

Nepal: Upper Arun and Ikhuwa Khola Hydroelectric Projects

Draft Terms of Reference Environmental and Social Assessment, Planning and Design Studies

Background

1. The World Bank is providing financial support to the Government of Nepal, Ministry of Energy, through the Nepal Electricity Authority (NEA), to carry out environmental and social assessment detailed design studies, and preparation of bidding documents for the proposed Upper Arun Hydroelectric Project (UAHP) and the supporting Ikhuwa Khola Hydroelectric Project (IKHP).
2. **National power shortage context.** Nepal faces a significant and growing gap between power demand and supply. While 75 percent of the population of Nepal is estimated to have access to electricity (grid and off-grid) according to the 2013 census, they do not necessarily have service due to shortage of supply, with load shedding of up to 18 hours per day in grid-covered areas in the dry season. Average annual consumption in Nepal remains very low at about 70kWh per capita, compared to 733 kWh in India and 2,600 kWh in China. The current total installed capacity of the Integrated Nepal Power System (INPS) is 766 MW, and power demand is growing at a rate of 10% a year.
3. **The Nepal Electricity Authority (NEA).** The NEA is tasked with generating, transmitting, and distributing adequate, reliable, and affordable power by planning, constructing, operating, and maintaining all generation, transmission, and distribution facilities in Nepal's power system, both interconnected and isolated. NEA was formed in August 1985, under the Nepal Electricity Authority Act of 1984, as a vertically-integrated government-owned utility responsible for generation, transmission, and distribution of electricity in Nepal. NEA generates approximately 60 percent of the current electricity output in Nepal. Independent Power Producers (IPPs) also invest, own, and operate power generation facilities, mostly based on hydro resources. However, as the owner and operator of the national grid, NEA serves as the single buyer for the IPP-generated electricity for domestic grid-based electricity supply. NEA's Board of Directors is chaired by the Minister of Energy, and consists of representatives from the Ministry of Energy; Ministry of Finance; the industry, commerce, and financial sector; the consumer pool and the non-government power sector.
4. To meet the increasing power demand, NEA is prioritizing the development of a suite of proposed hydropower projects, among which the 335MW UAHP is a high priority due to its expected low generation cost and high availability of firm power. The ultimate purpose of power generation is to increase domestic energy supply through the national grid; in the future, surplus energy maybe exported. NEA is also responsible for the planning and implementation of the IKHP. A list of other projects currently at an advanced stage of planning and design by NEA are presented in Annex 1. (The proposed Upper Arun and Ikhuwa Khola projects are not included in the annexed list as they are still in the early stages of design.)
5. **Project planning background.** The proposed UAHP project site was first identified by the Master Plan Study of Koshi River Water Resources Development by JICA in 1985. A subsequent reconnaissance study was conducted by NEA in the summer of 1986. In 1991, a feasibility study of the project was completed on behalf of NEA by a Joint Venture of Morrison Knudsen Corporation, Lahmeyer International, Tokyo Electric Power Services Co.,

and NEPECON. A preliminary Environmental Assessment was also carried out. NEA had intended to develop the UAHP only well after completion of the Arun III Hydropower Project. The two projects are not interdependent, and no specific sequencing is required to ensure the viability of each. After failing to achieve financial closure on Arun III, NEA shifted focus to the development of other hydropower projects outside the Arun Valley. In 2011, in order to meet increasing electricity demands and mitigate load shedding, NEA revisited and reviewed the feasibility study of UAHP and reaffirmed it as a priority project due to its relatively low cost of generation, its availability of high firm energy and potential to contribute to the Integrated Nepal Power System, and its location in the power deficient eastern region of Nepal. The review also identified changes in available infrastructure at and around the project site, and collected additional information contributing towards the detailed engineering design of the project.

6. In February 2013, a cabinet decision granted the NEA permission to implement the UAHP under the ownership of the Government of Nepal. The Department of Electricity Development informed NEA that a Survey License would not need to be issued to NEA since NEA would be implementing the project on behalf of the Government of Nepal. The associated IKHP would be developed under the umbrella of the UAHP, but unlike the UAHP, which is wholly owned by the Government of Nepal, IKHP would have the option of being jointly developed with the participation of the local community. Nonetheless, irrespective of how the two projects are viewed under national law, for purposes of the proposed studies they are being treated in an integrated fashion.
7. **World Bank involvement.** The World Bank is supporting the proposed studies as part of its ongoing engagement with and support to the Government of Nepal in strategic planning and detailed project preparation for priority projects in the hydropower sector. While decisions related to the future financing of the project have not yet been taken, the proposed studies must be carried out in accordance with World Bank Operational Policies including Safeguard Policies and Environmental, Health and Safety (EHS) Guidelines, in addition to applicable national legislation.

Project components and linked activities

8. **The Project.** The project components to be covered under this consultancy will include Upper Arun Hydroelectric Project (UAHP), Ikhuwa Khola Hydroelectric Project (IKHP), various ancillary activities related to each hydroelectric component, and the required transmission lines. These are described below and referred to collectively thereafter as “the Project,” unless otherwise specified.
9. **Upper Arun Hydroelectric Project (UAHP).** The UAHP is a proposed 335 MW hydroelectric facility to be located on the Arun River in Sankhuwasabha District of eastern Nepal; about 15km south of the international border with Tibet and 220 km east of Kathmandu (see Annex 2). The proposed dam site is located in the Chepuwa Village, in a narrow gorge about 350m upstream of the Arun River’s confluence with the Chepuwa River. The proposed power plant site is located in the Hatiya Village 16km downstream of the dam site, near the Arun River’s confluence with the Leksuwa River. The right bank of the Arun River at the proposed UAHP site falls within the Makalu Barun Buffer Zone, which is adjacent to the Makalu Barun National Park. The proposed UAHP damsite is therefore located at the edge of the Buffer Zone. UAHP is the upstream most of the three major hydropower projects currently identified and under preparation in the Arun Basin, the other two being the 900 MW Arun III project and the 300 MW Lower Arun project, both of which are more advanced in their preparation status and have already been licensed to IPPs(see

Annex 3). These three projects are functionally independent from each other and do not require any specific sequencing or coordination in their development in order to be viable. Nonetheless, all three projects may share a common transmission line to evacuate power to the nearest load center in Terai (about 150 km from the UAHP site). The process for finalizing decisions about alignment and development of the transmission line is discussed further in paragraph 13 below.

10. **UAHP salient features.** As informed by an initial feasibility study completed in 1991, the proposed UAHP is designed to be a Peaking Run of the River (PRoR) project with gated weir across the Arun River. Intakes on the left bank of the river are proposed to divert the design discharge of 78.8 m³/s through an intake tunnel to three underground desanding basins, a headrace tunnel of 7.8 km, surge tank, drop shaft, pressure tunnel, and ultimately to the underground powerhouse for power generation. Water would be retained for a period of a few hours only in a peaking pond and then released through the tunnel during peak hours. After power generation, water will be released back to the Arun River (see Annex 4). A capacity optimization study in 2011 established the proposed UAHP's capacity of 335 MW and annual energy generation of 2050 GWh. The salient features of the proposed project as informed by the initial feasibility study are listed in Annex 5. NEA will be assisted by an international engineering consulting firm, being contracted in parallel to the consultancy described in these TOR, to inform the final decisions about siting and design of these salient features. NEA will facilitate coordination across the consulting teams to ensure that the inputs from the environmental and social assessment and planning studies described in these TORs feed into these final siting and design decisions.
11. **Ikhuwa Khola Hydroelectric Project (IKHP).** NEA has also proposed to develop the 18 MW IKHP, a medium sized hydropower project, in tandem with the UAHP. The proposed IKHP site is located on a tributary to the Arun River approximately 8 km downstream of the proposed UAHP powerhouse site, and 5 km upstream of the proposed Arun III Hydropower Project headworks (see Annex 6). The IKHP project is envisioned to supply construction power to UAHP and may be jointly developed with the participation of the local community. The Department of Electricity Development (DoED) of the Government of Nepal plans to complete a feasibility study and an initial environmental examination for IKHP in 2014.
12. **Site access.** The proposed UAHP and IKHP sites are not presently accessible by motorable road. The closest point of road access is Num Bazaar, which is close to the proposed dam site of Arun III Hydropower Project. Num Bazaar can be reached from Kathmandu by taking a flight to Tumlingtar, then driving approximately 15km on an all season road to Khadbari, followed by approximately 40km on a fair weather road. The fair weather stretch is planned to be upgraded to an all season road. Road access from Num Bazaar to the proposed UAHP and IKHP sites is then planned as follows:
 - a. *Num-Kimathanka Access Road:* The Department of Roads of the Government of Nepal is currently constructing the fair-weather North-South Koshi Road, which will connect Nepal to the Chinese border at Kimathanka. The proposed northward extension will connect Num to Digha via Barun Bazaar. It will extend along the right bank of the Arun River, passing very close to the proposed UAHP powerhouse.
 - b. *UAHP Project Access Road:* To connect the UAHP powerhouse with the dam site, the project will require building of a dedicated access road of approximately 23.4 km, including an estimated 1.7 km of road tunnel and a bridge over the Arun River (see Annex 7). The proposed route would initiate from the Num-Kimathanka Road between Gola and Barun Bazaar, at a location approximately 24 km from Num.

