Government of Nepal

Ministry of Energy, Water Resources and Irrigation

DEPARTMENT OF ELECTRICITY DEVELOPMENT

Sanogaucharan, Kathmandu

# EXPRESSION OF INTEREST (EOI)

FEASIBILITY AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) STUDY OF

## Dadagau Khalanga Bheri HPP (80.5MW), Jajarkot

(DOED/EOI-06/NCB/2078/79/S)

National Consulting Service

Financing Agency: Government of Nepal

June 30, 2021

## 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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# NOTICE FOR EXPRESSION OF INTEREST (EOI)

Government of Nepal
Ministry of Energy, Water Resource and Irrigation
Department of Electricity Development
Date: Wednesday, June 30, 2021

Request for Expression of Interest (EOI) for the

**Feasibility and Environmental Impact Assessment Study of Dadagau Khalanga Bheri HPP (80.5MW), Jajarkot**

1. Government of Nepal (GoN) has allocated fund toward the cost of Feasibility and Environmental Study of Various Hydropower Projects and intends to apply a portion of this fund to eligible payments under the Contract for which this Expression of Interest is invited for *National* consulting services.
2. The *Department of Electricity Development (DOED)* 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

| EOI Number | Project Name |
|---|---|
| DOED/EOI-01/NCB/2078/79/S | Feasibility and Environmental Impact Assessment (EIA) Study of Upper Hongu HPP (32MW), Solukhumbu |
| DOED/EOI-02/NCB/2078/79/S | Feasibility and Environmental Impact Assessment (EIA) Study of Super Budhigandaki HPP (33.9MW), Gorkha |
| DOED/EOI-03/NCB/2078/79/S | Feasibility and Environmental Impact Assessment (EIA) Study of Marsyangdi 3 HPP (41MW), Lamjung |
| DOED/EOI-04/NCB/2078/79/S | Feasibility and Initial Environmental Examination (IEE) Study of Tila HPP (42.46MW), Kalikot and Jumla |
| **DOED/EOI-05/NCB/2078/79/S** | **Feasibility and Environmental Impact Assessment (EIA) Study of Tom Dogar (Budhi Gandaki) HPP (43MW), Gorkha** |
| **DOED/EOI-06/NCB/2078/79/S** | **Feasibility and Environmental Impact Assessment (EIA) Study of Dadagau Khalanga Bheri HPP (80.5MW), Jajarkot** |

3. Interested eligible consultants may obtain further information and EOI document free of cost at the address Procurement Unit, UDepartment of Electricity Development (DOED) during office hours on or before Thursday, July 15, 2021 12:00 noon or visit e-GP system *www.bolpatra.gov.np/egp* or visit the client's website *https://www.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 on or before *Thursday, July 15, 2021* 12:00 noon. The opening of EoI will take place on same date at 2:00 PM.
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 [30%], Experience [60%], and Capacity [10%] 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 out of total 100 Marks.

# 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 and the maximum number of partners in JV shall be limited to three.
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***.
4. The assignment has been scheduled for a period of ***30 months.*** Expected date of commencement of the assignment is ***November 2021.***
5. A Consultant will be selected in accordance with the ***Quality (80%) and Cost (20%) Based Selection (QCBS)*** method.
6. Expression of Interest should contain following information:
    a. A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
    b. Applicants shall provide the following information in the respective formats given in the EOI document:
        i. EOI Form: Letter of Application (Form 1)
        ii. EOI Form: Applicant's Information (Form 2)
        iii. EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))
        iv. EOI Form: Capacity Details (Form 4)
        v. EOI Form: Key Experts List (form 5).
7. 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.
8. The Expression of Interest (EOI) document must be duly completed and submitted through e-GP system by using the forms and instructions provided by the system.
9. 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.

# OBJECTIVE OF CONSULTANCY SERVICES OR BRIEF TOR

The study is divided into two major components, which are:

1. Feasibility Study and
2. Environmental Impact Assessment Study

Both components shall be carried out simultaneously. The Consultant shall conduct necessary literature review, collect and prepare relevant data, carryout necessary field survey and investigation, select proper project layout including ROR/PROR, optimize & design project components, prepare drawings and cost estimates and assess financial and economic viability of the project. The EIA Study shall be carried out by the EIA team of the Consultant in conjunction with the technical team of experts involved in the feasibility study. The feasibility study report shall consider and contain, apart from the findings of feasibility study, the outputs, conclusions, and recommendations of environmental study.

