



Government of Nepal
Ministry of Energy
Department of Electricity Development
Anamnagar

Expression of Interest (EOI)

For

***Environmental & Social Impact Assessment (ESIA)
of Karnali (Chisapani) Multipurpose Project***

Job No. : 2071/72-16

Budget Head: 308106

March , 2015



Government of Nepal
Ministry of Energy
Department of Electricity Development
Anamnagar

Invitation for Expression of Interest (EoI) for Consultancy Services

(Date of First Publication 2071 -11 -)

1. As per the program for fiscal year 2071/72, the Government of Nepal (GoN) intends to conduct the following jobs as indicated in the table below using funds allocated by GoN. Hence, Department of Electricity Development (DoED) intends to prepare separate lists of competent National consulting firms for each of the Jobs indicated below. This Invitation for Expression of Interest (EoI) is made to invite applications from interested and eligible consulting firms **registered in Nepal under GoN rules & regulations and/or their joint ventures (JV) for the jobs.**

Job No.	Job Title
2071/72-8	Feasibility Study and Initial Environment Examine (IEE) Study of Lower Chamelia Hydropower Project (20 MW)
2071/72-11	Detail Geo-Technical Studies Including Topographical Survey Studies of Sharda-Babai Hydropower Project (93 MW), Salyan/Dang
2071/72-16	Environmental and Social Impact Study of Karnali (Chisapani) Multipurpose Project
2071/72-17	Energy Price and Power Market Study of Karnali (Chisapani) Multipurpose Project
2071/72-18	Detailed Engineering Design of Siwa Khola Small Hydropower Project
2071/72-19	Detailed Engineering Design of Lower Hongu Khola Small Hydropower Project
2071/72-20	Detailed Engineering Design of Inkhu Khola Small Hydropower Project
2071/72-21	Detailed Engineering Design of Budhi Ganga Khola Small Hydropower Project
2071/72-22	Pre-feasibility study of Upper Jhimruk Storage Project
2071/72-23	Rehabilitation of hydrological station and installation of cable way for hydrological/sediment observation, updating & collection of hydrological/sediment data, & Hydrological Model study at Chisapani, Karnali River

2. The consulting firm can apply either singly or in JV. 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 into more than one JV for the same Job.
3. EoI documents could be obtained free of cost during office hours on all government working days within 15th day of first date of publication of this notice from Procurement Unit of DoED or can be downloaded from the website <http://www.doed.gov.np> or <http://www.moen.gov.np>. The instructions to applicants, prescribed formats, evaluation



criteria, and detail information as well as the indicative Terms of Reference for the Job is provided in Annex along with EoI document.

4. Duly completed EoI documents in hard copy should be submitted for each Job separately to the address mentioned below clearly mentioning the name of the Job in sealed envelopes before 12 Noon (NST-Nepal Standard Time) within 16th day of first publication of this notice :

The Director General
Department of Electricity Development
Anamnagar, Kathmandu
Tel: 4480326, Fax: 4480257, Email: info@doed.gov.np

5. If the deadline specified herein falls on a government holiday, the deadline shall be extended automatically to the next working day at the same hour.
6. Duly completed EoI documents received after the due date & time, shall be considered late, summarily rejected and returned un-opened.
7. The completed EoI documents received by the due date and within the specified time shall be opened at 14:00 (NST) on the 16th day of first date of publication of this notice in the presence of the applicants or their authorized representative who-so-ever wish to attend. Absence of the applicant or their authorized representatives, however, shall not obstruct or prevent the opening of the EoI in any way.
8. The EoI documents received from the applicants will be evaluated on the basis of the approved eligibility and evaluation criteria. The evaluation of EoI application of JV consulting firm(s) will be done in cumulative basis. Only six top ranked consulting firm obtaining at least 50 % marks in the EoI evaluation process will be shortlisted for each job and considered as qualified firms.
9. Request for Proposal (RFP) for each Job will be issued to qualified short listed firms for respective Job for the submission of Technical and Financial Proposal. The Quality and Cost Based Selection (QCBS) procedure will be used for final selection of the consulting firm.
10. DoED reserves the right to accept or reject any or all EoI applications with or without giving any reason whatsoever.
11. Further information on this EoI can be obtained from above address of DoED during office hours in all working days prior to the deadline of submission of EoI.

1. INSTRUCTIONS TO APPLICANTS

1.1 INTRODUCTION

1.1.1 *Scope of Qualification*

1. The Department of Electricity Development (DoED) intends to prepare lists of competent local consulting firms to conduct studies for the **Environmental and Social Impact Assessment (ESIA) of Karnali (Chisapani) Multipurpose Project (10800MW)**. This Invitation for Expression of Interest (EOI) is made to invite applications from interested and eligible local consulting firms registered in Nepal under GoN rules & regulations and/or their joint ventures separately for the job.

1.1.2 *Definition of Terms*

Unless otherwise specified, the following terms used in this EOI have the following meanings:

“Applicant” means a single consulting firm or their joint venture that intends to submit or submit completed EOI document as per notice and this EOI document.

“Authorized Representative” means an individual authorized by the Applicant as the duly authorized entity to legally bind the Applicant to the EOI process, is the authorized signatory to the process, and is the point of contact for DoED in connection with the process.

“Bidder” means a successful Applicant those are short listed under this EOI and submits Technical and Financial proposal in response to RFP.

“DoED” means the "Department of Electricity Development".

“EIA” means "Environmental Impact Assessment".

"EPA" means "Environment Protection Act, 1997"

"EPR" means "Environment Protection Regulation, 1997"

“GoN” means "Government of Nepal".

“IEE” means "Initial Environmental Examination".

“IT” means "Income Tax".

“JV” means "Joint Venture".

“Lead Firm” means an entity or firm that is the authorized leader of a team comprising the Lead Firm and its constituents to submit the EOI and perform the assignment.

“EOI” means "Expression of Interest".

“MOSTE” means "Ministry of Environment".

“MOEn” means Ministry of Energy.

“Project” means the Hydropower Project intended for study under this EOI and RFP.

“RFP” means a Request for Proposal.

"T/L" means Transmission Line.

“TOR” means "Terms of Reference".

“VAT” means "Value Added Tax".



1.2 GENERAL INSTRUCTION TO CONSULTANTS

1.2.1 *Clarification on EOI Documents*

A prospective Applicant requiring any clarification on this EOI document may seek clarification by contacting DoED during office hours on all working days prior to the deadline for submission of the completed EOI document at the address mentioned below

Contact person

Sandip Kumar Dev

Superintendent Engineer

Procurement Unit

DoED, Anamnagar, Kathmandu

Tel: 4480326, Fax: 4480257, Email: info@doed.gov.np

1.2.2 *Amendment to EOI Documents*

1. At any time prior to the deadline for the submission of the completed EOI document, DoED may amend the EOI, for any reason, whether on its own initiative or in response to a clarification requested by an Applicant.
2. All Applicants will be notified in writing about the amendments. All Applicants will be bound by the amendments. Applicants will be required to acknowledge receipt of any amendment within three business days of such receipt. Otherwise, DoED will assume that the information contained in the amendment is taken into account by the Applicant in its Application.

1.2.3 *Cost of Preparation of EOI and Liability*

Applicant shall bear all costs associated with the preparation and submission of the EOI document. DoED will, in no case, be responsible or liable for these costs, or have any other liability to any Applicant, regardless of the conduct or outcome of the EOI process. DoED shall have no obligation to any Applicant to reimburse any costs incurred in preparing a response to this EOI.