- c. *IKHP Access Road*: The length and route of any additional access road required to reach the IKHP project site is not yet determined, as the feasibility study for this project is still underway.
13. **Power transmission.** A power evacuation study for the UAHP and IKHP projects has not yet been carried out. One option for power evacuation from UAHP is via a 45km, 220 kV transmission line to the interconnection point at Tumlingtar. Another option is to evacuate power through the proposed Arun III project's substation. The detailed engineering design study for the UAHP project will evaluate these two and any other options to connect to the national grid to inform a final decision on both alignment and design. The final decision will depend in part on decisions related to power evacuation for the Arun III and Lower Arun projects. While the two IPPs for these projects have signaled a preference to let GoN construct the transmission line for all three projects and to pay wheeling charges to the GoN to make use of the line, they may decide to finance and build at least the lower portion of the line themselves depending on the GoN's expected delivery timeline vis-à-vis their own project development timelines. A lower voltage transmission line will meanwhile be constructed to connect the IKHP powerhouse to the UAHP site to supply construction power, and also to the local grid to supply energy to the local communities. Final decisions regarding the route for the IKHP's transmission line will be determined during detailed design of that component.
14. **Ancillary works and other possible linked activities.** Various ancillary works will be required for project implementation, including contractor camps, spoil and waste rock disposal areas, borrow areas, NEA staff housing, etc. These, and any other activities associated with the project that could be considered "linked activities" as defined in World Bank OP 4.12 (Para 4) – e.g., activities which are directly related, necessary to achieve the Project objectives, and planned to be carried out contemporaneously – shall also be covered under this assignment. The Consultant will consult and discuss with NEA and World Bank to identify all such linked activities under the screening and scoping stage of the consultancy (Phase II Part 1, as outlined below).

Objectives of this Consultancy

15. The objective is to conduct and complete environmental and social impact assessment with associated environmental and social management plans, as well as planning and design for the Project in accordance with relevant laws and policies of the Government of Nepal (GoN) and the safeguard policies of the World Bank.¹
16. The Consultant shall ensure that all positive and adverse impacts associated with construction and operation of the Project, including all associated/ancillary works and linked activities if any, are taken into account. Specific objectives of the consultancy include:
- To carry out site investigations to collect primary data and review all available relevant secondary data to establish a comprehensive environmental and social baseline (including physical, biological, social, cultural and economic environments) for the Project Area of Influence;

¹The Consultant is also encouraged to consider other relevant international standards including those of other international financial institutions, export credit agencies, and private sector investors (e.g., IFC Performance Standards, International Hydropower Association Sustainability Guidelines, Equator Principles etc.), and reference applicable aspects of those standards in the assessment process when they are more stringent.

- To screen, identify and assess potential positive and adverse environmental and social impacts, including direct, indirect, and induced and environmental and social impacts associated with all Project activities, as well as cumulative impacts of the Project when taken together with impacts associated with the Arun III, Lower Arun and other development projects (hydropower or otherwise) planned or underway in the Arun River basin;
 - To develop proposed measures to avoid reduce, mitigate, manage and/or compensate for such impacts, including the institutional arrangements and required capacity building to implement all such measures and monitor their effectiveness;
 - To identify potential opportunities and design appropriate measures to maximize complementary economic, financial, environmental and social benefits of the Project;
 - To ensure that all affected people receive assistance to enable them to improve or retain their pre-Project living standards and be able to participate and share the benefits of the development;
 - To ensure that impacts on vulnerable and indigenous communities are avoided, minimized, mitigated and/or compensated, and that mechanisms are designed to ensure their meaningful participation during Project planning and implementation, and that they receive culturally appropriate benefits under the Project;
 - To confirm that the Project enjoys broad support from indigenous communities through free, prior and informed consultation;
 - To conduct a public consultation process that ensures that Project affected people and other stakeholders are informed about the Project and its possible impacts, as well as offered the opportunity to share their opinions and feedback so as to input into these environmental and social assessment, planning and design studies and their implementation; and
 - To document all of the above mitigation and development interventions in appropriate forms and formats to be further discussed and agreed upon with NEA and in line with World Bank standards.
17. The Consultant shall carry out this assignment by reviewing and drawing from information collected under previously conducted studies, supplementing it through additional literature research and field data collection and planning activities that would vary across the different assignment tasks. The Consultant shall validate and report on the quantity and quality of the available data.
18. The Consultant shall ensure that the environmental and social assessment, planning and design outputs of this assignment will comply with and meet the legal and technical requirements of the Government of Nepal and World Bank environmental and social policies. This assignment is considered complete only upon approval and clearance of the final versions of the required environmental and social assessment and planning documents by the Government of Nepal, with concurrence from the World Bank.
19. Given the size and complexity of the Project and its potential impacts, in accordance with World Bank Safeguard Policies, an Independent Panel of Experts (IPOE) will also be contracted separately by NEA to provide guidance throughout the environmental and social assessment and planning process. The Consultant's draft and final deliverables will thus also be subject to review by the IPOE, as part of the Government's review and approvals process.

Scope of Services

20. The assignment will be carried out in two phases in synchronization with the engineering design assignments for the Project, which will be contracted separately. Phase I of this

assignment will be carried out to feed into the analyses of Project alternatives (including both UAHP and IKHP components), including engineering design alternatives. Phase II of this assignment will carry out the detailed environmental and social assessment, planning and design for the chosen design alternatives for each hydroelectric component (e.g., UAHP and IKHP), in parallel to the separately-commissioned detailed design studies. In both phases, NEA will facilitate the interaction between the Environmental and Social Consultant (hereafter, “the Consultant”) and the Engineering Design Consultant.

Phase I: Environmental and Social Input into Analysis of Project Alternatives

21. A feasibility study has been completed for the UAHP, including initial recommendations for detailed engineering design, based on a preliminary alternatives analysis. A similar feasibility study for the IKHP is scheduled to be completed this Nepalese fiscal year, i.e., July 15, 2014. These studies will be reviewed under the separately contracted Engineering Design assignment, and analyzed in depth against alternative design options— including, for example, alternative siting and/or alignments for the dam (with implications for the total flooded area), tunnels, powerhouse, access roads, etc. – before a final selection is made and detailed engineering design starts. Phase I of this consultancy is therefore to carry out a parallel assessment of the environmental and social considerations relevant to the facility siting, alignment and other design alternatives of the UAHP and IKHP components (and their ancillaries) under study, as input into final decisions on the detailed engineering designs for each. Furthermore, Phase I aims to summarize the social and environmental considerations that factored into the Government of Nepal’s strategic decision making process about energy generation options and priorities and basic site selection for the two hydroelectric components.
22. The following tasks will be performed by the Consultant in this regard²:
 - a. Review the feasibility studies of the UAHP and IKHP, and summarize the extent of consideration of environmental and social issues in forming the technical recommendations on aspects such as siting, alignment, design (including peaking power generation type), phasing, and construction techniques for key Project facilities.
 - b. In tandem with the more in-depth review of feasible engineering design alternatives (including siting, alignment, phasing and construction techniques for key Project facilities and their associated or ancillary works), to be carried out in parallel to this consultancy by the Engineering Design Consultant, assess the environmental and social impacts (positive and negative) for each design alternative under analysis. NEA will ensure that the Engineering Design Consultant provides relevant information on the design alternatives under consideration to the Environmental and Social Consultant.
 - c. Share and discuss the assessment findings and conclusions with the Engineering Design Consultant, and provide input to the finalization of the design alternatives analysis, including recommendations on the design alternative(s) that best minimize negative environmental and social impacts and maximize positive impacts.

²It should be noted that access roads in particular have the potential to cause even greater environmental and social impacts than hydropower facilities themselves, particularly for projects in remote areas such as the proposed Project, where new roads may lead to indirect and induced land use changes. The review and analysis should therefore include particular attention to site access options and alternatives considered or under consideration.

23. The above tasks will be conducted through desk reviews, field verification and consultations with stakeholders, particularly local communities. This will require the Environmental and Social Consultant to work closely with the Engineering Design Consultant. All consultations shall be documented.
24. In addition, the Consultant shall review the 1985 Master Plan Study of Koshi River Water Resources Development and other energy sector planning documents, as well as interview key government officials, in order to document the social and environmental considerations taken in the government's analysis of alternative energy sector investments which led to the UAHP and IKHP project concepts. The report to be produced should encompass all available information on the comparative positive and negative environmental and social impacts of feasible alternatives to the Project, in terms of: (a) the "without project" alternative, (b) other potential energy supply sources; and (c) the alternative of energy efficiency improvements, in addition to (d) facility siting, alignment, design, phasing and construction technique alternatives as explained in paragraph 22 above. The report should also describe and include documentation, to the extent available, of public engagement in the government's process of analyzing these alternatives. Based on the Consultant's findings, if evidence of meaningful consultations to date on project alternatives is not apparent, the Consultant's report should outline an approach and specific plan for further engagement and consultation to be carried out during the course of implementation of the consultancy.
25. **Alternatives analysis report:** The outcome of all of the tasks outlined above shall be documented in an Alternatives Analysis Report for the Project, encompassing both the UAHP and IKHP components and all their ancillaries and identified linked activities. The substance of the report will later be incorporated into the Environmental and Social Impact Assessment studies to be produced under Phase II of the consultancy.
26. ***Key expected outputs of Phase I of consultancy:*** *Analysis of Alternatives reports for both UAHP and IKHP components of the Project, including their ancillaries, laying out the comparative social and environmental impacts and benefits associated with: (a) the "without project" alternative; (b) alternative energy supply sources, (c) energy efficiency investment alternatives, and (d) facility siting, alignment, design, phasing, and construction technique alternatives considered for the Project.*

Phase II: Detailed Environmental and Social Impact Assessment, Planning and Design Studies

27. Phase II of the assignment will cover the social and environmental aspects of the Project design outcome from Phase I. The first two tasks are described separately below. The tasks covered under the Terms of Reference for Phase II are preliminary and aim to provide overview of the Project and studies to be conducted under this assignment. The Consultant shall develop site specific ToR for ESIA to be completed following the procedure of Scoping as per Environment Protection Rules (EPR) 1997 of Government of Nepal and World Bank Environmental and Social Safeguard Policies. The Consultant shall conduct the ESIA and other environmental and social assessment and planning studies based on the ToR cleared by the World Bank and approved by the Ministry of Environment.