## Scope of Work of Feasibility Study

The scope of consulting services for the Feasibility Study shall include, but not necessarily limit, to the following:

A. Collect and review previous study reports, manuals, standards, guidelines, legislations, policies & plans, maps, drawing etc.

B. Conduct desk study and field reconnaissance survey, analyze the available data and identify data gap of previous study & recommend for further additional study needed, along with justifications.

C. Conduct alternative configuration studies by proposing various options for suitable project schemes and layouts with varying dam and/ or powerhouse locations within the project boundary.

D. Conduct optimization studies for selection of the best option of alternative layouts based on the optimum use of resources and recommend the best alternative (or shortlisted alternatives) during the inception report phase for further study of the project. The Consultant shall provide due consideration to the upstream and downstream hydropower projects and shall study different options of operation scheme as RoR or PRoR and propose the most suitable scheme along with the most suitable project layout. The project features presented in this ToR or any previous study shall only act as a reference and shall not form any basis for the Consultant to adhere on those options alone. The Consultant shall be responsible for recommendation of the suitable project scheme and layout.

E. Conduct engineering survey and field investigation for:

   i. Topographical surveys including bathymetric survey, Longitudinal section & Cross section survey,

   ii. Hydrological studies, sediment studies and hydro-meteorological 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,

   x. Compile and analyze the outcome of field survey & investigation tests

F. Optimize the Project's design discharge based on the hydrology, optimum power/ energy generation and prevalent rates of energy in the Nepalese power market.

G. Carry out further study of the most suitable project layout and conduct engineering design of the project components.
H. Prepare design criteria for the design of all major project components and associated structures as per recognized best practices and applicable standards. The Project's Design Basis Memorandum (DBM) shall be included in the interim design phase of the study in the Interim Design report.
I. Conduct engineering design of each component of the hydropower project including civil structures, hydro-mechanical components, electro-mechanical components and associated structures of optimized options along with planning and design of switchyard, transmission line and associated substation with auxiliary equipment.
J. Conduct numerical hydraulic modeling for simulation of floods, computation of high flood levels, development of rating curves and Dam break analysis.
K. Assess power and energy generation from the project.
L. Conduct power market study and power evacuation study to the Integrated Nepalese Power System.
M. Carry out design of the access road, project road, bridges, and cross drainage structures.
N. Conduct planning of office complex, campsite, and their required facilities such as water supply system, power supply.
O. Prepare quantity estimates, rate analysis, cost estimates, cash flows, design drawings, maps and reports as per requirement of scope of work detailed in subsequent heading.
P. Prepare construction plan/schedule and project implementation plan.
Q. Conduct economic and financial analysis including sensitivity and risk analysis.
R. Incorporate the recommendation of EIA study report in feasibility study report.
S. Analyze and propose appropriate contract/implementation module and institutional arrangement for project implementation.
T. Prepare feasibility study report with complete documentation of the actual design including all design principal criteria, parameters and standards used for the design, financial/ economic analysis, all major calculations, and drawings in workable formats (.xls, .dwg etc.) which are to be handed over to DoED.

## Scope of Work for Environmental Impact Assessment (EIA) Study

The consultant shall conduct Initial Environmental Examination study as per EPA, 2076 and EPR, 2077 and its amendments. The consultant shall collect baseline information (physical, biological, socio-economic & cultural). The consultant shall identity project activities, examine environmental issues and impacts, conduct alternative analysis propose mitigation measure and environmental management plan. The EIA study will be carried out by the EIA study team in conjunction with the technical team of expert for the feasibility study. The study team for EIA should contain hydropower engineer (if we will use from feasibility, they should have qualities as per EPR 2077).

The EIA study is to be carried out in two phases as follows:

a) Preparation of Scoping Document and Terms of Reference (ToR)
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.
- 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 or 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 (EMP) 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.
- The measurement of air quality in various components and reservoir areas (at least one per season) and Noise level should be included.
- The cadastral survey, and total enumeration of household affected should be included.
- It is better to include Fish conservation and Management plan (including fish survey in four seasons) should be prepared.
- It is better to include Resettlement and Rehabilitation plan preparation.
- The dam break analysis should be included.
- The total enumeration of public, private and other goods that are affected by the project should be also included.
- Time duration between draft EIA and Final EIA report should be more than 4 months.
- Carry out soil suitability survey and plant species survey from agriculture perspective for implementation of possible agricultural livelihood enhancement programs.
- Conduct public hearings.
- 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 TSG/DoED and Review Committees.
- Incorporate the comments provided by the client and agencies in authority.
- Conduct all the activities, public interaction program, survey, study as guided by the approved ToR of EIA.

