA team of the Consultant in conjunction with the technical team of expert for the feasibility study. A separate detailed report of EIA shall be submitted to DoED. The Consultant shall be responsible to incorporate comments from DoED/MoEn/MoFE on behalf of DoED upto the final approval from MoFE.

### **Objective of EIA Study**

The objective of the Environmental Impact Assessment of the Project is to conduct the Environmental Impact Assessment of the Project in accordance with the requirements of the Environmental Protection Act, 2053 and Environmental Protection Rules, 2054 (with amendments) and safeguard policies with regard to environmental protection, resettlement and rehabilitation. The Consultant shall indicate in their proposal which practice and policy they intend to follow in the study. In general, Consultant shall adopt National/international best practice including ADB/WB Guidelines on social analysis.

### **Scope of Work of EIA Study**

The scope of work of the Environmental Impact Assessment study including social safeguard related studies of the Middle Inkhu Hydropower Project component, Resettlement Study, Fisheries and Recreational perspectives includes detailed field surveys, analyses and preparation of Scoping Report, TOR for EIA and EIA Report as per the Environmental Protection Act, 2053 and Environmental Protection Rules, 2054 (with amendment). The EIA study is to be carried out in two phases as follows:

A. Preparation of Scoping Document and Terms of Reference

B. Environmental Impact Assessment.

The scope of work to be covered under the Environmental Impact Assessment shall include, but not necessarily be limited to, the following:

- Collect and review previous studies, existing project reports, drawings, maps, related legislation, policies, manuals etc.
- Conduct desk study and preliminary reconnaissance survey, analyze the available data and identify data gap of previous study & recommend
- Delineate the project areas to be covered in the EIA study.
- Evaluate and analyze environmental and related legislation, environmental standards, policies, plans and international conventions for the EIA study.
- Identify the concerned authorities, interested organizations, affected communities and stakeholders to be consulted during the study.
- Collect baseline environmental data (physical, biological, socio-economic and cultural environment).
- Identify key environmental issues/impacts on physical, biological, socio-economic and cultural environment associated with project implementation.
- Analyze the significance of environmental impacts in terms of magnitude, extent and duration.
- Identify and analyze the various alternatives in planning and design of the projects from environmental considerations.
- Enable the authorities, stakeholders, local people, and affected communities to adequately participate in discussions/ hearings that dwell on the acceptability of the project, availability of alternatives, potential impacts and possible mitigation measures.
- Assess and estimate the number of families to be affected and displaced, and study their socio-economic conditions as well as ways for the betterment of their living status.
- Delineate the submergence areas due to the creation of reservoirs.
- Assess and estimate the loss of natural resources due to the creation of reservoirs; assess impacts on the physical, biological, socio-economic, cultural, infrastructure and livelihood aspects at different dam heights.
- Propose pragmatic, specific and cost-effective mitigation measures to avoid or minimize potential adverse environmental impacts and suggest enhancement measures to enhance the beneficial impacts.
- Prepare an environmental management plan to implement the proposed mitigation measures.
- Prepare environmental monitoring plans.
- Prepare environment auditing plans.
- Monitor water quality, air quality, and noise levels for establishment of baseline monitoring data.
- Identify the potential areas for resettlement of the displaced families.
- Prepare resettlement and rehabilitation plans for project affected and displaced families.

- Carry out soil suitability survey and plant species survey from agriculture perspective for implementation of possible agricultural livelihood enhancement programs.
- Conduct public hearings at least two in locations within the project areas.
- Inform decision-makers and interested parties about the environmental implications of the proposed projects.
- Prepare and submit Scoping, ToR and EIA Reports as per the requirements set forth in the environmental legislation.
- Present the Scoping Report, ToR and EIA Reports to TAG/DoED and Review Committees.
- Incorporate the comments provided by the Client and agencies in authority.
- Organize workshops to disseminate the outcomes of the study.
- Meet the reporting requirement as specified in this ToR and environmental legislation.

The Consultant has to cover all these scopes of work for field survey and investigation and preparation of reports.