Phase II Task 1: Environmental and Social Screening and Scoping

28. As a first task in this phase of work, in light of the final engineering design decisions made at the conclusion of Phase I, the Consultant is expected to identify the Project's salient environmental and social aspects and potential impacts to be studied in more detail, verify the scope of the detailed studies to be undertaken, carry out initial public consultations, and develop detailed a work plan to carry out the studies. The specific subtasks are outlined below:

- a. *Review of all available existing information* on social and environmental baseline conditions and potential impacts related to UAHP, IKHP, and associated and linked activities and projects, including transmission line(s) and access road(s), as well as other ongoing or planned projects and activities in the watershed, in particular the other hydropower projects planned for the same basin, as well as other economically productive activities carried out within the region/basin including agricultural production, manufacturing, and tourism. Several previously conducted studies will be made available by NEA – see Annex 8. The Consultant will also be responsible for identifying any other existing studies or data of relevance to the assignment.
- b. In accordance with the requirements of the EPR, the VDCs, institutions and communities in the Project area shall be notified about the environmental and social scoping through a public notice. The Consultant shall publish a Scoping notice in national daily newspaper mentioning the ongoing ESIA of the Project with a brief description of the Project and activities, a list of districts and VDCs likely to be affected by Project, the impact areas, request for comments and suggestions along with address of communication. The copy of notice shall be displayed in all Project-affected VDCs and a *muchulka* (signature of witnesses) confirming the display of the public notice shall be prepared.
- c. Carry out an *initial site visit* including formal and informal discussions / meetings with local communities, government entities and other key stakeholders, in order to ground truth the information reviewed from existing sources about the Project's social and environmental context, complete an initial screening of likely environmental and social impacts and sensitivities, and enable logistical planning of additional required fieldwork to complete the full analyses and plans.
- d. Develop a *detailed Project description encompassing both UAHP and IKHP* for purposes of the ESIA's for each as well as other required environmental and social studies. The Project description would be based on descriptions developed under the feasibility analyses for each hydroelectric component and their major ancillaries, but should synthesize and provide an integrated overview of all key aspects of relevance to the proposed studies. This would include, for example: location of each hydroelectric component and their energy generation capacity; Project components for each and their basic design, including all ancillary aspects (e.g., dam and reservoir, diversion tunnels and powerhouse, power transmission lines, access roads and tracks, resettlement sites, borrow and disposal areas, construction camps, etc.); time-sequenced explanation of primary activities to be carried out during pre-construction, construction, operation and maintenance; indication of support facilities and services required including any required off-site investments; life span of the investments.
- e. Define and describe the Project's *Area of Influence*, based upon the area likely to be affected either directly or indirectly by each component, including ancillaries and linked activities; as well as unplanned induced developments (for example, spontaneous settlement, logging, land clearing along access roads, etc). The Area of Influence should

include, for example: (a) the direct footprint of all Project components; (b) off-site areas required for resettlement or compensatory tracts; (c) the air shed (e.g., where the impacts of blasting activities, exhaust or dust may be felt); (d) the Arun River watershed, including tributaries, forests and other areas which may be either directly impacted or which have demonstrable ecological or social connectivity to the directly affected areas; (d) human and aquatic and terrestrial habitats, as well as migratory routes of humans and of terrestrial and riverine flora and fauna, particularly where they relate to public health, economic activities, or environmental conservation; and (e) areas used for livelihood activities (hunting, fishing, grazing, gathering, agriculture, etc.) or religious or ceremonial purposes of a customary nature which may be affected by the Project. The Area of Influence should also consider any transboundary implications of the Project activities or linked/associated investments.

- f. On the basis of the Phase I task outcomes and through desk reviews and field screening and verification, identify and describe the Project's Environmental and Social Impact Zones, which would form a subset of the total Project Area of Influence and should cover the areas directly affected by all civil works planned under the Project, as well as those activities that are not financed by the Project but considered as "linked" as described in paragraph 14 above. This is an initial and general assessment and will provide a basis for the development of the social planning task (Phase II Task 3 below). Develop a matrix to document i) identified Environmental and Social Impact Zones against civil works activities, ii) identified categories/kinds of social impacts, including direct physical impacts and the impacted population, and iii) a preliminary assessment of the expected degree of impacts (scale and severity).
 - g. Prepare a detailed *Scoping Report*, to consist of the following components:
 - i. Initial Project description and definition of overall Project Area of Influence (including Environmental and Social Impact Zones);
 - ii. Summary of findings on the key social and environmental baseline aspects and potential impacts, including an indicative assessment of scale and severity, which should be included for further study in the environmental and social assessment and planning studies (to incorporate the social impact matrix as described above);
 - iii. Confirmation on the applicable World Bank safeguard policies as well as EPR 1997 and other national standards and regulations which apply to the Project, broken down by the Project's major components;
 - iv. Draft TORs / outlines of each of the environmental and social assessment and planning studies to be undertaken based on the issues identified during scoping process.
 - h. The format of the report should include both a write-up as well as a summary presentation to use in the first round of formal stakeholder consultations.
29. **Stakeholder consultation strategy for the planning phase, and initial consultations.** Given the high profile and the history of hydropower development in Nepal, stakeholder engagement and consultations needs to start early as part of the planning process. Following incorporation of feedback on the draft Scoping Report provided by NEA and the World Bank, the Consultant will:
- a. Conduct VDC level stakeholder consultation meetings in each Project affected VDC to discuss the findings of the Scoping, major issues of the project and plan of the studies.

Similar consultation shall be made with Buffer Zone Management Authority and Makalu Barun National Park Authority. The comments and suggestions received from the participants shall be collected and incorporated in Scoping and ToR documents.

- b. Conduct district level stakeholder meeting to discuss the findings of the Scoping, major issues of the Project, and plan of the studies. The key stakeholder like District Forest Office, District Development Committee Office, District Administration Office, District Education Office and District Agriculture Development Office, local NGOs working in the area, shall be invited for the meeting. The Consultant shall make a brief presentation of the findings of the Scoping, key environmental and social issues of the Project and plan of the ESIA and other environmental and social planning studies. The comments and suggestions received from the participants shall be collected and incorporated in Scoping and ToR documents.
 - c. Conduct Central Level workshop to present the findings of the Scoping to the key stakeholder who directly or indirectly influence the Project development. The participants of the central workshop will be almost same as proposed for upcoming workshop.
 - d. Develop a stakeholder consultation strategy and action plan to be adopted for the planning phase. This strategy will be further developed later into a full project consultation strategy, as part of the Public Participation and Consultation Plan outlined under Phase II Task 3 below.
 - e. Carry out and document a round of scoping-stage stakeholder consultations on the contents of the Scoping Report, in particular the initial Project description and proposed Area of Influence, findings of environmental and social screening, and the draft TORs / outlines for the proposed studies.
30. **Finalization of Scoping report and ToR document and development of work plan.** Based on feedback received during the consultations, the Consultant shall revise and finalize the contents of the Scoping Report, and ToR document and develop a detailed work plan for carrying out the assessments and studies as outlined. The revised Scoping Report and ToR document shall be submitted to NEA along with documentation of the consultations carried out, including information on who attended, a summary of issues raised, and how they have been considered. NEA and World Bank will review the documents and provide their comments and suggestions. The Consultant shall incorporate the comments and submit the documents to NEA for the approval of Ministry of Environment. The Consultant will make presentation on the Scoping and Terms of Reference document to Ministry of Environment and submit revised documents to NEA incorporating the comments of ministry. NEA will forward the revised s to Ministry of Environment for the approval.
31. ***Key expected outputs of Phase II Task 1:****(a) ESIA Scoping document covering the project description, definition of Project Area of Influence, and description of Environmental and Social Impact Zones, and environmental and social issues. (b) ESIA TOR / outlines for each environmental and social assessment and planning study to be carried out under subsequent tasks of the consultancy, reflecting the feedback received from stakeholder consultations as well as NEA, the World Bank, and the International Panel of Experts. (c) A detailed work plan for carrying out the assessments.*