# EVALUATION OF CONSULTANT'S EOI APPLICATION

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

## I) ELIGIBILITY & COMPLETENESS TEST

The Consulting Company/ Firm must submit the following eligibility criteria to take part in the evaluation process.

| SN | ELIGIBILITY & COMPLETENESS DOCUMENT | COMPLIANCE |
|---|---|---|
| 1 | Notarized Copy of Registration of the Company/ Firm | Yes |
| 2 | Notarized Copy of VAT/PAN Registration | Yes |
| 3 | Notarized Copy of Tax Clearance Certificate *for FY 2076/77* | Yes |
| 4 | In case of a natural person or firm/institution/company which is already declared blacklisted and ineligible by the GoN, any other new or existing firm/institution/company owned partially or fully by such Natural person or Owner or Board of director of blacklisted firm/institution/company; shall not be eligible consultant. | Yes |
| 5 | JV agreement, if applicable | Yes |
| 6 | EOI Form 1: Letter of Application | Yes |
| 7 | EOI Form 2: Applicant's Information Form | Yes |
| 8 | EOI Form 3: Experience (3(A) and 3(B)) | Yes |
| 9 | EOI Form 4: Capacity | Yes |
| 10 | EOI Form 5: Qualification of Key Experts | Yes |

## II) EOI EVALUATION CRITERIA

| | | | | | |
|---|---|---|---|---|---|
| **1** | **Proposed Key Professionals for the Study (Qualification & Experience)** | | | | **30 Points** |
| **I** | **Qualification of the Key Personnel in relevant discipline** | | | | **10** |
| | *Marks will be equally distributed among the list of key Personnel /Professionals* | | | | |
| A | Higher Qualification than minimum requirement | | | 100% | |
| B | Minimum Required Qualification | | | 85% | |
| **II** | **Experience of the Key Professionals after qualification in basic degree** | No. of Experts | Each Mark | Total Mark | **20** |
| *1* | *K1: Team Leader* | 1 | 2.00 | 2.00 | |
| *2* | *K18: EIA Coordinator/Team Leader* | 1 | 1.50 | 1.50 | |
| *3* | *K2: Hydropower Engineer, K3: Geologist/ Eng. Geologist, K4: Geophysist, K5: Geotechnical Engineer, K6: Dam /Structural Engineer, K7: Hydraulic Engineer, K8: Hydrologist/ Sedimentologist, K9: Electrical Engineer, K11: Hydromechanical Engineer, K14: Construction Planner, K15: Power System Engineer, K16: Economist/ Financial Analyst, K19: EMP Expert, K20: Environmentalist/ Environmental Eng., K21: Sociologist/ Anthropologist, K22: Botanist/ Forest Expert/Zoologist, K23: Aquatic Life Expert, K24: Resettlement Expert* | 18 | 0.81 | 14.50 | |
| *4* | *K10: Road/Highway Engineer, K12: Civil cum AutoCAD Engineer, K13: Cost Estimator, K17: Senior Surveyor* | 4 | 0.50 | 2.00 | |

***NOTE: Min. Requirement of the Experts are as shown in section "Lists of Key Experts and their Min. Requirement"***

| | | | | |
|---|---|---|---|---|
| **2** | **Work Experience of the Firm** | | | **60 Points** |
| **2a** | **General Work Experience** | | | **10** |
| | *Mark obtained by each JV partner will be averaged for total mark calculation under this sub criterion.* | | | |
| | **Years of Establishment of the Firm** | **Lead Firm** | **Partner** | |
| A | More than 15 years | 100% | 100% | |
| B | 10-15 years | 85% | 85% | |
| C | 5-10 years | 70% | 70% | |
| D | Less than 5 years | 0% | 60% | |
| **2b** | **Specific Experience of the firm in last 7 years** | | | **50** |
| **I** | **Work experience of the firm in Feasibility Study or Detailed Engineering Design (Studies) /Detail Project Report (DPR) of Hydropower Projects based on numbers of projects.** | | | **20** |
| | *Only the projects having capacity more than 64 MW will be considered for evaluation.* | | | |
| | *At least one project should be of 81 MW capacity* | | | |
| A | 3 or more than 3 projects | | 100% | |
| B | 2 Projects | | 85% | |
| C | 1 Project | | 70% | |
| **II** | **Work experience of the firm in Feasibility Study or Detailed Engineering Design (Studies) /Detail Project Report (DPR) of Hydropower Projects based on capacity of project.** | | | **20** |
| | *Only the projects having capacity more than 64 MW will be considered for evaluation.* | | | |
| | *At least one project should be of 81 MW capacity* | | | |
| A | Cumulative capacity of more than 325 MW | | 100% | |
| B | Cumulative capacity of more than 195 MW to 325 MW | | 85% | |
| C | Cumulative capacity of more than 195 MW | | 70% | |
| **III** | **Work experience of the firm in EIA Study of hydropower projects** | | | **10** |
| A | 3 or more than 3 projects | | 100% | |
| B | 2 Projects | | 85% | |
| C | 1 Project | | 70% | |
| **3** | **Financial Capacity of the Firm in NRs** | | | **10** |
| | (Cumulative Average Annual Turnover (AAT) in million NRs in last seven consecutive fiscal years) | | | |
| | More than NRs. 43 million | | 100% | |
| | Between NRs. 34 million to NRs. 43 million | | 85% | |
| | More than NRs. 26 million to NRs. 34 million | | 70% | |