1.2.4 *Confidentiality of the Document*

If an Applicant believes that any portion of the submittal is to be treated in confidence, he/she shall identify such information clearly in the submittal. DoED will make every effort to treat such documents in confidence as far as possible.

1.2.5 *Joint Liability for Joint Venture Firms*

By submitting an EOI in joint venture, the Applicant represents that, if qualified and if awarded the contract after the RFP process, the Applicant with its constituent members shall be jointly responsible to perform the obligations of such contract.



1.3 SUBMISSION OF EXPRESSION OF INTEREST (EOI)

1.3.1 *Sealing and Marking*

1. The Applicant shall seal the one original and one copy of the completed EoI in separate envelopes, duly marking the envelopes as “Original” and “Copy”. These envelopes shall then be sealed in an outer envelope and marked as “Expression of Interest”. The inner as well as outer envelope shall clearly mention the Job number and title of consulting Job.
2. The inner and the outer envelopes shall be addressed to:
The Director General
Department of Electricity Development
Anamnagar, Kathmandu
Tel: 4480326, Fax: 4480257
3. The envelopes shall also indicate the name and address of the Applicant for identification purposes.
4. The Applicant shall also submit an electronic copy of the EOI documents. However, the evaluation of the EOI document shall be done only based on the hard copy of the EOI application submitted by the applicant.

1.3.2 *Deadline for Submission*

1. The completed EOI document must be submitted to DoED at the address specified in Section 1.3.1 before 12:00 hr Nepal Standard Time (NST) **within 16th day from the date of first publication of this notice.**
2. The completed EOI documents received by DoED after the deadline set forth in Section 1.3.2 (1) shall be considered late and shall be summarily rejected and returned un-opened.
3. If the deadline specified herein falls on a government holiday, the deadline shall be extended automatically to the next working day at the same hour.

1.3.3 *Withdrawal of EOI document*

An Applicant shall not be permitted to withdraw the EOI Application that has been submitted.

1.4 PUBLIC OPENING OF SUBMITTED EOI DOCUMENT

The completed EOI documents received by the due date and within the time specified in Clause 1.3.2 (1) will be opened at 14.00 hrs NST on the 16th day of first date of publication of this notice in the presence of the applicants or their authorized representative who-so-ever wish to attend. Absence of the Applicant or their authorized representative, however, shall not obstruct or prevent the opening of the EoI in any way. Applicants' each designated



representative must bring a letter from the Applicant stating that he/she is authorized to represent the applicants for the public opening of the EOI document. Applicants or their authorized representatives who are present at the time of opening shall sign in a register evidencing their presence.

During the opening, an authorized representative of DoED will read out the names of the applicants who have submitted the completed EOI document and then will open the submitted EOI envelopes.

1.5 PREPARATION OF THE EOI DOCUMENT

Detail procedure for preparation of EOI documents is given in section – 2.

1.6 EVALUATION PROCESS

DoED will carry out evaluation of the EOI documents based on the criteria approved by DoED. Anything not mentioned in this document regarding the EOI process shall be governed by the prevailing Public Procurement Acts and Regulations of Nepal.

The evaluation of EoI documents will be done in two stages (i) Screening of EoI Document of all firms for eligibility; and (ii) Evaluation of EoI document of eligible firms.

1.6.1 Screening of EoI Documents

All EOI documents received and duly opened as per Clause 1.4 of this document shall be screened to determine the eligibility of the Applicant. The basic criteria shall be as given in the attached Form A-4. The information/data provided in the form will be scrutinized to determine the eligibility of the Applicant. Only the Applicants fulfilling all the requirements will be considered as eligible for further consideration.

1.6.2 Detailed Evaluation of EoI documents

Applicants fulfilling the eligibility requirements as mentioned in Clause 1.6.1 will be further evaluated based on financial capability, experience of the Applicant in similar projects and specific experience of experts proposed for the study. Ongoing and planned projects shall not be considered for evaluation.

A scoring system is adopted to rank the Applicants in the order of merit based on the criteria. The maximum overall score that any Applicant can obtain is set at **100 Marks** and is distributed as follows:

S No	Description	Marks
1	Financial Capability of the Firm	20
2	Experience of the Firm	50
3	Proposed Key Professionals for the Study	30

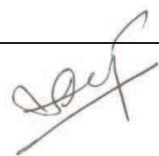
Detail Evaluation Criteria of the EOI document are as follows:

S No	Description	Weightage	Marks
1	Financial Capability of the Firm Average Annual Turnover (AAT) in million NRs for best three years of last five consecutive fiscal years		20
	Cumulative AAT for JV	Single Entity	
	More than 100	More than 75	100 %
	More than 75 to 100	50 to 75	85 %
	More than 50 to 75	30 to 50	70 %
	Less than 50	< 50	0 %
2	Experience of the Firm		50
I	General Work Experience of the lead firm		10
A	More than 15 years of experience	100%	
B	10 to 15 years of experience	85%	
C	5 to less than 10 years of experience	70%	
D	Less than 5 years of experience	0%	
II	Work experience of the firm in Environmental Impact Assessment (EIA) Study of hydropower project in last 5 Years.		15
A	Completion of EIA study of at least one hydropower projects capacity above 200 MW	100 %	
B	Completion of EIA study of at least one hydropower project capacity above 100 to 200 MW	85 %	
C	Completion of EIA study of at least one hydropower projects capacity above 50 to 100 MW	70 %	
D	EIA study of hydropower project capacity less than 50 MW	0 %	
III	Work experience of the firm in Social Impact Assessment (SIA) and Resettlement Study of at least two hydropower projects in last 5 Years.		15
A	Completion of Social Impact Assessment (SIA) and Resettlement study of at least two number of hydropower projects each of capacity above 200 MW	100 %	
B	Completion of SIA and Resettlement study of at least one hydropower project capacity of 100 to 200 MW	85 %	
C	Completion of SIA and Resettlement study of at least one hydropower project capacity of 50 to 100 MW	70 %	
D	SIA and Resettlement study of hydropower projects capacity less than 50 MW	0 %	
iv.	Work experience of the firm in Cumulative Impact Assessment (CIA) and Environmental & Social Impact Assessment (ESIA) report preparation		10
A	Completion of CIA (Cumulative Impact Assessment) and ESIA (Environmental & Social Impact Assessment) of National or International standard of more than one hydropower project	100 %	
B	Completion of CIA (Cumulative Impact Assessment) and ESIA (Environmental & Social Impact Assessment) of at least one hydropower project	85 %	

C	Completion of CIA and ESIA of any other projects	70 %	
D	Non completion of CIA and ESIA	0 %	
3	Proposed Key Professionals for the Study (Qualification & Experience)		30
I	Qualification of the Key Personnel: Marks will be equally distributed among the list of key Personnel /Professionals		5
A	Ph. D. / Master Degree Holders	100 %	
B	Bachelor Degree Holders	85 %	
II	Experience of the Key Professionals:		25
A	Team Leader experience (Minimum 20 years of experience with Masters degree in relevant subject)	5	
B	All others 8 Key Personnel/Professionals (Minimum 15 years of experience with Bachelor degree in relevant subject)	8 x 2.5 = 20	
	TOTAL MARKS		100

Note:

- a) The relevant figures/numbers of the each members of joint venture shall be added together to calculate cumulative figures/numbers of the joint venture's for the purpose of evaluation.
- b) The experience of the firm should be supported with evidence/proof in the form of experience/ completion certificates which shall be duly notarized showing the project size and date of completion of the assignment. The experience of the firm without evidence/proof will not be considered for evaluation.
- c) The professionals hired from outside or part time/resource person will be evaluated with only 80 % weightage.
- d) Employee of Government or Semi Government or Government affiliated institution's employee need to submit official no objection letter to provide consultancy services. Failure to submit no objection letter for these professionals, evaluation of such professionals will not be done.
- e) Similarly, same key personnel should not be proposed for more than one designation. If proposed so, marks will not be given for such professional.
- f) Exchange rate shall be considered the rate as on the last date of submission of EOI



A. List of Key Personnel/Professionals

S.N	Designation	Minimum Experience years
1	Environmental expert (Team leader)	20
2	Environmental engineer	15
3	Botanist/Forest Expert	15
4	Zoologist/Aquatic Life Expert	15
5	Sociologist	15
6	Resettlement Expert	15
7	Statistical Expert	15
8	Environmental Management plan Expert	15
9	GIS Expert	15

1.6.4 Short listing of the Applicants

Only six top ranked Applicants obtaining at least 50 % marks in the EOI evaluation process will be shortlisted and considered as qualified firms.