Phase II Task 2: Environmental Assessment and Planning

32. The Consultant shall develop one or more Environmental and Social Impact Assessment (ESIA) reports, including Executive Summary (and related public consultation materials), for the Project. The final decision on how the assessment and management planning results should be presented – e.g., as one single ESIA for the Project, vs. two separate ESIA's for the two hydroelectric components of the Project and their respective associated, ancillary and linked activities – will be made at the screening and scoping stage of this assignment (e.g., Phase II Task 1). Regardless, the process should include the key elements outlined below, and also shall ensure consistency with World Bank requirements for Environmental Assessment as per World Bank OP 4.01 Annex A (see Annex 10), as well as the Government of Nepal EPR requirements for EIA. The resulting deliverables shall also include a single unified Executive Summary (to be available in both English and Nepali), as well as a single integrated Cumulative Impact Analysis, as outlined further below.
33. In addition to environmental aspects, the study or studies shall incorporate social baseline, impact assessment, and management information, the key aspects of which are described in more detail in Task 3 of this phase of the consultancy, such that the final deliverables present an integrated assessment of both environmental and social aspects of the proposed Project activities. While social and environmental components of this overall consultancy are presented separately in these TOR, the multi-disciplinary Consulting team is expected to work collaboratively to ensure holistic analysis of social and environmental project impacts (for example, in assigning significance to environmental impacts in light of the socioeconomic or cultural value of the affected resource), as well as to capture and assess potential secondary effects of proposed mitigation measures (such as environmental impacts associated with project resettlement, or socioeconomic impacts associated with proposed environmental conservation and offset programs, etc.) For specific social aspects which are expected to produce their own stand-alone planning documents as outlined in Task 3 below, the integrated ESIA(s) shall summarize relevant aspects of these more detailed studies. In addition, any other relevant social impact and management aspects identified in the final approved version of the ESIA ToR (output from Phase I of consultancy) should be covered.
34. **Baseline studies.** To underpin the ESIA(s) and additional studies as outlined in these terms of reference, the Consultant shall assemble, evaluate, and present baseline data on all relevant environmental and social characteristics of the full Area of Influence, including data collected from primary (field) and secondary sources, spanning physical, biological (both aquatic and terrestrial), socioeconomic, health, political, ethnic, and cultural aspects. Some information may already be available from the feasibility studies and previous environmental studies, but may need to be updated. The Consultant should evaluate the methodologies used as well as geographic and temporal coverage of past fieldwork and, where deemed insufficient to meet international standards, should carry out additional fieldwork to fill in gaps. Full scoping of the baseline studies will be formulated during the screening and scoping phase of the consultancy (Phase II Task 1) with a view to focusing on the most relevant and important aspects; nonetheless, key aspects are presumed likely to encompass the following (for each hydropower component):
 - a. *Physical context, including:*
 - i. *Hydrology:* Describe the extent and characteristics of the catchment area of the Project in relation to the larger watershed. Map the surface hydrology and the current flow regimes of the Arun River, its tributaries and other water bodies as applicable in the Area of Influence, showing its context within the full watershed, and transboundary aspects. Describe location and characteristics of

glacial lakes and snowpack distribution in relation to surface hydrology. Include characterization of groundwater in the region. The baseline should provide information on discharge (mean monthly, maximum, minimum) at the proposed dam sites along with locations upstream and downstream, and capture seasonal variations in flow, based on at minimum one full year's worth of field monitoring results (and more if available). Include estimated flood stream-flows for annual average and highest historic flows at the proposed dam sites and at townships and other populated areas along the river. Also include probable maximum flood (PMF) flows, clearly describing assumptions made in the estimation, at the proposed dam sites and the powerhouse sites. The flow parameters (discharge/velocity/water depth) in reduced flow section associated with minimum monthly average flow and proposed downstream release shall be provided.

- ii. *Soils, sediment movement, sedimentation, and erosion*: Include a characterization of soil types, locations and qualities. Characterize erosion rates in the project area, noting the corresponding geological conditions, slope steepness, vegetation type, and present land-use conditions. Describe the dynamics of sediment movement in the watershed, along with seasonal variations in the estimated amounts of suspended sediments and bed load presently transported past the dam sites. Also include a baseline for any potential "pollutant" in sediments during construction and operational phases of the Project.
- iii. *Water quality*: Describe the baseline water quality of the Arun River, its tributaries, and other water bodies in the Project Area of Influence in terms of parameters relevant to public health and aquatic resources (e.g. biota, biodiversity, and habitat). Include seasonal variations in water quality and relationships to flow and other controlling factors. Water quality parameters of Arun River shall be measured at least for headworks, reduced flow zone and powerhouse tailrace area.
- iv. *Geology, geomorphology, and seismology*: Cover, in particular, the presence or absence of sulfides or heavy metals in subsurface and surface rock in the areas where blasting and tunnel drilling will occur (which could result in acid rock drainage or other waste management issues associated with waste rock disposal); and characterize faults and overall seismic activity in the region which could affect or influence design, construction and maintenance aspects of the dams and other project infrastructure. Characteristics of discontinuities and weathering patterns of the rock mass along the tunnel alignment, continuity, roughness, attitudes, aperture, ground water condition and rock mass quality shall be provided.
- v. *Landslide and other natural hazard propensity*: Describe the natural phenomena that pose potential risk to the project including Glacial Lake Outbursts (GLOFs), Landslide Dam break Failure Floods (LDFFs), very high river flows which result from sustained rainfall in the watershed upstream of the site, incremental "mass wasting," as well as possible extreme events.
- vi. *Climate change*: Characterize anticipated climate change effects to the region and their expected impacts to river hydrology and flow rates, flood profiles (including the potential for GLOFs and LDFFs, as well as changes to the probable maximum flood profile), as well as their potential ecological effects.

Include discussion of climate change impacts on upstream glacial hydrology and water supply to the basin; on water demand relative to supply in the Area of Influence; on soil movement and mass wasting; as well as on forest, pasture, and agricultural land composition and use.

- vii. *Physical cultural resources*: Carry out field reconnaissance, review of literature, and interviews / questionnaires with key stakeholders (including relevant government bodies, academics, NGOs, local religious leaders and elders, etc.) to identify and characterize any sites, structures, or natural features and landscapes in the Project Area of Influence – above ground, underground, or underwater – that are of archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Indicate whether any identified cultural resources are subject to special treatment under national law. Indicate the likelihood of “chance finds” during project construction, and the presumed typologies of such finds.

b. *Biological context, including:*

- i. *Aquatic ecology*: A detailed characterization of aquatic flora, fauna and natural habitats based on full seasonal field data, secondary information, as well as interviews with local residents. This would include, in particular: migratory and endemic species (including any applicable conservation or protection status, and IUCN Red List status), economically or culturally important species, and others which play important ecological functions as food sources or sustainers of the habitat of identified key species. Characterization of migratory patterns, including length and season of migrations (in both tributaries and mainstream river, as applicable), as well as spawning locations and habits should be included. The study should cover not just the Arun River, but also tributaries and other water bodies in the Area of Influence.
- ii. *Terrestrial ecology*: A detailed characterization of terrestrial flora, fauna and natural habitats based on full seasonal field data, secondary information, as well as interviews with local residents. This would include, in particular: migratory and endemic species (including any applicable conservation or protection status, and IUCN Red List status), economically or culturally important species, and others which play important ecological functions as food sources or sustainers of the habitat of identified key species. The multiple bio-climatic zones along the slopes of the valley should be characterized, including the interaction of species within the various zones, and areas of importance as corridors for wildlife movement throughout the region. For avifauna, the baseline should in particular make note of any migratory flyways or Important Bird Areas (IBAs), and also characterize species which may be particularly susceptible to impacts from project activities and infrastructure (due to, for example, their propensity for perching, roosting, and/or nesting on power transmission lines, poles, or towers; physical characteristics or behaviors which could increase risk of collision, etc.).
- iii. *Natural habitats*: The UAHP damsite is located at the edge of the Makalu Barun Buffer Zone, which abuts the Makalu Barun National Park. Some of the Project’s direct footprint is thus expected to fall within the Buffer Zone. The overall Area of Influence of the Project will include areas of the Buffer Zone, and may also include areas of the adjacent Makalu Barun National Park. For both aquatic and terrestrial habitat, the baseline should include a determination

on the presence of critical natural habitat as defined by World Bank OP 4.04.³ All areas of critical natural habitat identified should be fully characterized, including their legal conservation status and administration and any relevant land or resource use restrictions. For legally protected areas, the capacity of entities responsible for its management should be assessed. This would include the Makalu Barun National Park and Buffer Zone, but may also include other areas to be determined by the Consultant.

c. *Socioeconomic, cultural and health context, including:*

- i. *Water use and users:* Identify all existing water uses, including both permitted and non-permitted, for the Arun river, its tributaries, and other water bodies in the Project Area of Influence, such as for irrigation, domestic consumption, industry (if any), recreation, etc. Identify the user groups for each.
- ii. *Land use:* Characterize current land uses in the project area and indicate major trends in land use change which are taking place irrespective of the proposed project. This process should include remote sensing through current satellite imagery and ground verification for preparation of thematic forest-cover and land-use maps. Land-use change trends should also be considered to understand the dynamics of land-use and recent forest-cover change trends.
- iii. *Land tenure:* Characterize types of land tenure (e.g., titles, customary), formal and informal institutions related to land tenureship, and modes of land transactions in the project area (a full land and asset registry for individuals and households to be displaced will be prepared separately as part of the Resettlement Action Plan).
- iv. *Demography and ethnicity:* Develop a demographic and ethnic profile of the population in the project area. For communities specifically affected by the project, describe in detail their history, physical spread, social clustering, cultural and traditional characteristics, interactions and relations among various groups.
- v. *Livelihood activities:* Characterize economic and subsistence-oriented livelihood activities, both for communities residing within the Project Area of Influence as well as for individuals or industries which depend on resources in the Project Area of Influence. Discuss in particular those activities related to fisheries, forestry or forest products, or other natural resources, as well as agriculture and industry (if any). Discuss gender related work load sharing and family economy; dependency and use of local and external resources; and production and marketing systems and patterns.
- vi. *Socioeconomic development status:* Map out the socioeconomic development status of the project area, including resource conditions, economic activities, employment sources and trends, infrastructure and service provision (education, transport, extension services etc.), as well as local development

³ Critical natural habitats are defined by World Bank Operational Policy 4.04, Annex A to include existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the IUCN classifications); areas initially recognized as protected by traditional local communities (e.g., sacred groves); sites that maintain conditions vital for the viability of these protected areas; areas with known high suitability for biodiversity conservation; and sites that are critical for rare, vulnerable, migratory or endangered species. Refer to the operational policy for additional guidance.

needs, priorities, challenges, and planned or ongoing development interventions. Include a baseline poverty mapping, along with discussion of causes thereof. Develop a socioeconomic baseline for affected communities covering indicators specific to living standard and well-being.