**Minimum Pass Marks: 60 (Sixty) out of Total 100 Marks**
**Maximum of top Six Consulting Firms obtaining the minimum Pass Mark will be shortlisted.**

# 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

## 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,
Procurement Unit
Department of Electricity Development
Sanogaucharan, Kathmandu
Telephone: +977 1 4413653, E-mail: info@doed.gov.np

Dear 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 ***UDepartment of Electricity Development (DOED)*** as consultant for Feasibility and Environmental Impact Assessment of Dadagau Khalanga Bheri HPP (80.5MW), Jajarkot.
2. Attached to this letter are photocopies of original documents defining:
    a) the Applicant's legal status
    b) the principal place of business
3. ***Department of Electricity Development*** 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. Department of Electricity Development and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.[1]
5. All further communication concerning this Application should be addressed to the following person,

    *[Person]*
    *[Company Name] and [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 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):**

[1] Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

## 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.)

## 3) Experience

### 3(A). General Work Experience

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

| SN | Name of assignment | Location | Value of Contract | Year Completed | Client | Description of work carried *out* |
|---|---|---|---|---|---|---|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |

## 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)[2]: |
| Country:<br><br>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):<br><br>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:<br><br>Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment. | |

Firm's Name: ___

[2] Consultant should state value in the currency as mentioned in the contract

## 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)

| No | Name of the Project | Location (Country/ Region) | Execution Year and Duration |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## 4) Capacity

**(A). Financial Capacity**

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

| Annual Turnover | |
|---|---|
| Year | Amount Currency |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| | |
|---|---|
| Average Annual Turnover of best of 3 Fiscal Year of Last 7 Fiscal Years | |

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

**4(B). Infrastructure/equipment related to the proposed assignment (Not Applicable)**

| No | Infrastructure/equipment Required | Requirements Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## 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)

| SN | Name | Position | Highest Qualification | Work Experience (in year) | Specific Work Experience (in year) | Nationality |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

(Please insert more rows as necessary)