## **D. Evaluation of Consultant's EOI Application**

# Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

## i) Eligibility & Completeness Test

Sl. No.	Criteria Title	Compliance
1	Corporate Registration	
2	Tax Clearance/Tax Return Submission for FY 2074/75	
3	VAT/PAN Registration	
4	EOI Form 1: Letter of Application	
5	EOI Form 2: Applicant's Information Form	
6	EOI Form 3: Experience (3(A) and 3(B))	
7	EOI Form 4: Capacity	
8	EOI Form 5: Qualification of Key Experts	

## ii) EOI Evaluation Criteria

### A. Qualification

Sl. No.	Criteria	Minimum Requirement
1	Qualification of Key Experts	Minimum Bachelor's Degree in relevant subjects for Electrical Engineer, Mechanical Engineer, Senior Surveyor, Road Engineer, Cost/Quantity Estimator. For all remaining experts: Minimum Master's Degree in relevant subject.
2	Experience of Key Experts	For Team Leader : minimum 20 years of experience after graduation. For. EIA Expert (EIA Team Leader/ Coordinator): minimum 15 years of experience after graduation. For all other experts: minimum 10 years of experience after graduation.

Score: 35.0

### B. Experience

Sl. No.	Criteria	Minimum Requirement
1	General Experience of consulting firm	Minimum of 5 years of General Work Experience of the firm (Lead firm in case of JV) in Engineering Discipline
2	Specific experience of consulting firm within last 7 years. In case of person, specific experience of the person within last 4 years.	1. Work experience of the firm in Pre-feasibility/ Feasibility Study of Hydropower Projects in the last 7 Years. At least one project must be of more than 25 MW to obtain the marks under this sub-heading. Capacity of a project less than 10 MW will not be counted for calculating cumulative capacity. 2. Work experience of the firm in Detailed Engineering Design (studies)/ Detail Project Report (DPR)/ Construction Supervision of Hydropower Projects in the last 7 Years. At least one project must be of more than 25 MW to obtain the marks under this sub-heading. Capacity of a project less than 10 MW will not be counted for calculating cumulative capacity. 3. Work experience of the firm in EIA/IEE of Hydropower Projects in the last 7 Years. At least one project must be of more than 25 MW with EIA study to obtain the

Sl. No.	Criteria	Minimum Requirement
		marks under this sub-heading. Only the projects having capacity more than 10 MW will be counted for evaluation.

**Score: 55.0**

**C. Capacity**

Sl. No.	Criteria	Minimum Requirement
1	Financial Capacity	Minimum Average annual Turnover of more than NRs. 16 Million for best three years of last seven consecutive fiscal years
2	Infrastructure/equipment related to the proposed assignment.[This Evaluation criteria should be deleted if infrastructure/equipment are not the part of the proposed assignment]	Not Applicable

**Score: 10.0**

**Minimum score to pass the EOI is: 60**



## **E. EOI Forms & Formats**

## **E. EOI Forms & Formats**

Form 1. Letter of Application

Form 2. Applicant's information

Form 3. Experience (*General, Specific and Geographical*)

Form 4. Capacity

Form 5. Qualification of Key Experts

**Standard EOI Document**

**1. Letter of Application**

*(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)*

Date: .....

To,

Full Name of Client: \_\_\_\_\_

Full Address of Client: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Email Address: \_\_\_\_\_

Sir/Madam,

1. Being duly authorized to represent and act on behalf of (hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided, the undersigned hereby apply to be short-listed by **[Insert name of Client]** as Consultant for **[Insert brief description of Work/Services]**.
2. Attached to this letter are photocopies of original documents defining:
  - a) the Applicant's legal status;
  - b) the principal place of business;
3. **[Insert name of Client]** and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.
4. **[Insert name of Client]** and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.<sup>1</sup>
5. All further communication concerning this Application should be addressed to the following person,  
  
*[Person]*  
  
*[Company]*  
  
*[Address]*  
  
*[Phone, Fax, Email]*
6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or

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<sup>1</sup> Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

**Standard EOI Document**

business and our Company/firm has not been declared ineligible.