Request for Proposal (RFP) will be issued to qualified short listed firms for respective Job for the submission of Technical and Financial Proposal. The Quality and Cost Based Selection (QCBS) procedure will be used for final selection of the consulting firm.

1.6.5 Clarification during Evaluation by DoED

3. During the evaluation, DoED may request the Applicant for necessary clarifications. The Applicant shall furnish the necessary clarifications expeditiously by post/courier/fax/e-mail or by any other means of communication to DoED at the address given in Clause - 1.2.1.
4. Failure to provide information essential clarification, or to provide timely clarifications or substantiation of the information furnished, DoED would be at liberty to declare such Applicant as non-responsive and reject his/her document.

Rejection of EOI Document of Applicant

5. DoED reserves the right to accept or reject any or all EOI proposals with or without giving any reason whatsoever and is not liable for any losses to Applicants due to such rejection.
6. Furnishing of false or wrong information, document or evidence by any firm or joint venture may result in rejection of the EOI document of the firm or their joint ventures. In addition in such cases, legal action shall be taken as per prevailing rules and regulations.



1.7 NOTICE OF RESULT OF EVALUATION

All applicants irrespective of the qualified or non-qualified will be notified in writing the result of evaluation of qualification in due course of time. Applicants listed in the short-listing will be considered as qualified firm and will be invited to participate in the Request for Proposal process.

1.8 INDICATIVE SCOPE OF WORKS

The information regarding the project and project area, scope of work etc are provided in Indicative Scope of Works in Annex.

A handwritten signature in black ink, appearing to be "Sof", is written over a horizontal line at the bottom right of the page.

2. PREPARATION OF EOI APPLICATION

The EOI document shall be structured in accordance with the outlines given in the EOI form and must contain accurate and complete information as requested in the EOI form. **The EOI document shall have no interlineations or overwriting, except as necessary to correct errors made by the Consulting Firm itself. Any such correction must be initialed by the person authorized to sign the application and stamped with the firm's seal.**

2.1.1 Documents for EOI

The completed EOI documents to be submitted by Applicants shall comprise of the following documents:

Information Regarding Technical & Financial Capability of the Consulting Firm

Form Type	Description/Content
Form A	General Information
Form A-1	Letter of Submission
Form A-2	Joint Venture Information
Form A-3	Self Declaration Form
Form A-4	Eligibility Status
Form A-5	Identification of the Consulting Firm
Form A-6	Financial Capability of the Consulting Firm
Form B	Relevant Work Experience of the Firm
Form B-1	Relevant work experience of the Firm in Environmental Impact Assessment (EIA) of hydropower projects
Form B-2	Relevant work experience of the Firm in Social Impact Assessment (SIA) and Resettlement study of hydropower projects
Form B-3	Relevant work experience of the Firm in Cumulative Impact Assessment (CIA) and Environmental & Social Impact Assessment (ESIA) of hydropower/other Projects
Form B-4	Details of Form B-1, Form B-2 and Form B-3
Form C	Details of Key Professional Staffs to be Deployed for Study

Note: The EOI documents should be prepared and submitted in above mentioned sequence providing supporting documents with respective Form.

2.1.2 General Information

The Applicant shall provide a Letter of Submittal with completed forms as provided in the Format Forms A to C in the EOI document. All necessary information shall be presented to demonstrate the firm/joint venture's eligibility, capability, experience and professionals to be deployed for the study.

1. The Applicant shall enclose notarized copies of registration certificate, VAT certificate, and Tax clearance certificate. The applicants shall also enclose experience certificate or completion certificate, audit report of last five years and other relevant information.



FORM A-1

LETTER OF SUBMISSION

[Letterhead of the Applicant, In case of Joint Venture, of the Lead Firm)

Date:

To:
The Director General
Department of Electricity Development
Anamnagar, Kathmandu,
Nepal

Sirs,

Being duly authorized to represent and act on behalf of

.....
(hereinafter “the Applicant”), and having reviewed and fully understood all the information provided in EOI, the undersigned hereby apply for qualification by DOED as a consultant for the

1. DOED and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with the submitted EOI. This Letter 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 you to verify statements and information provided in this EOI, or with regard to the resources, experience, and competence of the Applicant.
2. DOED and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.
3. This application is made in the full understanding that all decisions by DOED related to this EOI are final, binding and not subject to review. DOED shall be under no obligation to inform the Applicant of the reasons for its decisions or actions.
4. The Applicant hereby provides willingness and commitment to abide by all applicable laws, regulations, and other requirements having the effect of law in the execution of this study, if selected.
5. All further communication concerning this EOI proposal should be addressed to the following person who is authorized to represent and to receive all communication on behalf of the Applicant and its constituents.

[Person & Designation]
[Company]
[Address]
[Phone, Fax, Email]



JOINT VENTURE INFORMATION

If the EOI is being submitted in Joint Venture, provide Joint Venture Information

SN	NAME OF FIRM	Postal Address, TEL, FAX and E-mail	NAME OF CONTACT PERSON	TELEPHONE OF CONTACT PERSON	SHARE PERCENTAGE IN JV
1.	Lead Firm:				
2.	Partner Firm:				
3.					

Note:

1. Maximum three (3) Firms can make Joint Venture.
2. In case of JV, the minimum share percentage of lead firm must be 40. Also the lead firm should hold the power of attorney.
3. Provide duly signed and stamped joint venture agreement and power of attorney of the signatories by each member in the JV.

Attachment

1. Joint Venture Agreement
2. Power of attorney of the signatory (ies) of the Applicants

Yes/No



FORM A-3

SELF DECLARATION FORM

Date:.....

To,
Director General
Department of Electricity Development
Anamnagar, Kathmandu

Sir,

We,
(name of all Consulting Firm) declare that we are legally eligible to participate in the procurement process of consulting services for the (title of consulting service).

We also declare that we do not have any conflict of interest in the said assignment.

We hereby also declare that we have not received any punishment while doing consulting business in the last five years.

Note: (If any member of the consulting Firm is not eligible to participate in procurement process or has conflict of interest in the said assignment or has received any punishment while doing consulting business in the last five years, the same must be clearly mentioned in this form. Any history of litigation during the last five years shall also be declared here along with the relevant verdict.)