# LISTS OF KEY EXPERTS AND THEIR MINIMUM REQUIREMENT

| SN | Key Experts | Nationality | Minimum General Experience | Minimum Qualification | Study |
|---|---|---|---|---|---|
| 1 | K1: Team Leader | National | 20 years | Masters | Feasibility Study |
| 2 | K2: Hydropower Engineer | National | 15 years | Masters | Feasibility Study |
| 3 | K3: Engineering Geologist | National | 15 years | Masters | Feasibility Study |
| 4 | K4: Geophysist/ Seismologist | National | 15 years | Masters | Feasibility Study |
| 5 | K5: Geotechnical Engineer | National | 15 years | Masters | Feasibility Study |
| 6 | K6: Dam /Structural Engineer | National | 15 years | Masters | Feasibility Study |
| 7 | K7: Hydraulic Engineer | National | 15 years | Masters | Feasibility Study |
| 8 | K8: Hydrologist/ Sedimentologist | National | 15 years | Masters | Feasibility Study |
| 9 | K9: Electrical Engineer | National | 15 years | Masters | Feasibility Study |
| 10 | K10: Road/Highway Engineer | National | 15 years | Bachelors | Feasibility Study |
| 11 | K11: Hydromechanical Engineer | National | 15 years | Masters | Feasibility Study |
| 12 | K12: Civil cum AutoCAD Engineer | National | 3 years | Bachelors | Feasibility Study |
| 13 | K13: Cost Estimator | National | 10 years | Bachelors | Feasibility Study |
| 14 | K14: Construction Planner | National | 10 years | Masters | Feasibility Study |
| 15 | K15: Power System Engineer | National | 15 years | Masters | Feasibility Study |
| 16 | K16: Economist/ Financial Analyst | National | 10 years | Masters | Feasibility Study |
| 17 | K17: Senior Surveyor | National | 10 years | Bachelors | Feasibility Study |
| 18 | K18: EIA Coordinator/Team Leader | National | 20 years | Masters | Environmental Study |
| 19 | K19: EMP Expert | National | 10 years | Masters | Environmental Study |
| 20 | K20: Environmentalist/ Environmental Eng. | National | 10 years | Masters | Environmental Study |
| 21 | K21: Sociologist/ Anthropologist | National | 10 years | Masters | Environmental Study |
| 22 | K22: Botanist/ Ecologist/ Forest Expert | National | 10 years | Masters | Environmental Study |
| 23 | K23: Aquatic Life Expert/ Zoologist | National | 10 years | Masters | Environmental Study |
| 24 | K24: Resettlement Expert | National | 10 years | Masters | Environmental Study |

# IMPORTANT NOTES FOR PREPARING EOI DOCUMENT & EVALUATION NOTES

Following notes will be followed during the evaluation process of received EOI.

1. 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.
2. The Consultant must put the signature of authorized representative and stamp of company on each page other than the system generated of the EOI document. In absence of signature of authorized representative and stamp of company, the page will not be considered for evaluation.
3. Consultants may associate with other consultants to enhance their qualifications. However, such association should be in the form of Joint Venture only.
4. The number of consulting firms in a JV should not exceed three including the lead firm. In addition, same consulting firm is not allowed to enter more than one association/JV for the same Job.
5. The relevant figures/numbers of each member 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).
6. 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.
7. 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. DOED may verify the submission of such report with relevant public entity.
8. 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.
9. For experience of the firms in IEE/ EIA study projects (studied in Nepal), the IEE/EIA study of projects which were approved as per the prevailing Environmental Protection Act and the Environmental Protection Rule 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.
10. Only study completed project will be considered for evaluation. The ongoing study or partially study completed project will not be considered for evaluation.
11. Marks will be given only to the key professionals to be deployed for the as listed in list of key professionals. If Consultant propose alternate professional in designated post, minimum marks obtained of professional will be considered for evaluation.
12. 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.
13. 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.
14. The information provided in Form 5 should be supported by providing Brief Curriculum Vitae (CV) of the key professionals dully signed by the respective professionals, notarized copy of qualification (education degree) certificate (minimum and higher degree) and notarized copy of Nepal Engineering Council (NEC) certificate

for the national key professionals who need to be registered as per NEC Act 2055 and regulation 2057 and a notarized copy of the NEC registration. In absence of Brief Curriculum Vitae, qualification (education degree) certificate and NEC certificate; such professional will get zero marks in his/her evaluation.

15. 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.
16. Any key-professionals should not be proposed for more than three projects either by same firm or different firms (entity) for the EOI notice published on June 30, 2021. If proposed for more than three projects in total, those professionals will not be considered for evaluation in any of the projects. However, for RFP process the proposed expert's involvement in the firms' work in hand, involvement in ongoing projects of DOED as well as any repetition of the experts in the projects published in this notice will be considered accordingly to the extent as per the standard RFP.
17. 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.
18. 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 within 7 days in such verification may cause disqualification of that key professional.
19. 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, 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.
20. 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.

# BRIEF DESCRIPTION OF PROJECT

## Project Information

Dadagau-Khalanga Bheri Hydropower Project (DKBHPP) is located in Jajarkot district of the Karnali Province of Nepal. The project components of DKBHPP are located in Bheri Municipality. The coordinates of the project area lie between the latitudes 28º 42'15'' N to 28º 46'30'' N and the longitudes 82º 15'00'' E to 82º 17'44'' E.

The identified project is a peaking run-off river type project. For the purpose of power generation from the project, the power generating flow is diverted by constructing a concrete gravity weir and the flow is guided to the powerhouse by about 6500 m long waterway comprising approach culvert, settling basin, headrace tunnel and penstock pipe.