7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.
8. The undersigned declares that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

**Signed** :

**Name** :

**For and on behalf of (name of Applicant or partner of a joint venture):**

**Standard EOI Document**

**2. Applicant's Information Form**

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

1. Name of Firm/Company:
2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd/ Public Sector/ NGO*)
3. Date of Registration / Commencement of Business (*Please specify*):
4. Country of Registration:
5. Registered Office/Place of Business:
6. Telephone No; Fax No; E-Mail Address
7. Name of Authorized Contact Person / Designation/ Address/Telephone:
8. Name of Authorized Local Agent /Address/Telephone:
9. Consultant's Organization:
10. Total number of staff:
11. Number of regular professional staff:

*(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)*

**Standard EOI Document**

**3. Experience**

**3(A). General Work Experience**

*(Details of assignments undertaken. Each consultant or member of a JV must fill in this form.)*

<b>S. N.</b>	<b>Name of assignment</b>	<b>Location</b>	<b>Value of Contract</b>	<b>Year Completed</b>	<b>Client</b>	<b>Description of work carried out</b>
1.						
2.						
3.						
4.						
5.						
6.						
7.						

**Standard EOI Document**

**3(B). Specific Experience**

**Details of similar assignments undertaken in the previous seven years**

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

Assignment name:	Approx. value of the contract (in current NRs; US\$ or Euro) <sup>2</sup> :
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of person-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current NRs; US\$ or Euro):
Start date (month/year): Completion date (month/year):	No. of professional person-months provided by the joint venture partners or the Sub-Consultants:
Name of joint venture partner or sub-Consultants, if any:	Narrative description of Project:
Description of actual services provided in the assignment:  <b>Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment.</b>	

Firm's Name: \_\_\_\_\_

<sup>2</sup> Consultant should state value in the currency as mentioned in the contract

**Standard EOI Document**

**3(C). Geographic Experience**

**Experience of working in similar geographic region or country**

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

<b>No</b>	<b>Name of the Project</b>	<b>Location (Country/ Region)</b>	<b>Execution Year and Duration</b>
1.			
2.			
3.			
4.			
5.			
6.			
7.			



**Standard EOI Document**

**4. Capacity**

**4(A). Financial Capacity**

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

<b>Annual Turnover</b>	
<b>Year</b>	<b>Amount Currency</b>

- **Average Annual Turnover**

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*(Note: Supporting documents for Average Turnover should be submitted for the above.)*

**Standard EOI Document**

**4(B). Infrastructure/equipment related to the proposed assignment<sup>3</sup>**

<b>No</b>	<b>Infrastructure/equipment Required</b>	<b>Requirements Description</b>
<b>1.</b>		
<b>2.</b>		
<b>3.</b>		
<b>4.</b>		
<b>5.</b>		

---

<sup>3</sup> Delete this table if infrastructure/equipment for the proposed assignment is not required.

**Standard EOI Document**

**5. Key Experts** *(Include details of Key Experts only)*

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

<b>SN</b>	<b>Name</b>	<b>Position</b>	<b>Highest Qualification</b>	<b>Work Experience (in year)</b>	<b>Specific Work Experience (in year)</b>	<b>Nationality</b>
1						
2						
3						
4						
5						

(Please insert more rows as necessary)

## **A. PROJECT DESCRIPTION**

### **Project Location**

Middle Inkhu Hydropower Project is located in Solukhumbu District of the Province No. -1 (previously Eastern Development Region) of Nepal and it is situated at the upstream of the Inkhu Khola Small Hydropower Project which is under study by Department of Electricity Development and at the downstream of the Upper Inkhu Khola Hydropower Project which is under study by Universal Power Company Pvt. Ltd. The project area lies in the vicinity of Waku and Pawai VDC located about 35 km from Salleri Bazaar approachable via Phaplu Airport. Geographically, the proposed project lies in between latitude 27° 31' 30" N to 27° 34' 00" N and Longitude 86° 45' 00" E to 86° 47' 00" E. The headworks site is located at Pawai VDC near Juge which is about 5 km upstream from the powerhouse site near Danki in Pawai.

Project Coordinate

Longitude	86° 45' 00" E	86° 47' 00" E
Latitude	27° 31' 30" N	27° 34' 00" N

### **Physiography**

Physiographically, the project area belongs to the Middle Mountains of the Lesser Himalayan region, while the upper catchment of the Inkhu Khola extends also to the High Mountain region covering the zones of snow and glaciers.