(Note: Each Consultant in JV need to submit Self Declaration document either jointly or individually with original signed and stamped with company seal together with EoI document)

FORM A-4

ELIGIBILITY STATUS

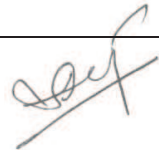
A. Eligibility Requirement

S No	Description	Status	Remarks
1	Notarized Copy of Valid Registration Certificate		
2	Notarized Copy of VAT Certificate		
3	Notarized Copy of Income Tax Clearance Certificate for FY 069/70 or Income Tax clearance /submission certificate for FY 070/71.		
4	Self Declaration as per clause 40 – 2 (e) of Public Procurement Rule, 2064 mentioning their eligibility, non-conflict of interest, non receipt of any punishment while doing consulting business		

Note: Each member of the JV shall submit the above eligibility documents.

In addition in case of Joint Venture, following documents should be provided

S No	Description	Status	Remarks
i	Joint Venture Agreement between the JV Partners duly signed & stamped with company seal by each member & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each member, name and signature of the authorized signatories. (In any case, the firms are not allowed to enter into more than one joint venture for same job)		
ii	Power of attorney of authorized signatories of JV agreement from their respective firm with signature & seal for each member of JV.		
iii	The total number of consulting		





	firms including the lead firm should not exceed a maximum of three numbers in joint venture		
iv	The minimum share percentage of the lead firm should be at least 40% and that of other JV partners should be at least 20%.		
v	Power of attorney to lead firm from JV partners		

Consulting firm or any member of joint ventures, failing to submit above basic criteria or if do not meet eligibility criteria mentioned above, the consulting firm will be considered as non-eligible and will not be considered for further evaluation.

The supporting documents in the form of copies of registration certificate, VAT Certificate and Tax Clearance/Submission Certificate shall be attached herewith:

IDENTIFICATION OF THE CONSULTING FIRM



Full name of the Firm:

Address:

Telephone number: Fax number: E-mail: Others:	Year of Establishment: Number of Years since establishment:
Corporate Registration: Date of Registration: Registration No: Date of last renewal: Valid up to:	VAT Registration: Date of Registration: VAT Registration No:
Name and address of contact person: Name and Designation of Contact Person: Address: Telephone number (Office): Telephone number (Residence) : Mobile no: Fax: Email:	

Note: In case of the applicant being joint venture, provide similar information for each member in the joint venture separately

sof



FORM A-6

FINANCIAL CAPABILITY OF THE CONSULTING FIRM

Full name of the Consulting Firm:

FINANCIAL STATUS

Turn Over of last five consecutive fiscal years

Description	FY	FY	FY	FY	FY
Turnover (NRs.)					

Turn Over of best three years

Description	FY	FY	FY	Average Annual
Turnover (NRs.)				

Note:

1. Provide similar information for each member in case of joint venture.
2. Submit Audited Reports of last five consecutive fiscal years



FORM B-1

(RELEVANT WORK EXPERIENCE OF THE FIRM IN ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF PROJECTS IN LAST 5 YEARS)

S.N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						
4.						

Note: **Details of the work completed by Consulting Firm (s) should be filled in Form B-4**

Date:

Signature & Designation of Applicant:

Seal of the Firm



FORM B-2

RELEVANT WORK EXPERIENCE OF THE FIRM IN SOCIAL IMPACT ASSESSMENT (SIA) AND RESETTLEMENT STUDY OF HYDROPOWER PROJECT IN LAST FIVE YEARS

S . N .	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1 .						
2 .						
3 .						
4 .						

Note: **Details of the work completed by Consulting Firm (s) should be filled in Form B-4**

Date:
Seal of the Firm

Signature & Designation of Applicant:



FORM B-3

RELEVANT WORK EXPERIENCE OF THE FIRM IN CUMULATIVE IMPACT ASSESSMENT (CIA) AND ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT (ESIA) OF HYDROPOWER PROJECT IN LAST FIVE YEARS

S. N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						
4.						

Note: **Details of the work completed by Consulting Firm (s) should be filled in Form B-4**

Date:

Signature & Designation of Applicant:



FORM B-4

DETAILS OF FORM B-1, B-2 AND B-3

(DETAILS OF THE WORKS SHOWN IN FORM B-1, FORM B-2 & FORM B-3)

"The following information should be provided in the format indicated for each reference project for which your company, either individually as a corporate entity or as a one of the major companies within a consortium as legally contracted by the client stated below".

Project Name:		Country:
Project Location:		Professional Staff Provided by your Company:
Name of client:		No. Staff:
		No. of Man-months:
Start Date: (Month/Year)	Completion Date: (Month/Year)	Approximate Value of Services:
Name of associated firm(s) if any:		No. of man-months of Professional Staff provided by associated firm(s).
Name of Senior Staff (Project Director/Coordinator, Team Leader) involved and functions performed:		
Detailed Narrative Description of Project;		
Detailed Description of actual Services Provided by your company:		



FORM - C

C1. DETAILS OF KEY PROFESSIONAL STAFF (NATIONAL STAFF) TO BE DEPLOYED FOR THE STUDY

S. N.	DESIGNATION	NAME	QUALIFICATION (INCLUDING UNIVERSITY & YEAR OF DEGREE OBTAINED)	YEARS WITH COMPANY	TOTAL YEARS OF EXPERIENCE	FULL OR PART TIME
1.	Environmental expert (Team leader)					
2.	Environmental engineer					
3.	Botanist/Forest Expert					
4.	Zoologist/Aquatic Life Expert					
5.	Sociologist					
6.	Resettlement Expert					
7.	Statistical Expert					
8.	Environmental Management plan Expert					
9.	GIS Expert					

Date:

Signature & Designation of Applicant:

Seal of the Firm

Project Background

Project Description of Karnali (Chisapani) Multipurpose Project

Karnali (Chisapani) Multipurpose Project is one of the feasible storage project identified among others. The total hydropower installed capacity of this project is 10800 MW. This quantum of power cannot be utilized in Nepal alone. Hence this project seems one of the most attractive for power export to neighboring country mainly India. Keeping in view of power export to India, irrigation benefit to Nepal and India, flood control and Navigation benefit to both the countries, Government of Nepal prepared Feasibility Study Report of Karnali (Chisapani) Multipurpose Project in 1989. A loan to finance the study was provided by the International Development Association (IDA).

In addition updated information regarding Social Impact Assessment (SIA), Environmental Impact Assessment (EIA) is desired to have with the Government in order to prepare the future course of action for the development of this project either by means of bilateral model or IPP of any other modality of project development. Therefore, ESIA study of Karnali (Chisapani) Multipurpose Project is being carried out by means of hiring local consultant.

1. Project Information and Previous Studies

1.1 Location

The Karnali (Chisapani) Multipurpose Project is located on the Karnali River at Chisapani, approximately 600 Km west of Kathmandu and 100 Km to the west of Nepalgunj. The main access to the site is via East-West Highway. The nearest airport is Tikapur, Kailali about 20 Km south of the project site.

1.2 Previous Studies

By virtue of its potential Government of Nepal draw attention towards this project on priority basis. Accordingly earlier study was carried out by Nippon Koei in 1966, Snowy Mountains Hydroelectric Authority (SMHA) in 1968 and Norconsult/Electrowatt in 1977. Because of feasible site and its potential the Government of Nepal and Government of India constituted, a policy level bi-national Committee on Karnali in 1978 and Karnali Coordination

Committee – a technical level Committee in 1983. Accordingly Feasibility study report was prepared as an outcome of various stages of investigations and bilateral understanding.