Hydrologically, Bheri River is one of the major tributaries of the Karnali River. The catchment area above the proposed intake site of the project is 6877.7 $km^2$. Out of which 4934.9 $km^2$ of the catchment lies below 5000 masl while 1367.3 $km^2$ of the catchment lies below 3000 masl. The topographical and climatological feature of the catchment is beneficial for the dry period flow as the snow deposited above 5000 masl melts after winter, specifically during the month of March, April and May contributing to the dry period flow.

The proposed Dadagau-Khalanga Bheri Hydropower Project belongs to the Tibetan-Tethys Zone, Mid-Western Nepal and North of the Main Central Thrust. Geologically, the project area is mainly composed of intercalation of gneiss/ augen gneiss and schist.

A concrete weir with weir crest length of about 135 m and under sluice with one opening is proposed to divert the flow. Side intake structure with two numbers of intake openings has been proposed at the right bank of Bheri River adjacent to the under sluice. Coarse trash rack is proposed to prevent the trashes and large size floating debris from entering to the intake. The sediment, debris and boulders accumulated on the river bed in front of the intake is proposed to be flushed out from time to time through the undersluice.

The design discharge ($Q_{44.4\%}$) of 135 $m^3/s$ from headpond will be conveyed to the headrace tunnel through the settling basin. The length of headrace pipe is about 6100 m from headpond to surge shaft and that of penstock is about 200m. The powerhouse is located at right bank Bheri River to produce 80.5 MW of power by utilizing gross head of 80 m. The tail water coming out of the powerhouse will be diverted back to the Bheri River through a tailrace covered concrete box culvert of length about 20 m.

The project generates total annual average energy of 486.07GWh with 148.06GWh of dry energy and 338.01GWh of wet energy considering 6 months of December to May as dry energy period and rest as wet energy period as per the NEA's latest criteria of defining the dry and wet energy period for the purpose of PPA as it has different rates for dry and wet energy.

## Salient Features of the Project (Tentative)

| | |
|---|---|
| Project Name | : Dadagau-Khalanga Bheri Hydropower Project |
| Location | : Karnali Province, Jajarkot District, Bheri Municipality |
| River source | : Bheri Nadi |
| **PROJECT BOUNDARY** | |
| Longitude | : 82º15'00'' E to 82 º17'44'' E |
| Latitude | : 28 º42'15'' N to 28 º46'30'' N |
| Scheme | : Peaking Run-off-River Scheme |
| Accessibility to Khalanga) | : Kathmandu- Nepalgunj or Surkhet via flight - Khalanga (By road, 175km from Nepalgunj |
| Installed Capacity | : 80.5 MW |

Gross Head : 80 m
Design Net Head : 135 $m^3/s$ ($Q_{44.4\%}$ exceedence)

**HYDROLOGY AND CATCHMENT CHARACTERISTICS**

Catchment area at dam : 6877.7 $km^2$
Area below 3000masl : 1367.3 $km^2$
Area below 5000masl : 4934.9 $km^2$
Annual average discharge : 188.4 $m^3/s$
Firm flow ($Q_{100\%}$) : 26.4 $m^3/s$
Average annual precipitation : 1600 mm

**POWER AND ENERGY**

Design Discharge : 135 $m^3/s$
Gross Head : 80 m
Total loss in head : 5% of Gross head
Plant Efficiency : 80%
Installed Capacity : 80.5 MW
Annual Energy : 486.07GWh
Dry Season Energy : 148.06GWh (30.46% of Annual energy)
Wet Season Energy : 338.01GWh
Annual dry peak Energy : 86.48GWh
Annual dry off-peak Energy: 61.58GWh

**HEADWORKS**

Diversion structure : Concrete weir
Weir Crest Elevation : EL. 823.00masl
Full supply level : EL. 820.00masl
Minimum Operation Level : EL. 810.00masl
Weir Length : Approx. 135m
Weir height from river bed : Approx. 25m
Intake type : Side Intake (right bank)

**SETTLING BASIN**

Type : Underground
Bank : Right bank

**CONVEYANCE**

Headrace tunnel length : approx. 6100m

**SURGE TANK**

Type : Underground (Orifice)

**PENSTOCK**

Length : approx. 200m

## Project Access

The project area is accessible with all-weather road. The travelling length to reach the project area from Kathmandu via road is given in the table below:

| Distance from | To | Road condition | Distance (Km) |
|---|---|---|---|
| Kathmandu | Narayangadh | Blacktop | 147 |
| Narayangadh | Butwal | | 115 |

| Distance from | To | Road condition | Distance (Km) |
|---|---|---|---|
| Butwal | Kohlapur | | 236 |
| Kohalpur | Chinchu | | 58 |
| Chinchu | Dadagau | | 87 |
| Total | | | 643 |