### **Climate and Hydrology**

The altitude of the Inkhu Khola basin varies from about 850 m amsl to more than 6700 m amsl; as a result, this basin experiences all types of climate from Temperate to Alpine. Since the project area is located below the elevation of 1600 m amsl, it has a temperate type of climate. This area is also influenced by the south-easterly monsoon rain. Hence, about 80% of total rainfall occurs here during monsoon season, i.e. from middle June to middle September. Based on available district records of the climatological data, the basin rainfall has been estimated to about 1735 mm per year; the mean daily temperature in the area varies from 0.7oc in the month of January to 16.3oc in the month of July; and the extreme minimum and maximum reaches to -9.8oc and 23oc respectively. The average relative humidity varies from 44 % to 98 %.

Inkhu Khola is one of the tributaries of Dudh-Koshi River. It has four main tributaries, Cherem, Chambu, Mojang and Same Khola. The total catchment area of the Inkhu Khola at the intake as per the desk study level is 257 km<sup>2</sup>. The river lacks discharge measuring gauging stations. There are many high-altitude lakes in the basin above the intake site indicating possibilities of comparatively higher flows in the dry season.

### **Geology**

Geologically, Inkhu Khola lies in the Lesser Himalaya of eastern Nepal. According to the geological map of eastern Nepal, the project area falls on the Seti formation of Pokhara Sub-group of Midland Group. Medium

grade metamorphic rocks such as Phyllite and quartzite are the prominent rock types at and around the project vicinity.

### **Access**

Salleri, the headquarter of the Solukhumbu district, is the nearest city from Project. There is a road connecting Salleri to Kathmandu which is about 260 km long via the newly constructed Banepa- Bardibas road and Ghurmi in Udaypur District. Salleri can be reached in one day through this road.

More than two-third stretches of this road is blacktopped. There on, a fair-weather road of length about 24 km has been already constructed from Salleri to Budi Danda. There is a fair weathered motarable road upto Sotang Rural Municipality which takes about two days from Kathmandu.

### **Availability of Electricity**

At present an isolated 400 KW Salleri - Chialsa Hydroelectric plant supplies electricity to Salleri Bazar and its vicinity. The planned nearest substation, to which the Solu Corridor transmission line (under construction by NEA) is expected to be extended, will be located in Lammane, Tingla VDC of Solukhumbu District.

### **General Project Layout**

The general layout of the project is presented below on schematic form for reference which has to be finalized after field works.

### **Project capacity**

The weir crest level is envisaged at an elevation of 1720.00 masl and center line of runner at powerhouse at an elevation of 1280.00masl which gives gross head of total 440.00m and corresponding power utilizing tentative design discharge of 7.72 cubic meters ( $Q_{45\%}$ ) shall be as follows.

Design Discharge (Qd)	= 7.72 cumecs
Gross head (Hg)	= 440m
Net head (Hn)	= 418m
Installed capacity	= 25.3 MW