Salient features of Karnali (Chisapani) Multipurpose Project

1. Location	- at chisapani On the Karnali River in western Nepal 600 km west of Kathmandu,
2. Purpose	- hydro power, primary for export to India, and flow regulation for increased irrigated agriculture and flood control in both India and Nepal
3. Hydrology	- drainage area - 43679 km^2 - average flow - 1389 m^3/s
4. Reservoir	- full supply level (FSL) - 415 m, above sea level (asl) - average tail water level - 203 m, asl - drawdown - 60 m - surface area (at FSL) - 339 km^2 - live storage - 16.2 $\times 10^9 m^3$ (37% of average annual runoff)
5. Dam	- type - gravel fill with central core - crest elevation - 445 m, asl - maximum height - 270 m - embankment volume - 45 $\times 10^6 m^3$
6. Power facilities	- location - left bank, underground - capacity - 10 800 MW installed (9000 MW firm) - units - eighteen 600 MW units (500MW at minimum operating level of reservoir) - average energy - 20842 Gwh/yr
7. Reregulating Facilities	- location - 8km downstream from Main dam - reservoir - 100 $\times 10^6 m^3$ live storage - dam - 6 km long embankment (maximum height 24 m) - power plant - six 14 MW units
8. Transmission facilities	- Five 765 – kV lines from Chisapani power plant to India, 300 km long - One 220 –kV line from Reregulating power plant to India, 160 km long
9. Irrigation	- potential in Nepal - 191 000 ha net - potential in India Sarada Sahayak - 2000000 ha gross Saryu - 1200000 ha gross Total - 3200000 ha gross
(project provides supplemental water to existing and committed irrigation development in India)	
10. Cost (1988)	- capital cost - US \$ 4,890 million - economic cost (November 2003) - US \$6,808 million - equivalent economic unit costs - US \$ 630/kW (3.3 cent/kWh)
11. Economic Evaluation (at 10% discount rate)	- Gross economic benefits (November 2003) - US \$ 16,780 million - Net economic benefit (November 2003) - US \$ 9,972 million - Benefit /cost ratio - 2.46



3. Indicative Scope of work

The main scope of work is to conduct ESIA (Environmental and Social Impact Assessment) of Karnali (Chisapani) Multipurpose Project (10800MW installed capacity) and to prepare and submit Report to DoED on the same. The detail scope of work is presented in enclosed (TOR) Terms of Reference.

A handwritten signature in black ink, appearing to be "Sof", is written over a horizontal line at the bottom right of the page.



Terms of Reference (ToR)

For

Environmental & Social Impact Assessment (ESIA) of Karnali (Chisapani) Multipurpose Project

1. Background

Of the total installed capacity of 745.4 MW in the Integrated Nepal Power System (INPS), Kulekhani HEP (92 MW) is the only storage hydropower plant capable of seasonal regulation. The rest are run-of-the-river (ROR) plants with limited daily regulation capacity. The existing peaking capacity is insufficient to meet the peaking demand in the system. This is shown by the severe capacity shortage during the dry season. The most plants that are being implemented or committed/ planned are ROR types including the 456 MW Upper Tamakoshi HEP. With the addition of more ROR plants, there will be increasing surplus of energy during the wet season and deficit in the dry season. The seasonal fluctuation of water discharge in the rivers of Nepal is the main cause for this imbalance. The dry season flow becomes almost one tenth of flows in the wet season. As a result, INPS will continue to be a sub-optimal system in the absence of peaking plants, resulting in the spilling of water during the wet season and capacity deficit during the dry season.

Development of storage hydropower plant seems to be the best option to tackle the aforementioned issues. Similarly export of hydro energy to neighboring country seems to be essential to uplift the economy of Nepali people in geometric progression. For which, development of Mega project like Karnali (Chisapani) storage project seems to one of the best solution.

Keeping in view of power export to India, irrigation benefit to Nepal and India, flood control and Navigation benefit to both the countries, Feasibility Study Report of Karnali (Chisapani) Multipurpose Project was prepared in 1989. But no Environmental and Social Impact studies (ESIA) was carried out at that time. Therefore, Government of Nepal felt the necessity its study to have the updated information in respect of Social and Environmental aspects and accordingly proposed this study through local consultant by means of competitive bidding.



2. Objective of the study

The overall objective of the consulting service is to carry out Social and Environmental Impact study due to the development of Karnali (Chisapani) Multipurpose Project and report preparation on the same.

2.1 Specific Objectives

The specific objectives of the services are as follows:

Review Feasibility and other available reports/ data and identify the gaps in data, Conduct Environmental Impact Assessment (EIA), and Social Impact Assessment (SIA) of the project. The detail physical, biological and socio-economic impacts should be assessed. Prepare and propose resettlement plan, detail environmental management plan including biodiversity management plan.

3. Project organization and methodology

3.1 Organization

The Consultant shall be responsible for carrying out all necessary fieldworks to compile data and information for the feasibility study. The Consultant shall carry out the majority of the work in direct day-to-day co-operation with the Client's personnel. The Consultant's personnel shall make their best efforts to involve the Client's personnel in all phase of the study to be carried out.

The Consultant shall indicate in their proposal with a set of international safeguard policies and standards they intend to follow in the performance of the study.

Consultation, information-sharing and liaison with stakeholders and the public will be the responsibility of the Client. The Consultant shall, however, assist the Client in this endeavour and participate in formal and informal meetings with stakeholders and the public in general to provide information about the work.

3.2 Project Implementation Arrangements

The DOED will be the Executing Agency for the Study. A Technical Support Group (TSG), consisting of GON officials and other local experts will monitor the progress and quality of work during all phases of study from time to time. The DOED will invite TSG members for meetings

A handwritten signature in black ink, appearing to be 'Sof' or similar, written over a horizontal line.

at each major milestones set forth by the Department or as deemed necessary by the DoED. Members of the TSG will be nominated by the DOED.

Upon receipt of any report from the Consultant, the DoED may ask the Consultant to make a brief presentation of the findings/ progress at DOED. The time and date of the presentation may be agreed mutually, but it is expected that the Consultant will prepare a presentation in advance.

Comments/suggestions from DOED/TSG on the Consultant's report will be compiled and communicated to the Consultant by DoED. The Consultant will be required to incorporate/ address the comments to the extent possible and to the satisfaction of the DoED/TSG.

3.3 Office Establishment and Arrangements

The selected Consultant shall establish a project office in Kathmandu together with field site offices as required. The Consultant shall also procure required articles, equipment and services as required including vehicles, computers, etc.

3.4 Key Staff

The following list of required key staff is regarded as a necessary minimum in the Consultant's Project Team. Further experts and support will be necessary due to the size and complexity of the study. The evaluation of the key personnel shall be based on their work experience and qualification.



Table – 1 Key staff required for the study

S.N	Designation	Minimum experience in Years
1	Environmental expert (Team leader)	20
2	Environmental engineer	15
3	Botanist/Forest Expert	15
4	Zoologist/Aquatic Life Expert	15
5	Sociologist	15
6	Resettlement Expert	15
7	Statistical Expert	15
8	Environmental Management plan Expert	15
9	GIS Expert	15

All key National experts shall have higher degrees in subjects relevant to their tasks and responsibilities.

3.5 Work Plan

The Consultant shall prepare a detailed work plan to accomplish the work including personnel deployment schedule, timing and man -month input on the project for each resource person showing all activities and shall be submitted to DOED.

4. Project Information and Previous Studies

4.1 Location

The Karnali (Chisapani) Multipurpose Project is located on the Karnali River at Chisapani, approximately 600 Km west of Kathmandu and 100 Km to the west of Nepalgunj. The main access to the site is via East-West Highway. The nearest airport is Tikapur, Kailali about 20 Km south of the project site.