- vii. *Community health*: Provide an overview of key health issues, focusing on the presence of any disease vectors which may become more prevalent in the area due to the project (for example, waterborne vectors who inhabit slow-moving or standing water; HIV/AIDS or other sexually transmitted diseases which may become more prevalent due to worker influx, etc.), as well as the coverage and quality of health services available in the project area.
 - viii. *Indigenous and vulnerable peoples*: Identify the presence of vulnerable and indigenous⁴ peoples residing in the project area and compile information on their demographics, socio-cultural features, livelihood and employment patterns, use of natural resources, formal and information institutions, and interactions with other ethnic groups. Discuss social cohesion and leadership institutions. Provide gender-specific information as possible. Any contact or interviews for preparation of baselines or social assessment should be planned and carried out in a culturally appropriate manner, in a language acceptable and used by the communities and in coordination with any other preparation work being carried out with regard to Indigenous Peoples.
 - ix. *Religion and culture*: Provide relevant information on community festivals and rituals, in particular those involving the Arun River or its tributaries, or other key resources to be affected by the project.
35. **Impact analysis**. Assess all direct, indirect, and induced impacts and risks in both the short-term and the long-term resulting from both construction and operation stage activities of the Project, and propose mitigation measures for each. (Cumulative impacts are discussed separately below.) The analysis should follow an internationally recognized methodology to assign significance levels to each identified impact, both before applying recommended mitigation measures and afterwards (e.g. residual impact). The analysis should also include an inventory of communities that are likely to be affected and differentiate the types and levels of impacts upon different communities. While the full scope of coverage of the impact analysis will be verified during the screening and scoping stage in order to reflect the highest priority issues, the following issues are considered likely to be relevant:
- a. Changes to flow rates and patterns, velocities, water depth and water quality of the Arun River and tributaries and to groundwater characteristics in the region;
 - b. Loss of river connectivity and impacts to migratory fish and other aquatic biodiversity;
 - c. Ecological flow analysis, to determine the required minimum flow to be released from each dam at all times in order to sustain the valued river functions identified in the baseline assessment. Relevant valued river functions to consider span both ecological (including downstream aquatic biodiversity and habitats, fish migration pathways, etc.)

⁴ Refer to World Bank OP 4.10 (*Indigenous Peoples*), para. 4, for the criteria to be used in identifying indigenous peoples and determining the scope of applicability of the World Bank policy.

- as well as socioeconomic (to sustain fisheries, irrigation needs, domestic use, or other river-dependent livelihood activities), recreational, religious and cultural functions;
- d. Forest loss in terms of area, type of forest and species with details of the loss of listed species .The forest loss shall be calculated for each project component and facilities;
 - e. Impact due to spoil disposal;
 - f. Landslide and soil erosion impacts and slope stability ;
 - g. Quantification of the degree of degradation or loss of natural habitat and critical natural habitat (both aquatic and terrestrial) from direct construction and operation as well as induced from increased use or demand on forests and associated wildlife (timber and non-timber); Assessment of any loss of terrestrial biological connectivity.
 - h. Impacts from blasting activities on both natural and human receptors;
 - i. Impacts related to upstream and downstream changes to sediment movement, sediment deposition, and erosion;
 - j. Downstream impacts related to peaking pond flushing;
 - k. Impacts of water impoundment on river bed levels and reservoir bank stability;
 - l. Impacts of permanent and temporary land acquisition on land use patterns, topography, geology, and slope stability;
 - m. Impacts of underground excavation and construction works on ground water recharge dynamics, and subsequent effects on any existing spring water sources for local communities;
 - n. Changes in drainage patterns and resulting effects due to construction of project components and access roads;
 - o. Impacts to public health via potential water logging and degradation of land and water quality;
 - p. Impacts related to disposal of used lubricants and toxic chemicals, solid and liquid waste from camps;
 - q. Potential deterioration in air quality and increased noise pollution due to construction and operation activities;
 - r. Dam safety risks and issues, including analysis of the impacts to human life and livelihood, natural and built environment in the event of dam failure;
 - s. Impacts on traffic safety due to increased flow of heavy vehicles carrying construction material, workers etc;
 - t. Gender-specific impacts on household activities, employment at project site, illegal trafficking etc;
 - u. Induced impacts from Project-related influx – including increased stress on natural resources (especially forests), pollution and waste management issues, strain on local services and infrastructure, safety issues for the local community etc.;
 - v. Summary of all other social impacts covered under task -3.

36. **Cumulative Impact Assessment (CIA).**⁵ In conjunction with the ESIA(s) for the two hydropower components of the Project, the Consultant shall undertake a Cumulative Impact Assessment for the overall Project, focusing on identified Valued Environmental (and Social) Components (VECs) which may be affected by the Project and other development activities planned or underway throughout the Arun River watershed, including but not limited to the Arun III and Lower Arun Projects (see discussion on ‘stressors’ below, as well as Annex 9), and recommending project-level as well as strategic planning level recommendations for minimizing negative impacts and maximizing positive impacts associated with hydropower development at a basin scale. The specific subtasks shall include:
- a. *River basin planning and management framework.* Compile information on the legal and institutional framework of water resources management in Nepal as well as information on the main actors and current activities related to river basin management for the Arun Basin with a particular focus on other planned hydropower or irrigation investments both upstream and downstream.
 - b. *Identification of stressors.* Conduct a desk study to identify and describe all existing or reasonably foreseeable investments, facilities or activities (“stressors”) which have impacts on the flow regime (including connectivity, if migratory fish species which depend on such connectivity are present), water demand, or water quality in the Arun River and its tributaries throughout the watershed (including any significant upstream uses and planned or ongoing investments in China). This will include a preliminary estimation, based on previous studies and aerial information, of natural and regulated flows as a result of existing or planned hydropower plants and abstraction for other purposes. It will also include a preliminary identification of possible sources of sediment or contaminants that may potentially alter water quality within the projects’ direct areas of influence.
 - c. *Preliminary identification of VECs.* Based on thematic data and previous studies, identify the potential receptors which could be significantly adversely (or also positively) impacted by the identified stressors – i.e., the Valued Environmental (and social) Components. The prioritized VECs should consist mostly of receptors most vulnerable to hydrological or water quality changes that affect the flow regime, aquatic and riverine ecosystems and economic activities and livelihoods depending on water from the Arun River (e.g. fisheries, irrigated agriculture). The nature of the impacts will be described and their scale assessed in a qualitative manner.
 - d. *Site visits and consultations to prioritize VECs.* Guided by the results of the desk study, visit the major existing and planned hydropower plant sites and other essential interventions in the basin that may affect water flow and quality. Investigate impacts

⁵ The Consultant is advised to refer to the following guidance documents in developing the CIA:

- (i) IFC (International Finance Corporation). 2013. Good Practice Handbook, “Cumulative Impact Assessment and Management Guidance for the Private Sector in Emerging Markets.” http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_cumulativeimpactassessment.
- (ii) Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling, and D. Stalker. 1999. “Cumulative Effects Assessment Practitioners Guide.” Prepared for the Canadian Environmental Assessment Agency by the Cumulative Effects Assessment Working Group and AXYS Environmental Consulting Ltd. <http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=43952694-1>.

such as flow regulations, increased erosion or possible contaminant sources, and characterize impacts in terms of their effects on the VECs. During site visits, carry out consultations with local communities, government actors, developers, and other relevant stakeholders including NGOs, irrigation associations, academics, etc. Conduct standard water quality measurements (pH, conductivity, DO, susp. sediments) along the river during site visits and existing river flow gauging and water quality monitoring stations should be visited and evaluated. Based on the findings of the site visits, update and qualify the desk study results and conclusions.

- e. *Assessment of cumulative impacts on VECs.* In light of prioritized VECs, identify and assess potential aggregate environmental and social impacts and risks from the combined stressors in terms of the potential change in condition of the VEC (i.e., viability, sustainability). Additionally, identify any potential additive, countervailing, masking, and/or synergistic effects to describe if and how Project associated impacts and risks interact with one another.
 - f. *Determining significance of predicted cumulative impacts.* Define appropriate indicators and thresholds for acceptable VEC conditions. Describe impact and risk magnitude and significance in the context of past, present, and future actions to determine whether the above assessed impacts affect the sustainability and/or viability of the particular resource or VEC. Identify consequences and tradeoffs of implementing vs. not implementing the Project.
 - g. *Identification of potential mitigation measures.* Propose mitigation and management strategies to address significant cumulative impacts on VECs. Suggest informed adaptive management strategies to manage uncertainties. Identify and engage together with NEA, wherever appropriate, other parties needed for effective mitigation and management plans, in order to explore opportunities for collaboration on managing cumulative effects and to propose workable coordination mechanisms. Propose monitoring programs to determine effectiveness of proposed management measures.
37. **Environmental and Social Management Plan(s) (ESMPs).** Develop an ESMP, or two separate ESMPs for the UAHP and IKHP components as appropriate, encompassing the following, among other elements as determined to be necessary to meet the objectives of the consultancy, based on the findings of the assessment process:
- a. Details on all recommended measures to be taken during construction and operation of the Project to eliminate, minimize, mitigate, compensate and/or offset the identified adverse environmental and social impacts, as well as the recommended specific actions, indicators for monitoring and evaluation, institutional responsibilities, reporting arrangements, and budget needed to implement these measures.
 - b. Specific sub-plans to manage identified issues, including but not limited to the following elements (some of which may be combined, where determined to be appropriate), to incorporate site-specific and phase-specific mitigation measures that are identified through impact assessment process, as well as generic Environmental, Health and safety Codes of Practice based on international good practices for construction management and project operation which can be annexed to construction, operation and maintenance contracts, where appropriate:
 - i. Land clearing, wildlife relocation and peaking pond first-filling management
 - ii. Ecological flow specification and management