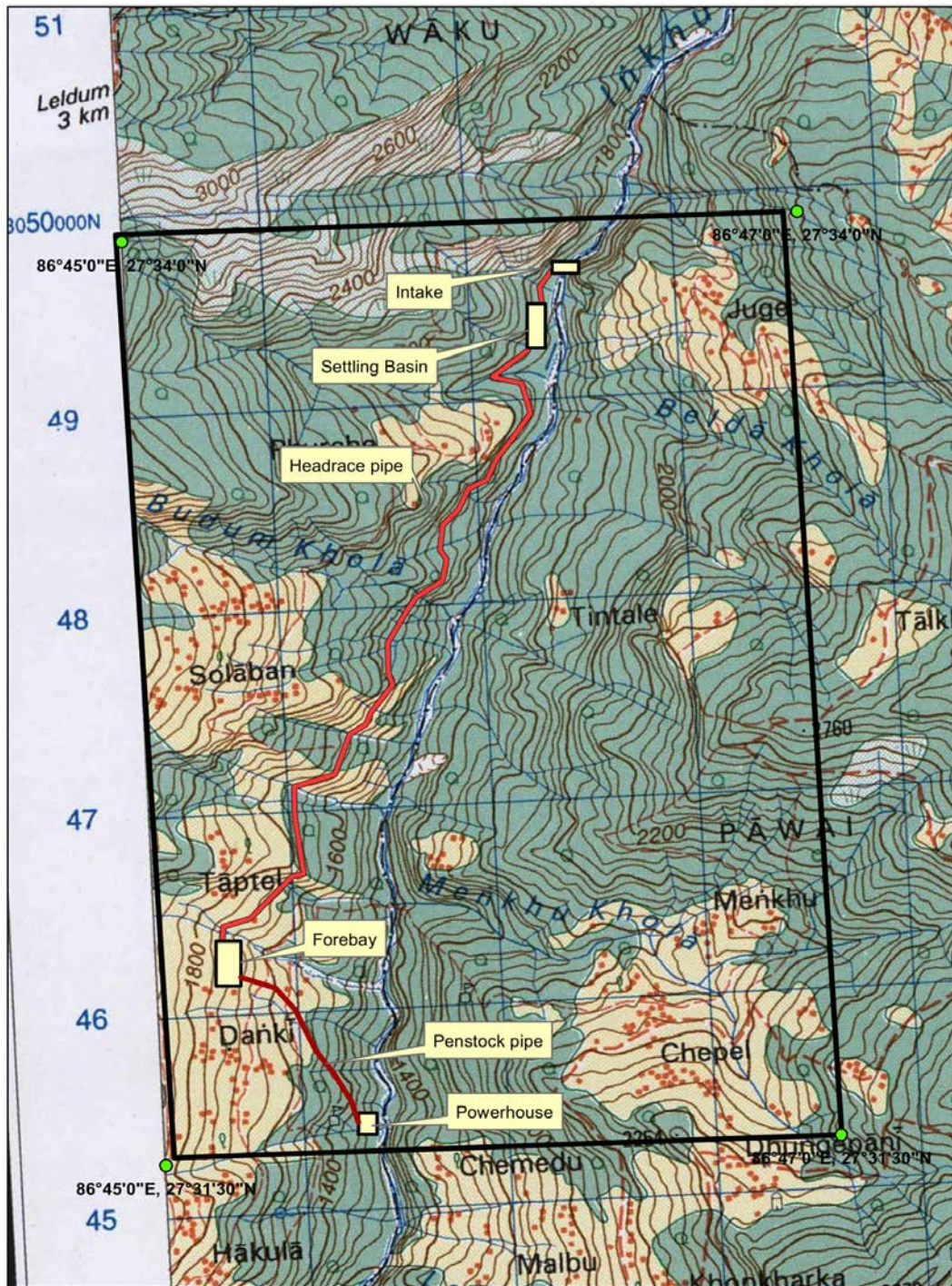


Figure 1 Layout of Middle Inkhlu Hydropower Project

The above-mentioned project capacity and project layout is approximate. Consultant shall propose final layout and the project capacity based on the detail study of the project. The change in project capacity and layout are not linked with the payment amount for the consultancy service.