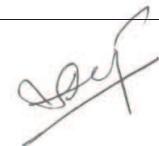
4.2 Previous Studies

By virtue of its potential Government of Nepal draw attention towards this project on priority basis. Accordingly earlier study was carried out by Nippon Koei in 1966, Snowy Mountains Hydroelectric Authority (SMHA) in 1968 and Norconsult/Electrowatt in 1977. Because of feasible site and its potential the Government of Nepal and Government of India constituted, a policy level bi-national Committee on Karnali in 1978 and Karnali Coordination Committee – a technical level Committee in 1983. Accordingly Feasibility study report was prepared as an outcome of various stage of investigations and bilateral understanding.

Based on previous study, Salient features of Karnali (Chisapani) Multipurpose Project is as under:

1. Location
 - at chisapani On the Karnali River in western Nepal 600 km west of Kathmandu,
2. Purpose
 - hydro power, primary for export to India, and flow regulation for increased irrigated agriculture and flood control in both India and Nepal
3. Hydrology
 - drainage area - 43679 km^2
 - average flow - 1389 m^3/s
4. Reservoir
 - full supply level (FSL) - 415 m, above sea level (asl)
 - average tail water level - 203 m, asl
 - drawdown - 60 m
 - surface area (at FSL) - 339 km^2
 - live storage - $16.2 \times 10^9 m^3$ (37% of average annual runoff)
5. Dam
 - type - gravel fill with central core
 - crest elevation - 445 m, asl
 - maximum height - 270 m
 - embankment volume - $45 \times 10^6 m^3$
6. Power facilities
 - location - left bank, underground
 - capacity - 10 800 MW installed (9000 MW firm)
 - units - eighteen 600 MW units (500MW at minimum operating level of reservoir)
 - average energy - 20842 Gwh/yr
7. Reregulating Facilities
 - location - 8km downstream from Main dam
 - reservoir - $100 \times 10^6 m^3$ live storage
 - dam - 6 km long embankment (maximum height 24 m)
 - power plant - six 14 MW units
8. Transmission facilities
 - Five 765 – kV lines from Chisapani power plant to India, 300 km long
 - One 220 –kV line from Reregulating power plant to India, 160 km long
9. Irrigation
 - potential in Nepal - 191 000 ha net
 - potential in India
 - Sarada Sahayak - 2000000 ha gross
 - Saryu - 1200000 ha gross
 - Total - 3200000 ha gross

(project provides supplemental water to existing and committed irrigation development in India)
10. Cost (1988)
 - capital cost - US \$ 4,890 million
 - economic cost (November 2003) - US \$6,808 million
 - equivalent economic unit costs - US \$ 630/kW (3.3 cent/kWh)
11. Economic Evaluation (at 10% discount rate)
 - Gross economic benefits (November 2003) - US \$ 16,780 million
 - Net economic benefit (November 2003) - US \$ 9,972 million
 - Benefit /cost ratio - 2.46





5. Scope of work

5.1 Environmental Impact Assessment

The scope of work of the Environmental Impact Assessment study including social safeguard related studies of the Karnali (Chisapani) Multipurpose Project which includes preparation of Environmental study Report as per the Environmental Protection Act, 2053 and Environmental Protection Rules, 2054 (with amendment). The EIA study is to be carried as under:

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;
- enable the authorities, stakeholders, local people, and affected communities to adequately participate in public consultation, discussions/ hearings about the positive and negative impacts of the project and mitigation measures to be adopted;
- 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;

A handwritten signature in black ink, appearing to be "Sof", is written over a horizontal line.

- 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;
- collection of base line data regarding water quality, air quality and noise levels;
- implementation of possible agricultural livelihood enhancement programs;
- 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;
- organize consultation meeting at different location of impact area;

5.2 Environmental Impact Assessment - Baseline Study

The Consultant shall carry out a baseline study of the existing environmental parameters in the Impact Zones. All existing data shall be assessed and used directly in the EIA, if found relevant and applicable in the study.

For the Impact Zones of the project the baseline study shall include, but not be limited to the followings:

- a) description and classification of geology, topography, soils and vegetation;
- b) description of flora and fauna, including identification of rare or endangered species. Any endemic, endangered species shall also be identified;
- c) identification of any existing and potential National Parks, wildlife sanctuaries and other protected areas with their borders, buffer zones and regulations imposed;
- d) description of climate and information on temperature, precipitation and hydrology. Characteristic data with seasonal variations and for normal, wet and dry years shall be accessed. The data will also include erosion and sediment transport characteristics, as well as flooding problems;

- e) information on water quality (surface and subsurface) with physical and chemical characteristics;
- f) description and classification of agriculture, including livestock and industry;
- g) description and classification of fisheries and aquaculture, including temporal and spatial migration patterns of migratory fish species from Karnali to the upper reaches of Karnali rivers;
- h) description of infrastructures including status of residential building
- i) description of archaeological sites;
- j) description and data on tourism;
- k) description of water use (drinking water, irrigation, industry, hydropower);
- l) description of data on transportation on the river;
- m) identification of sources and types of pollution and assessment of recipient conditions of surface and subsurface water;
- n) conduct a detailed qualitative and quantitative analysis of the anticipated changes to the baseline to determine the direct, indirect, induced and cumulative impacts of the project in construction, operation and maintenance phases. These impacts may include, but not limited to, loss of habitat and ecosystems, hydrological changes, loss of flora and fauna, impacts on wildlife, food supply chain and migration patterns of wild life, water quality, emission of greenhouse gases, erosion and sedimentation, loss of physical and cultural resources, impacts associated with construction etc.
- o) collection of sample in the field and conduct field and laboratory test as per the requirement;

5.3. Social Impact Study

- i. Conduct Social Impact Assessment (SIA) of the project with reference to the following:
 - Identify permanent and temporary socioeconomic impacts arising from land acquisition, changes in land use, and restrictions of access as a result of construction of the project facilities, including measures to minimize the number of affected land users within the river catchments including upstream and downstream areas. The consultant shall identify and evaluate social and economic impacts resulting from project implementation,

reservoir creation due to main dam and re-regulating dam including but not limited to, the types of social impacts, the extent and severity of these impacts (construction areas; quarry areas, spoil disposal areas, construction camps, community resettlement areas, access roads, power transmission line/corridors).

- The measures for management of social impacts shall include, but not limited to, management required to mitigate the impact due to change in land use patterns, employments, compensations, water quality, seasonal flooding, soil degradation, and bank soil stability/erosion and land use changes, fire hazards, river transportation, inundated forests, impediments to movements of animals, cattle, people, and disruption of communication between communities, loss of land, land disputes, increased flooding, water borne diseases, loss of social fabrics, negative impacts on fishing activities, inability to afford new technologies and impact on ritual sites.
 - Management of operation related impacts which shall include reservoir inundation, water quality, riparian issues/release and management of other identified impacts relevant to the operation and maintenance stages
 - 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 due to the construction of main dam and re-regulating dam.
 - Identify the potential areas for resettlement of the displaced families keeping in view of National and International Practices including ADB, WB guidelines.
 - Prepare resettlement and rehabilitation plans for project affected and displaced families keeping in view of National and International Practices including ADB, WB guidelines as well as existing practice in other projects in Nepal .
 - Analyze the sufficiency in existing rules, regulations and policies for land acquisition, rehabilitation and resettlement. If found to be insufficient the new policy for the same to be proposed by the consultant for the implementation of the project.
- ii) Prepare a Resettlement Action Plan (RAP), and an Indigenous/Vulnerable People's/Community Development Plan (IPDP/VCDP) as part of Social Management Plan