Another alternative route to reach the project area is Kathmandu- Nepalgunj or Surkhet via flight and reaches Khalanga via road (175km from Nepalgunj to Khalanga)

## Hydrological Data

Bheri River is a snow fed Perennial River being a major tributary of the Karnali River. It originates from a glacier and has catchment area of 6877.7 km2 taking outlet at the dam site. The hydrological stations established by Department of Hydrology and Meteorology (DHM) in the vicinity of the proposed project site are listed (but not limited to) as follows:

| | |
|---|---|
| i. Station No. 263 (Sano Bheri, Hurikot) | iv. Station No. 268 ( Saru Gad, Jajarkot) |
| ii. Station No. 265 (Thulo Bheri, Rimna) | v. Station No. 269.3 (Karai Khola, Gumantar) |
| iii. Station No. 267 (Sano Bheri, Simlighat) | vi. Station No. 269.5 (Bheri, Samaijighat) |
| vii. Station No. 274 (Chingar Khola, Simlekhet) | |

The catchment at the intake site of Dadagau-Khalanga Bheri Hydropower Project is 6877.7sq.km which is presented in map below:

Area below 3000masl : 1367.3 sq.km.

Area between 3000masl and 5000masl : 3567.6 sq.km.

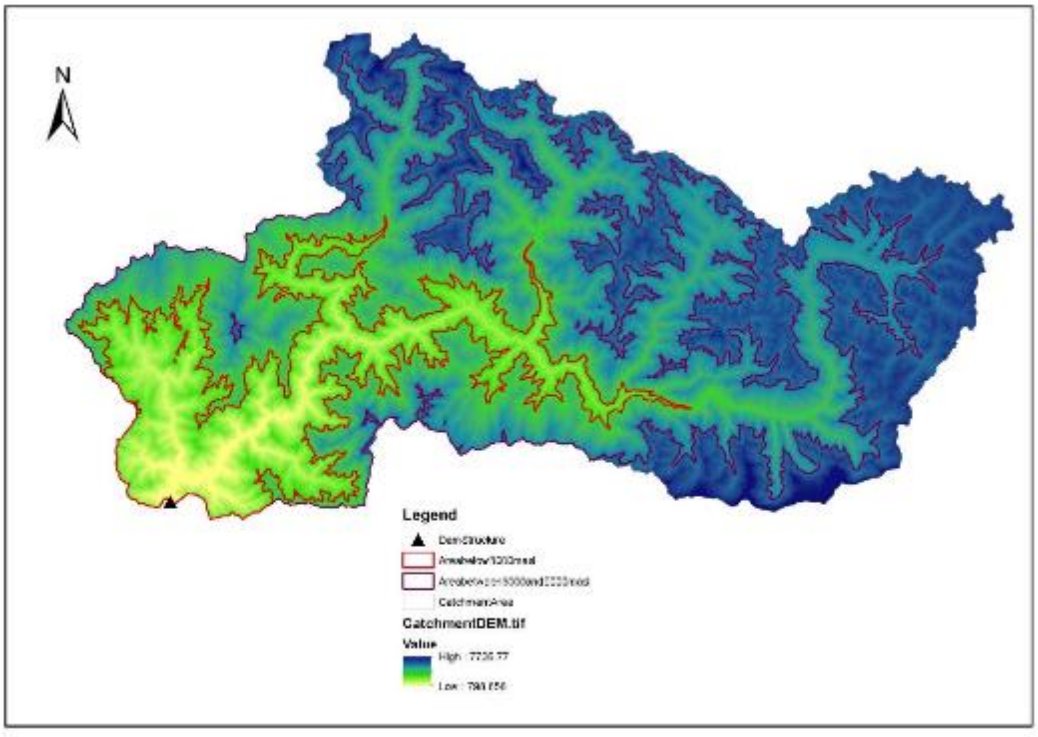


Figure: Catchment Area of the project

## Project Geology

The proposed Dadagau-Khalanga Bheri Hydropower Project belongs to the Tibetan-Tethys Zone, Mid-Western Nepal and North of the Main Central Thrust. Geologically, the project area is mainly composed of intercalation of gneiss/ augen gneiss and schist.