## **ADDITIONAL INFORMATION**

- a. The information furnished by the Firm(s) in the EOI document should be realistic. If any faulty information is found, legal action may be taken as per prevailing rules and regulations.
- b. The Consultant must put the signature of authorized representative and stamp of company on each and every page of the EOI. In absence of signature of authorized representative and stamp of company, the particular page will not be considered for evaluation.
- c. The relevant figures/numbers of each members of joint venture shall be added together to calculate cumulative figures/numbers of the joint ventures for the purpose of evaluation of experience and turnover of the firm(s).
- d. The projects listed in Form - 3 (Experience) for work experience of the firm will be considered for evaluation. The experience of the projects not listed in Form - 3 will not be considered for evaluation.
- e. In case of the firm's experience, if the completion certificate is issued by a private Client, the firm should mention the name of the public entity where the study reports were submitted; otherwise the experience will not be accounted for evaluation.
- f. The experience of the firm shall be supported with **notarized copies** of experience/completion certificates in the form of experience/ completion certificates showing the name & type of consulting service, project size and date of completion of the assignment as given in Form -3. The experience of the firm without evidence/proof or experience certificate will not be considered for evaluation. The data/figure such as name & type of consulting service, project size and date of completion of the assignment mentioned in experience/ completion certificates will only be considered as authentic and will only be considered for evaluation purpose. If these required data/figures are not mentioned in experience/ completion certificates, these data will not be considered from elsewhere such as data sheet. If copy of experience/ completion certificate is not notarized, the particular non-notarized copy document will not be considered for evaluation.
- g. For experience of the firms in IEE/EIA study projects, the IEE/EIA study of projects which were approved as per the prevailing Environmental Protection Act, 1997 and the Environmental Protection Rule 1997 will only be considered for evaluation. For the evidence of IEE/EIA approval, firms should submit IEE/EIA approval letter issued by public entity. Otherwise such experience will not be accounted in evaluation.
- h. Only study completed project will be considered for evaluation. The ongoing study or partially study completed project will not be considered for evaluation.
- i. Marks will be given only to the key professionals as listed under List of Key personnel. If Consultant propose alternate professional in designated post, minimum marks obtained of professional will be considered for evaluation.
- j. Public/Semi-public entities' employees need to submit official no objection letter to provide consultancy services. In absence of official no objection letter, such professional will not be evaluated.
- k. Pass year and month of educational degree of the key professional shall also be mentioned in Form - 5. If the month of degree is not mentioned, the month of December of mentioned year will be considered for evaluation. If pass year of education is not mentioned, the education degree will not be considered for evaluation.
- l. Firm shall not propose the same key professional for more than one designation for the same job. If so proposed, the respective person will not be accounted in the evaluation for any designation.
- m. Any key-professionals should not be proposed more than one time either by same firm or different firms (entity) for same job. If proposed more than one time, that professionals will not be considered for evaluation in any of the firm.

- n. Any key personnel should not be proposed more than two times either by same firm or different firms (entity) for the any assignment of specified Jobs in the EOI notice published in The Rising Nepal daily on April 24, 2019 (2076/01/11) and Jobs published in this EOI notice of April 30, 2019. If proposed more than two times the respective professionals will not be considered for evaluation in any of the EOIs.
- o. The average annual turnover of the Firm/Company shall be calculated in Net Present Value using inflation index of Nepal Rastra Bank. Exchange rate shall be considered the rate as on the last date of submission of EOI.
- p. If DoED finds the proposed key professional doubtful regarding education, experience or any issues then such professional may be asked to appear in DoED for verification. Failing to appear in such verification will lead to disqualification of the respective firm or JV of the firms.
- q. In case of a joint venture, the Consultant must submit the joint venture agreement duly signed by authorized signatories & stamped with company seal of each member of joint venture in every page of JV agreement & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each member, share percentage, name of the authorized signatories. In case of failure to submit joint venture agreement between each JV partner, the EOI will be considered as non-responsive and will not be considered for evaluation. Similarly, the JV agreement should be signed by authorized representative having power of attorney to sign the JV agreement. The signature of authorized representatives & stamp of companies should be in each page of JV agreement. If JV agreement is not signed with by authorized representative having power of attorney, the EOI will be considered as non-responsive and will not be considered for evaluation.
- r. The Consultant must submit power of attorney of authorized signatories to sign JV agreement and submit the EOI from their respective firm with signature & stamp of each member of JV. Such Power of attorney of authorized signatories of JV shall have been issued by executive head of organization such as Board, Managing Director, CEO or Chairperson, etc. If otherwise, the EOI will be considered as non-responsive and will not be considered for evaluation.
- s. **In addition to above notes:** The professional proposed by the firm if found being involved in ongoing jobs either through same firm or different firm(s) such professional will not be considered in evaluation.



## **A. List of Key Personnel/Professionals**

### **Feasibility Study**

1. Team Leader (Hydropower Engineer)
2. Hydropower Engineer
3. Structural Engineer
4. Geotechnical Engineer
5. Geologist/ Eng. Geologist
6. Hydrologist/ Sedimentologist
7. Hydraulic Engineer
8. Electrical Engineer
9. Hydro Mechanical Engineer
10. Highway/ Road Engineer
11. Senior Surveyor
12. Economist/ Financial Analyst
13. Cost/ Quantity Estimator (Civil Engineer)

### **EIA Study**

14. EIA Expert (EIA Team Leader/ Coordinator)
15. Environmental Engineer/ Environmentalist
16. Sociologist/ Anthropologist
17. Zoologist/ Aquatic Life Expert
18. Botanist/ Ecologist/ Forest Expert
19. EMP Expert
20. Resettlement Expert