(SMP), with full participation of stakeholders. The plans shall, among others, include the following:

- Full census and inventory of lost assets/households (permanent or temporary), indicating the scope and magnitude of likely resettlement effects, and list likely losses of households, agricultural lands, business and income opportunities, as well as affected communal assets and public buildings;
 - Prepare an entitlement matrix, listing all likely effects, such as permanent and or temporary land acquisition, and a study to determine the replacement costs of all categories of losses based on the asset valuation process, with particular attention to vulnerable groups including indigenous peoples, women, children, the poor and socially excluded;
- iii) Prepare cost estimates and clear budgets required for land acquisition and resettlement cost;
- Prepare Project specific social and gender action plan including rehabilitation of rural infrastructure, livelihood-related activities, and any specific training or awareness programs for local communities and vulnerable people such as DAG, women and the socially excluded. The action plan shall include the cost and the checklist for monitoring the baseline data .
- iv) Prepare Social action programs; and Implementation plans for land purchase and acquisition, payment of compensation, livelihood restoration programs, and community development plans.
- v) Prepare Detailed Monitoring Framework to effectively monitor the implementation of various plans during construction and operation phase.

5.4 Impact Analysis and Quantification of Loss of Environmental Services

The EIA shall evaluate and quantify the value of the environmental services lost by building and operating the Projects with respect to the environmental services identified in the baseline study.

Impacts (positive and negative) shall be studied and analyzed based on information in the baseline survey and the interventions caused by the project implementation (construction) and subsequent operation. Proper attention should be paid to mitigate the negative impact. The

study shall also identify any externalities which may influence the outcome of the project and its effect on the environment.

All environmental and social risks shall be identified, analyzed and described. Loss of Environmental Services shall be identified and quantified.

5.5 Environmental Management Plan and Mitigation Measures

The Consultant shall recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. The recommendations will be presented in the form of an Environmental Management Plan using the matrix method. Construction and post construction measure will be outlined.

The Consultant shall estimate the impacts and costs of implementing those measures, and set out the requirements and cost for institutional and training requirements to implement them. The Consultant will consider all issues related to compensation to affected parties for impacts which cannot be mitigated. The Environmental Management Plan will include proposed work programs, budget estimates, schedules, staffing and training requirements or other necessary support services to implement the mitigating measures.

5.6 Identification of Institutions

The Consultant shall review the authority and capability of institutions at local, regional, and national levels and recommend steps to strengthen or expand them so that the management and monitoring plans in the environmental assessment can be implemented. The recommendations may extend to new laws and regulations, new agencies or agency functions, inter-sectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting and financial support.

5.7 Environmental Monitoring and Auditing

The Consultant shall prepare a detailed plan to monitor the implementation of mitigating measures and the impacts of the project during the construction phase and the operation phase. The plan will include an estimate of capital and operating costs and a description of other inputs (such as training and institutional strengthening) needed to carry out the monitoring activities.



5.8 Environmental Reports

The Environmental Reports shall comprise a series of Reports covering the main environmental and social issues as listed in the Table below. The report shall be complete with an Executive Summary (10-15 pages) and shall include maps, drawings and data collected and/or used in the analysis.

Table – 2 Details of Reports to be submitted

S. No	Reporting	No of Copies	Submission Date (months after Commencement)
1	Inception Report with coloured map in original	15	4
2	Field Report containing base line data in original	15	8
3	Interim progress report	15	12
4	Draft ESIA Report with coloured map in original	15	18
5	Final ESIA Report with coloured map in original	25	24

The Consultant shall submit 2 copies of the electronic versions of the approved Scoping, Terms of Reference, Environmental Baseline and ESIA Reports in addition to the hard copies of the reports in requisite number as mentioned above. The electronic versions of these reports shall include all the data in appropriate formats compatible with mainstream software.

The Consultant shall submit the Inception Report after completion of desk study, literature review and field reconnaissance. Based on information collected, the project work plan (as presented in the Consultant's proposal) shall be updated and presented in the Inception Report. Any major modifications must be approved by the Client.

The Environmental Baseline report shall provide a description and presentation of environmental and socio-economic Baseline conditions.

The Consultant shall prepare a table of contents for the Environmental Impact Assessment report and submit it to the Client for comments and approval. The Environmental and Social Impact study Report shall clearly recommend the required measures to be taken so that decision makers can implement during the course of impact mitigation.

5.9 Phase of Study

Phase of study to be carried out by the Consultant's ESIA team for the study will include, but may not be limited to:



5.10 Inception Phase of Study

The main activities under this task include review of existing reports, applicable guidelines/rules, data collection and analysis, planning and initiation of the field on the basis of the findings of the review. This includes;

- Collection of Reports, maps, digital image and related documents in respect of Karnali (Chisapani) Multipurpose Project at least covering the impact area by the development of the project. The Study area should cover but not limited to main dam and appurtenant structures, reservoir, HRT/TRT/penstock, shaft, switchyard, Transmission line, access road, re-regulating dam and reservoir etc.
- Based on secondary information, prepare plan, schedule, questionnaire, pamphlet, poster, and methodology for the census survey and submit the same to DoED before starting the field work.
- DoED shall make available the existing studies/reports, and other available information for this purpose.

In the stage of review, all information/data of the project should be subjected to critical scrutiny in order to establish a realistic understanding of the type and scope of additional information/data required for subsequent analysis. The consultant shall:

- a. Identify key areas, which will demand major efforts in data collection;
- b. Review the existing documents, information, data provided by DoED;
- c. Establish methods and procedures for proposed studies

The Consultant shall undertake a field reconnaissance to familiarize themselves with the project area, the topographical and geographical features of the project area. In parallel with data collection and field reconnaissance, the Consultant shall prepare a time schedule with milestones and specific key dates.

The Inception Report shall summarize the results of the review of existing data/ reports, summarize the results of the field reconnaissance, discuss the key data/information gaps requiring additional field work/investigation and data collection and verification, describe the approach the Consultant intends to follow in order to carrying out various activities to complete the assignment.



5.11 Field Study (ESIA) Phase

The Consultant shall develop and follow the field investigation program, data collection program and the same will be used to establish baseline conditions for impact predication. This Phase of study includes but not limited to;

- Carrying out baseline Environmental and Social Impact Study
- Collection of base line information from onsite-offsite project affected persons, VDC and local stakeholders regarding;
 - Physical
 - Biological
 - Socioeconomic and cultural
- These information are to be collected by means of census survey of affected households, key informant surveys and Focus Group Discussion (FGD)
- Impact prediction and quantification by means of focus group discussion, key informants consultation, experts consultation including consultation with onsite-offsite project affected persons, VDC and local stakeholders regarding;
 - Physical
 - Biological
 - Socioeconomic and cultural

ESIA phase of study should cover as under but not limited to;

i. Ownership identification of the affected land

- Collection of cadastral maps of the project affected area from district level survey office,
- Collection of ownership list from the District land revenue office Overlay of the cadastral maps on the orthophoto maps with project foot prints, identification of affected parcel and listing of the affected parcels to be covered during census survey.
- Screening of the land owners based on the affected parcel from the records of the land Revenue office to be covered during census survey.

A handwritten signature in black ink, appearing to be 'Sof' or similar, written over a horizontal line.