## Details of upstream and downstream projects:

The hydropower projects that are in various stages of development within the same river basin are listed as below:

| Upstream projects: | Downstream projects: |
|---|---|
| i. Bheri-2 Hydropower Project | i. Bheri-4 HPP |
| ii. Bheri-1 Hydropower Project | ii. Bheri-3 Storage HPP |
| iii. Jagdulla A Hydropower Project | iii. Bheri Babai Diversion Project |
| iv. Jagdulla Hydropower Project | |

## Tentative Project Layout and Project Study Boundary

All the project structures are aligned on the right bank of the Bheri River. The tentative layout is shown below.

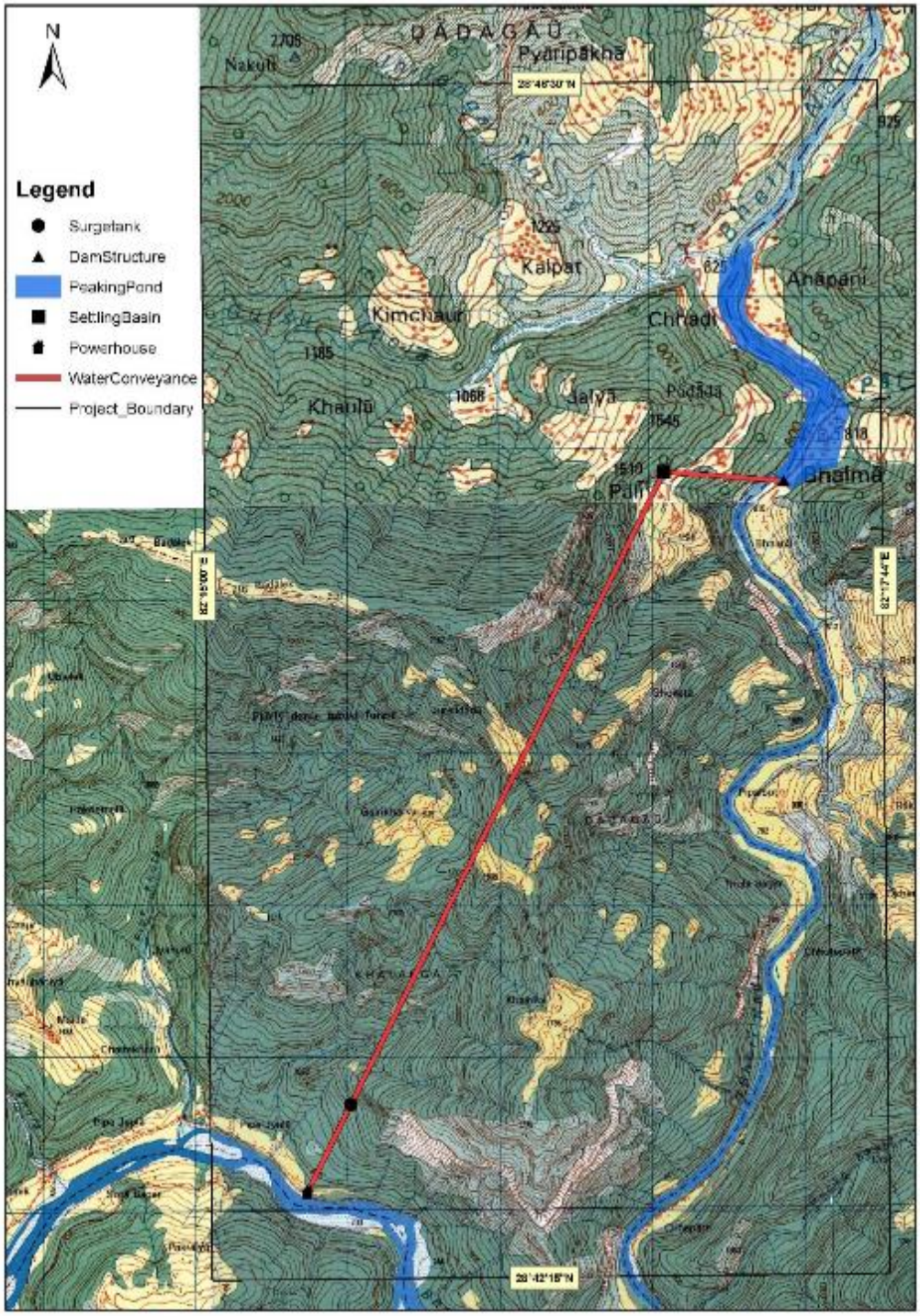


Figure: Project Layout with Project Boundary