- iii. Aquatic ecology management, including fish and fisheries restoration measures (potentially to include a fish ladder, fish hatchery, protection and/or restoration of spawning areas, etc.)
 - iv. Measures to minimize and mitigate natural habitat degradation and loss, and development and implementation of conservation offsets where required to meet the objectives of World Bank OP 4.04
 - v. Reforestation / afforestation programs (including management of tree nurseries and plantations, if applicable, taking into consideration the requirements of World Bank OP 4.36 on Forests and OP 4.09 on Pest Management)
 - vi. Terrestrial ecology management
 - vii. Erosion prevention and sediment management program, including upper watershed management and restoration activities as well as sediment flushing management measures
 - viii. Construction camps management
 - ix. Construction waste and trash disposal
 - x. Pollution abatement
 - xi. Muck/spoil management
 - xii. Topsoil saving management
 - xiii. Watershed management
 - xiv. Buffer zone management Hazardous materials and explosives management
 - xv. Occupational health and safety management (with specific section on sub-surface activities including tunneling)
 - xvi. Environmental, health and safety training
 - xvii. Emergency preparedness and response
 - xviii. Dam safety plan(to be developed in detail by the Engineering Design Consultant; the ESMP should focus on summarizing the key elements of relevance to local communities and stakeholders)
 - xix. Traffic safety plans to minimize hazards to highway vehicular flow and to local inhabitants
 - xx. A summary of the specific social plans to be produced under Phase II Task 3 of the consultancy, including: Vulnerable and Indigenous Peoples' Development Plan, Resettlement Action Plan, Public Health Action Plan, Downstream Impacts Management Plan, Gender Action Plan, Benefit Sharing Action Plan, Communication Strategy and Action Plan, and Public Participation and Consultation Plan (including Inter Agency Coordination) (each described in more detail below).
- c. A Monitoring Plan that details the key parameters to be monitored, monitoring locations and frequencies, monitoring methodologies, required budgets, and responsible entities to carry out monitoring for each of the above-mentioned sub-plans as well as to follow up on monitoring outcomes, including to identify root causes and correct non-compliances (including through remedial measures if required), as well as to enable continuous evaluation of overall performance and adjustments to management measures and

arrangements as needed to enhance overall project sustainability. Independent auditing arrangements, as well as incentive schemes and/or penalties to enhance compliance, should also be proposed.

- d. Detailed organogram showing all actors to be involved in ESMP implementation, monitoring, reporting, independent supervision and auditing, their relationship to overall project construction and operational management teams and contractors, and points of interface with independent oversight entities. Organogram should indicate entry points for local citizen engagement and NGO participation in monitoring and reporting.
 - e. Outline of minimum qualifications required for each institution or actor involved in ESMP implementation to carry out their responsibilities, including with respect to project management, implementation of mitigation and management measures, execution of monitoring programs, reporting and evaluation, public engagement and grievance redress, etc. The training and capacity building needs to ensure satisfactory implementation of the ESMP and proposed measures for each actor involved in implementation should also be specified based on an assessment of the organizational capacity of each to fulfill their proposed functions. The core content of training programs for contractors and other key actors involved in implementing the ESMP should be outlined, as well as the responsibilities, timelines, and budget for their implementation.
38. **Assembly of draft ESIA(s), CIA, and Executive Summary, including local-language summary materials for public consultation.** The Consultant shall produce full draft ESIA(s) and CIA (in English), as well as a single Executive Summary covering both hydroelectric components (in both English and local language) and additional materials for use in consultations (e.g., slide deck, brochures and other visuals, factsheets, etc.), incorporating all of the above-mentioned elements, the Alternatives Analysis produced under Phase I of the consultancy as well as other elements outlined in Annex 10 and/or identified as necessary during the screening and scoping phase of the consultancy.
39. **Disclosure and Consultations on draft studies.** The Consultant shall support NEA in carrying out and fully documenting at least one additional round of consultations (to include, at minimum, two workshops at district and central levels and one public hearing), once the draft environmental assessment and planning materials are available. The consultations should consist of public hearing(s) as and where required under national legislation (at Village Development Committee or Municipality of project site, as per GoN Environmental Protection Regulation 2054), as well as additional public meetings, focus groups, interviews and/or other consultation techniques as deemed appropriate to ensure that all project affected groups and other stakeholders have the opportunity to learn about the project and its impacts and to have their views taken into account in finalizing the study. Consultations should follow international good practices on stakeholder engagement, with detailed records kept including locations and dates of all consultation events, participants' names and affiliations, a summary of topics discussed; a summary of comments received and ensuing discussion; and how those comments will be taken into account by the project. Prior to carrying out consultations, the draft versions of the studies must be made available at a public place, accessible to project-affected groups and local NGOs.
40. **Finalization of studies.** Following consultations as well as review of the draft studies by NEA, the Panel of Experts, and the World Bank, the Consultant shall make necessary revisions and finalize the studies. The Consultant shall submit the revised ESIA report to NEA for the approval of Ministry of Environment. The Consultant will make a presentation on the findings of ESIA report(s) to Ministry of Environment and submit

revised documents to NEA incorporating the comments of ministry. NEA will forward the revised documents to Ministry of Environment for their approval.

41. ***Key expected outputs of Phase II Task 2:*** (a) Full ESIA for the Project, incorporating the Alternatives Analysis from Phase I of the consultancy, as well as the CIA (or two separate ESIA's for the two hydroelectric components if required under national legislation, each incorporating relevant elements of the Alternatives Analysis, and each summarizing and annexing the integrated CIA), revised to incorporate feedback received during consultations as well as from NEA, the World Bank and the Independent Panel of Experts, and including documentation of all consultations held; and (b) single Executive Summary covering both hydroelectric components, in both English and Nepali.

Phase II Task3: Social Planning

42. This task covers the social aspects of the project planning and design. The social aspects relate to land acquisition, involuntary resettlement, indigenous people, downstream impacts, gender, public health, conflicts, public consultation, participation and communication. As noted earlier under Phase II Task 2, this task is expected to be carried out in a coordinated manner with the environmental assessment and planning aspects of the consultancy, to ensure holistic and integrated analysis. The outputs described below should also be integrated in summary format into the ESIA(s) and overall Executive Summary. The assignment will comply with relevant laws and policies of the Government of Nepal (GoN), international conventions ratified by the GoN, and the relevant safeguard policies of the World Bank. The Consultant will carry out necessary activities required for completion of the assignment including in-house reviews, field surveys and planning activities, stakeholder consultations and development of the necessary interventions. The field planning activities will employ sample surveys and suitable sociological/anthropological tools, including focus group discussions and key informant interviews. Given the spread of Project works and extent of planning activities, the planning approach and methodology will vary in its design for different planning tasks. These should be proposed and described in detail in the Inception Report.
43. **Social assessment.** A social assessment shall be conducted for the proposed Project. This assessment will cover the following key areas: (a) overall project impact analysis (as described under Phase II Task 2 above), (b) development of a socioeconomic baseline, (c) a stakeholder analysis, (d) a political economy analysis, (e) identification and consultation with vulnerable and indigenous communities. Based on these analyses, the social assessment will provide specific recommendations for different planning tasks under this consultancy. Items (b) through (e) are described in more detail below.
44. **Socioeconomic baseline.** The Consultant will conduct a socioeconomic survey and develop a socioeconomic profile of the Project area, bringing out its key social, ethnic, cultural, political and economic characteristics. This survey will cover at least the aspects delineated below. The socioeconomic profile will include a differentiated analysis related to gender, disadvantaged groups, and "deep poverty" dimensions of these and all other included aspects.
- a. Developing a demographic and ethnic profile of the population in the Project Area of Influence and zooming in specifically on the people and communities in the Social Impact Zones, covering their history, physical spread, social clustering, cultural and traditional characteristics, interactions and relations among various groups.
 - b. Mapping out the socioeconomic development status of the Project area, including resources conditions, economic development status, employment sources and

patterns, livelihood patterns, infrastructure and service provision (health, education, employment, extension services etc.), as well as local development needs, priorities and challenges, and development interventions.