- Preparation of census survey formatted questionnaire based on the understanding of the local area issues of ownership and livelihood.
- ii. Census Socio-economic survey of the project affected households**
- Conduct census socio-economic surveys of the affected households, to collect the base line information of project impacts in terms of involuntary land taking, loss of residential or commercial or any other immovable property, loss of livelihood or source of income.
 - Conduct FGDs(Focus Group Discussion) KIIs(Key Information Interview) in terms of loss of access of common property, loss and access to cultural resources and practices, loss and access to service oriented public institutions etc.

5.12 Report Preparation Phase

This phase includes the preparation of report incorporating the outcome of census survey, consultation meeting, and stakeholder's feedback, expert's opinion etc.

This includes but not limited to;

a. Description of the Existing Environment (Baseline Data)

The Consultant shall assemble, evaluate and present baseline data in the form of report on the relevant environmental characteristics of the study area and include information on any changes anticipated before the project commences. These will include:

- i) Physical Environment: i.e., geology; topography; soils, climate and meteorology; surface and ground water hydrology, existing sources of air emissions, existing water pollution discharges, and receiving water quality.
- ii) Biological Environment: i.e. flora, fauna, rare of endangered species, sensitive habitats, including parks of preserves, significant natural sites, etc; species of commercial importance and species with potential to become nuisances, vectors or dangerous.
- iii) Socio-economic and Cultural Environment: Population, land use, planned development activities, community structure, government services, demographics, employment, distribution of income, goods and services produced, recreation patterns, public health, cultural properties, vulnerable community, norms/values and customs, aspirations and attitudes, special or unique social and cultural aspects of the area, probable change in life style and socioeconomic condition etc.



b. Legislative and Regulatory Considerations

Nepal is signatory to a number of broader international conventions including those concerning habitat, biodiversity and cultural heritage protection which must also be taken into account during the EIA/SIA of projects. Keeping in view of this aspect, Consultant shall describe the pertinent regulations and standards governing environmental quality, health and safety, protection of sensitive areas, protection of endangered species, land use control, etc. at regional, local and site specific levels.

c. Determination of the Potential Impacts

In this analysis, the Consultant shall distinguish between potentially significant positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. The Consultant will identify impacts, which are unavoidable or irreversible. Wherever possible, the significant impacts will be described quantitatively, in terms of environmental costs and benefits and economic values when feasible will be assigned. The Consultant will characterize the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impacts. Potential physical, biological, socioeconomic and cultural impacts shall be considered as outlined in the National EIA Guidelines. The Consultant shall prepare extent of impacts (in terms of involuntary resettlement, loss of land, loss of forest area, loss of agricultural land, environmental cost etc.

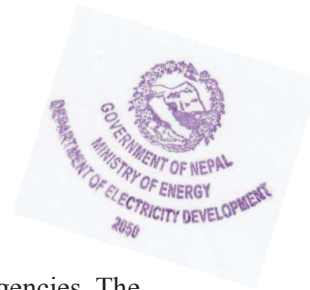
d. Identification of Institutions

The Consultant shall review the authority and capability of institutions at local, regional, and national levels and recommend steps to strengthen or expand them so that the management and monitoring plans in the environmental assessment can be implemented.

e. Environmental Monitoring and Auditing

The Consultant shall prepare a detailed plan to monitor the implementation of mitigating and enhancing measures and the impacts of the project during the construction phase and the operation phase. The plan will include an estimate of capital and operating costs and a description of other inputs (such as training and institutional strengthening) needed to carry out the monitoring activities.

A handwritten signature in black ink, appearing to be "Sof", is written over a horizontal line.



f. Inter-Agency Co-ordination and Public Participation

The Consultant will accomplish the EIA/SIA study in co-ordination with other government agencies. The Consultant will be directly responsible to obtain the views of local NGO's and affected groups, and in keeping records of meeting and other activities, communications, and comments and their disposition.

5.13 ESIA Study Report Preparation & Submission

Based on the out of various stage of study the following Reports are to be prepared and submitted to DoED.

a. Inception Report

Five copies of Inception Reports along with one copy of electronic version CD shall be submitted to DoED no later than 4 months after signing the contract agreement.

b. Field Report

Five copies Field Reports on ESIA study along with one copy of electronic version CD shall be submitted to DoED no later than 8 months after signing the contract agreement. This report shall contain the progress being made in field visit and collection of environmental and social issues.

c. Interim Progress Report

Five copies of ESIA Interim Progress Report shall be prepared and submitted to DoED no later than 12 months after signing the contract agreement. The consultant shall also submit one copy of electronic version (CD) for the same.

d. Draft Report

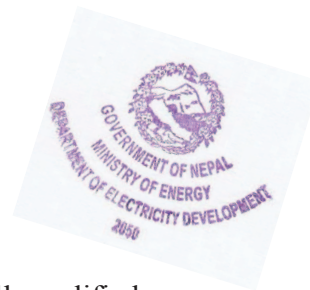
Five copies of ESIA Draft Final Report shall be prepared and submitted to DoED no later than 18 months after signing the contract agreement. The consultant shall also submit Draft EIA Report in one copy of electronic version (CD).

e. Final Reports

Twenty five copies of each of paper bound and two electronic versions (CD) of Final Report shall be submitted to DoED within 24 months of signing of the contract agreement.

In addition to above reports the consultant shall submit the monthly progress report at the beginning of each month of Nepali calendar following the signing of the contract. This report shall content the periodic progress

A handwritten signature in black ink, appearing to be 'Sof' or similar, written over a horizontal line.



6. Professional Requirement

The Consultant's Environmental Team shall work under the direction of a well qualified Environmental Team leader with wide National/International experience. The team shall comprise National experts in the necessary disciplines together with supporting staff.

The professional man-month presented here under is indicative and reference used for estimation. However, Consultant is free to propose its own man-month based in their assessment to accomplish the assignment as per Terms of Reference.

Table: ESIA study team

S. N.	Job Title	Office work (A)		Field Work (B)	
		No.	MM/person	No.	MM/person
1	EIA Expert (EIA Team Leader/Coordinator)				
2	Environmental Engineer				
3	Botanist/Ecologist/Forest Expert				
4	Zoologist/Aquatic Life Expert				
5	Sociologist/Anthropologist				
6	Resettlement Expert				
7	Statistical Expert				
8	Environmental Management Plan (EMP) Expert				
9	GIS Experts				
10	Computer Operator				
11	Enumerators				
12	Data digitizer				
13	Draft Persons				
14	Field Assistants				
15	Field Labours				
16	Office Runner				



7. Inspection/supervision & monitoring of the study

Inspection and supervision of the study works comes under the responsibility of DoED. In this connection DoED will deployed Engineers at site since the beginning. For this purpose, DoED will inform the Consultant to provide vehicle for monitoring and inspection/supervision of the study work and the Consultant will provide accordingly.

8. Payment schedule

Payments shall be made according to the following schedule:

- Twenty (20%) percent of the contract amount shall be paid upon submission of five hard copies of **Inception Report** with two CDs and its approval.
- Twenty (20%) percent of the contract amount shall be paid upon submission of five hard copies of **Field Report** with two CDs.
- Thirtyfive (35%) percent of contract amount shall be paid upon submission of five hard copies of **Draft final Report** with two CDs.
- Twenty-five (25%) percent of the contract amount shall be paid upon submission and approval of fifteen copies of **Final Report** each of paper bound and electronic version with two(CD).

9. Duration of Services

The estimated time for completion of the complete assignment is (24) months with effect from signing of contract agreement and issue of work order.

A handwritten signature in black ink, appearing to be 'Sof' or similar, written over a horizontal line.