- c. Developing a socioeconomic baseline for the affected communities and population, covering basic indicators particularly related to their living standard and well-being.
 - d. Land tenure system (titles vs customary), mode of land transactions, access to natural resources and their significance to local communities and livelihoods, formal and informal institutions and their capacity and functioning; development needs, challenges and status.
 - e. Identification of presence of vulnerable and indigenous peoples' communities residing in the Project area; and if they are identified, collection of information on their demographics, social cultural features, livelihood and employment patterns, use of natural resources, formal and informal institutions and interactions with other ethnic groups (See also section on indigenous peoples below).
45. **Stakeholder analysis.** This analysis is important to inform the design of the Project, particularly in developing the Project consultation and communication strategy. This task is a continuation of the stakeholder analysis started under Phase I. The stakeholder analysis will incorporate dimensions related to gender, disadvantaged groups, and "deep poverty." The following are key activities to be covered under this task:
- a. Mapping of key stakeholders at national and local levels, including Project affected people, affected communities, local government bodies, NEA, NGOs/CBOs, media and key individuals, etc.
 - b. Carrying out consultations with various stakeholders to bring out their views, concerns and expectations associated with the Project;
 - c. Analysis of stakeholder consultation feedback, their roles and possible interventions in Project preparation and design;
 - d. Proposing recommendations for consideration in the Project's design.
46. **Political economy analysis.** Hydropower is a critical sector for development in Nepal, with tremendous potential for its economic growth, large anticipated risks, and frequent controversies. Nepal's history of hydropower development has been eventful with different key players at different times. To create an optimal environment for the implementation of the proposed UAHP and IKHP developments, it is important to understand the key issues, challenges, interacting players, relations among relevant institutions (external and internal), and laws and policies (again internal and external) along with their performance as well as enforcement on the ground. This analysis will minimally look at the factors delineated below. It will include a differentiated analysis related to gender, disadvantaged groups, and "deep poverty" dimensions of these and all other included actors.
- a. Review of the history and current status of hydropower development in Nepal; the role of hydropower in the development process in Nepal; the current energy crisis and development challenges;
 - b. Mapping of key stakeholders at national and local levels, including institutions (public and private sectors), political parties, civil society organizations, communities, and key influential individuals (a separate detailed stakeholder analysis will be conducted);
 - c. Assessment of key stakeholders' views, roles, and interventions in the hydropower development process;
 - d. Review of relevant policies and international conventions ratified by the GoN and the status of their subsequent implementation;

- e. Discussion of challenges, dilemmas, and controversies in hydropower development in Nepal;
 - f. Summary of lessons learned and recommendations related to development of the proposed Project.
47. **Resettlement Action Plan (RAP).** The proposed Project is expected to require land acquisition and involuntary resettlement for all civil works components. Although the direct works at the two dam and powerhouse sites are not expected to cause large-scale displacement, given their remote locations and low population density, the access roads and other ancillaries will likely require more significant land acquisition. Resettlement planning will identify all impacts of land acquisition and resettlement, review relevant legal and policy requirements of the GoN and the World Bank, and develop a Project entitlement policy and mitigation measures to address these impacts. Leading to the preparation of the RAP, the activity will generate a database of physical and livelihood impacts and affected individuals and households. A recommended RAP outline is attached (see Annex 11). Planning activities include, but not limited to, the following
- a. *Inventory survey of physical impacts.* This survey will cover the Project's Impact Zones (e.g., zones in which use of or access to land, assets, and/or sources of livelihood or subsistence (including natural resources) are to be restricted as a result of land acquisition for the Project) will be conducted according to legal procedures under relevant Nepali laws. This survey will lock in the physical quantity of impacts and lay down the basis for developing the entitlement policy and compensation package. It should be kept in mind that not all impacts can necessarily be quantified and enumerated upfront on a household basis. More suitable methods of assessment and documentation will be evaluated and employed such situations.
 - b. *Census survey of affected populations.* The survey will cover all affected populations, recorded by households or communal groups, and record types of potential impacts. It will establish the cut-off date for eligibility for resettlement entitlement.
 - c. *Review of relevant legal policies.* This review will cover relevant policies of GoN and the World Bank, identify any gaps, and propose measures to fill in these gaps under this Project.
 - d. *Development of a Project resettlement policy.* On the basis of the above review, a Project resettlement policy will be produced, including a resettlement entitlement matrix for the project. This will form the policy basis and chapter of the RAP, and will also be elaborated into a free-standing project Resettlement Policy Framework (RPF) for any future unanticipated resettlement impacts.
 - e. *Development of resettlement strategy and measures.* The proposed project is expected to have limited impacts in terms of physical relocation. Nonetheless, a relocation strategy and action plan should be developed, including identification and development of relocation sites, to be planned in consultation with the communities and relocating households.
 - f. *Development of livelihood restoration and development strategy and measures.* An in-depth impact analysis should be conducted for effects on livelihood patterns in the Project's Impact Zones. Such an analysis will assess the needs for livelihood restoration and provide the basis for designing appropriate interventions. In designing the livelihood development strategy and plan, the Consultant should consider support for long-term sustainable development of affected areas as well as support for development of the project areas beyond the adversely affected households and communities.
 - g. Development of implementation arrangements.
 - h. Development of grievance redress and monitoring mechanisms. The grievance redress mechanism should be a project mechanism, open to all issues related to the project,

including resettlement issues. The mechanism should build in elements of neutrality to ensure fair, transparent and independent deliberations.

48. **Vulnerable and Indigenous Peoples Development Plan.** About a third of the Nepali population belongs to indigenous communities classified and officially recognized by the GoN. Indigenous peoples feature prominently on Nepal's development agenda. The Project area is inhabited by several indigenous communities who are expected to be impacted both positively and adversely by the Project. This plan will aim to minimize negative impacts and enhance positive impacts to vulnerable and indigenous peoples in the Project area. A recommended outline for the Vulnerable and Indigenous Peoples Development Plan is attached (see Annex 12). Planning activities in this regard include, but are not limited to, the following (part of the information below will be documented in the ESIA studies outlined under Phase II Part 2 of this consultancy):

- a. Identification of vulnerable and indigenous communities in the Project area;
- b. Gathering of baseline information on the demographic, social, cultural and political characteristics of the vulnerable and indigenous peoples' communities in the Project area;
- c. Review of the land tenure system; use of, access, and attachment (physical, spiritual and cultural) to natural resources by different indigenous communities, including their customary rights and occupation, both individual and collective;
- d. Review of Nepal's legal and institutional framework regarding vulnerable and indigenous communities, including relevant laws and policies of GoN, any ratified international conventions (ILO 169 and UNDRIP), and the World Bank policy on indigenous peoples (OP 4.10);
- e. Identification and mapping of indigenous organizations, including public institutions and civil society organizations;
- f. Assessment of Project impacts, both positive and adverse, on vulnerable and indigenous communities, particularly impacts specific to ethnic characteristics (e.g. impacts on livelihood activities if unique from the general use of resources, both individual and common; impacts on use of cultural resources such as sacred religious or cultural historical sites). Critical to this assessment is an analysis of the relative vulnerability of, and risks to, the affected indigenous peoples' communities given their distinct circumstances and close ties to land and natural resources, as well as their lack of access to opportunities relative to other social groups in the communities, regions, or national societies in which they live;
- g. Consultations with indigenous communities, following a free, prior, and informed consultation process at each stage of the Project, particularly during Project preparation, to fully identify their views, concerns, requests and recommendations for the Project and confirm their consent to the implementation of the Project;
- h. Providing Project information in a fashion, method and language that are appropriate to the indigenous communities;
- i. Development of a policy framework on vulnerable and indigenous communities for the proposed Project;
- j. Development of a process framework in the case that Project environmental mitigation measures result in restrictive impacts on access to natural resources resulting in livelihood impacts of the associated population;
- k. Proposing, based on free, prior, and informed consultation with the affected indigenous peoples' communities, necessary measures to avoid, minimize, mitigate, or compensate for such effects, and to ensure that the indigenous peoples receive culturally appropriate benefits under the Project.

A vulnerable and indigenous peoples plan will be developed incorporating the above.

49. **Downstream impacts management plan.** The Project will have impacts on downstream social, economic and cultural activities with the damming of the river and altered water flow patterns. Impacted activities could include fishery activities and possible other uses of the river, such as domestic water use and irrigation as well as local/ national tourism activities. The Consultant will carry out the following activities to plan for mitigating downstream impacts, in a closely coordinated / integrated fashion with the environmental assessment and planning process described under Phase II Task 2 above:
- a. Identification and assessment of possible impacts downstream of the proposed dams;
 - b. Identification and inventory of communities that are likely to be affected;
 - c. A detailed analysis of the type and levels of impacts upon different populations;
 - d. Development of a socioeconomic profile of the potentially affected communities;
 - e. Development of necessary mitigation strategy and intervention measures based on the above impact analysis
50. **Gender assessment and action plan.** Women are important stakeholders in hydropower development, falling among both the affected and the beneficiaries. It is important to understand the gender dimensions of the project and the differential impacts on women so as to maximize project benefits. The gender assessment and action plan will cover, but not be limited to, the following:
- a. Review of the legal and policy framework in Nepal relevant to gender;
 - b. Review of formal and informal institutional structures and processes that affect gender outcomes in the project and under the project setup;
 - c. Review of setup, capacity and constraints within relevant institutions to address gender concerns and considerations;
 - d. Analysis of local culture, particularly among different indigenous groups, regarding gender and women, focusing particularly on the informal institutions, cultural norms, behavior, and customs;
 - e. Review of traditional roles and current status of women in the social, economic, cultural, political and institutional contexts of the communities in the project areas;
 - f. Analysis of potential project impacts, both positive and negative, on women;
 - g. Analysis of barriers, challenges, constraints to women's participation, including an assessment of women's capacity to participate;
 - h. Identification of potential entry points and interventions to enhance gender sensitivity, mitigate adverse impacts, promote women participation, maximize project benefits for women;
 - i. Advice to the project planning and implementation teams on approaching and addressing gender issues under the project;
 - j. Recommendations for approach and interventions to promote project benefits to women and their participation in the project.
51. **Benefit-sharing action plan.** Benefit-sharing is an increasingly used mechanism in hydropower investment operations to build local support and promote local area development. This mechanism has been used in Nepal as well as elsewhere around the world. The Ministry of Energy of Nepal has completed a review on benefit-sharing. The Consultant will work with NEA and the Engineering Design Consultant and to carry out the following in this regard:

- a. Review and summary of Nepali laws, policies, and international conventions endorsed by the GoN relevant to benefit-sharing, particularly those on use of natural resources and indigenous communities;
 - b. Review of benefit-sharing experiences in hydropower sector in Nepal;
 - c. Carrying consultations with local stakeholders, in particular with local indigenous communities, over their expectations from this project;
 - d. Review of benefit-sharing proposal from project feasibility studies for UAHP and IKHP;
 - e. Define “benefit-sharing,” design, and propose a benefit-sharing scheme for the project;
 - f. Include differential benefit analysis for those whose livelihoods and land values will be disproportionately enhanced by road provisioning/improvements.
52. **Public health assessment and action plan.** The construction of the full project will have adverse public health impacts due to dust, noise, pollution, and migration of construction workers into the project. The transportation of heavy machine and equipment to the project area by road may cause additional hazards, accidents and human injuries. It is therefore necessary to generate awareness of potential impacts, and initiate both preventive and mitigation measures to minimize risks and possible harmful effects on public health. Planning activities will include, but not be limited to, the following:
- a. Undertaking an assessment of potential public health impacts of the proposed project during pre-construction, construction, and post-construction stages; and evaluating the need for appropriate interventions;
 - b. Undertaking an assessment of the existing public health service conditions in the project areas including infrastructure and facilities, services provided by public health care systems, provision of health care information and education, and disease prevention and promotion campaigns, specifically related to sexually transmitted infections and HIV;
 - c. Engaging with local communities, including existing health specialists (both modern physicians and traditional medicine men or healers), to understand existing health beliefs, practices, and health care systems;
 - d. Determining public health needs and level of support required by resettlers, construction workers, migrant workforce, and host communities within the context, conditions, and parameters prevailing in the project area;
 - e. Designing a project public health action plan to mitigate adverse impacts, reduce occupational hazards and health risks, and support the health and well-being of local communities.
53. **Public participation and consultation plan (including Inter Agency Coordination).** Drawing from the stakeholder consultation strategy developed during the screening and scoping phase, develop a full plan covering the following objectives: (a) to outline the specific activities, logistics and schedule for the consultation and inter-agency coordination processes to take place throughout the environmental and social assessment and planning stage, ensuring that consultations are coordinated and executed together with different entities (government, municipality, NGOs, etc.) in order to capture a range of participants; (b) to identify possible avenues of public interaction, in addition to interviews and public meetings, especially through social media and newer communication technology; (c) to identify points of entry for ensuring local people as more active participants (rather than simply respondents) in consultations, and (d) to map out a strategy and required actions, including implementation arrangements, responsibilities and budget, for ongoing engagement, consultations, and grievance / dispute resolution activities throughout the life of the Project.
54. **Communications strategy and action plan.** Given the remote location of the project, the high profile of hydropower development, and the history of hydropower development in the

Arun Valley in particular, it is important to develop a communication strategy for continuous communication between the project implementation authorities and all other stakeholders throughout the life of the projects. The objectives are to (i) help strengthen public understanding and support for the projects and create an enabling environment for their implementation; (ii) enable public communication on project activities, impacts, and benefits; (iii) manage relationships with key external stakeholder constituencies; and (iv) facilitate dispute resolution and public monitoring of project implementation. The communication strategy must suit existing social, economic, and cultural conditions, as well as the complex and sensitive issues related to large hydropower projects. This assignment will include detailed review of secondary information, but will primarily depend upon field visits and direct consultations/interactions with stakeholders at the local and national levels.

55. The following tasks will be carried out:
- a. A desk review of past history and experiences in hydropower development in Nepal and the Arun Valley, particularly its social, environment and political aspects.
 - b. Identification of key stakeholders (individuals, groups, and institutions) and detail their interests, concerns and expectations, roles and relationships vis-a-vis the proposed program, with particular focus on the benefits of hydropower projects and management of adverse impacts;
 - c. Assessment of communication needs to map stakeholder perception and attitudes to the project, including modes and media of communications to be adopted during project implementation;
 - d. Assessment of existing communication and engagement initiatives, and capacities of the NEA to conduct public communications and to engage stakeholders; identify gaps in NEA's institutional set-up (in terms of staffing, procedures, budgets etc.);
 - e. A media-mapping at the national and local levels, including a detailed mapping exercise of key relevant NGOs, civil society organizations and individuals;
 - f. Identification of opportunities and platforms for effective dissemination of key messages over the course of project implementation;
 - g. Preparation of a draft communication and engagement strategy for the overall project, taking into consideration current practices and experience of NEA and GoN.
56. **Institutional capacity assessment and strengthening.** The consultant will carry out an assessment of the current institutional capacity in place in view of implementing the environmental and social interventions, management measures and programs related to the Project. This assessment should cover all key institutions involved, including the Ministry of Energy, NEA and local administrations. The consultant will propose a set of interventions, including institutions, staffing, and budget requirements, to build up the capacity of these institutions to implement the designed programs.
57. ***Key expected outputs of Phase II Task 3:*** (a) *Social Assessment Report* ; (b) *Resettlement Action Plan*; (c) *Resettlement Policy Framework*; (d) *Vulnerable and Indigenous Peoples' Development Plan*; (e) *Public Health Action Plan*; (f) *Gender Action Plan*, (g) *Downstream Impacts Management Plan*, (h) *Benefit Sharing Plan*; (i) *Public Participation and Consultation Plan (including Inter Agency Coordination)*; (j) *Communication Strategy and Action Plan and (h) institutional assessment and strengthening plan.*

Deliverables and Reporting Schedule

58. The following anticipated deliverables are expected at the time indicated below. The timeline indicated is an estimate only, and may be adjusted upon negotiation of the contract, and updated again as needed at the time of work plan development. The screening and scoping phase of the consultancy will confirm the full list of deliverables required, and could result in a reorganization of some of the items below, and/or may result in identification of additional specific assessments or plans not listed below which are needed in order to meet World Bank or national requirements. The content for each proposed study will be agreed during the process of finalizing the Inception Report, and the timeline for their delivery would be agreed between the Consultant and NEA at the time of work plan development.

Deliverable	Estimated timeline (TO BE DETERMINED)
1. Draft Alternatives Analysis (Phase I deliverable)	
2. Draft Scoping Report and ToR document	
3. Final Scoping Report, including documentation of stakeholder consultations, and EIA Terms of Reference with detailed work plan for carrying out environmental and social assessment and planning studies	
4. Drafts of all deliverables under Phase II tasks 2 and 3, including: <ul style="list-style-type: none"> • EA Executive Summary, in both English and local languages • ESIA(s), including ESMP(s), covering both UAHP and IKHP,, incorporating Alternatives Analysis • Cumulative Impact Assessment • Social assessment report • Resettlement action plan(s)for the project • Gender assessment and action plan • Vulnerable and indigenous community development plan(s) • Public health action plan • Downstream impact mitigation plan • Resettlement policy framework • Benefit-sharing action plan • Public participation and consultation plan • Communication strategy and action plan 	
Final versions of deliverables 1 and 4 above, reflecting feedback provided by NEA, World Bank, International Panel of Experts, and stakeholders during public consultations	
Final ESIA report(s) incorporating comments of Ministry of Environment	

Consultant Staffing and Key Qualifications

59. The Consultant must be a corporate firm or a consortium of firms that satisfies the following criteria:
- a. Possession of adequate and proven experience in ESIA, CIA, and social planning, including in particular indigenous peoples, involuntary resettlement and livelihood restoration planning;
 - b. Possession of adequate, qualified and experienced key personnel and logistic resources to carry out the assignment;
 - c. Possession of appropriate office facilities and support staff;
 - d. Knowledge of Nepal, and an appropriate language skill mix within the team to carry out field work, interact with project stakeholders, and produce written materials in both English and Nepali;
 - e. Knowledge of, and previous experience carrying out environmental and social studies in accordance with, World Bank safeguard policies.
60. The Consultant shall propose and justify the range of disciplines to be included in the core project team and the complementary skills of the short-term specialists. The inputs by all specialists should be clearly indicated as it is anticipated that a substantial part of the work program is carried out by the firms or individuals subcontracted locally. It is expected that the core project team will include, but not necessarily confined to, the following key specialists:
- a. *Team leader*, an environmental impact assessment specialist with 10 years of experience including experience in hydropower projects. Knowledge and experience with World Bank safeguard policies will be required.
 - a. *Indigenous peoples' specialist*, who has knowledge about World Bank and GoN policies on indigenous people and who has demonstrated experiences working on indigenous peoples issues in Nepal and applying World Bank indigenous people's policy.
 - b. *Resettlement specialist*, who has knowledge of World Bank and GoN resettlement policies and who has carried out resettlement and livelihood development planning in hydropower projects.
 - c. *Communication specialist*, who has demonstrated knowledge and working experience in this area in Nepal.
 - d. *Gender specialist*, who has knowledge of World Bank and GoN policies on gender and who has demonstrated working experiences carrying out similar assignments in internationally-financed operations.
 - e. *Senior ecologist*, with 10+ years of experience in field ecology designed for applied management. Strong knowledge of the ecological dynamics of Himalayan and hilly ecosystems in Eastern Nepal. Demonstrated ability to work as part of a multi-disciplinary team.
 - f. *Aquatic ecology specialist*, with knowledge of Himalayan fish species, experience conducting aquatic field surveys, and experience developing or implementing fisheries and aquatic biodiversity mitigation programs related to hydropower projects (for example, fish hatcheries, fish ladders, etc.).
 - g. *Hydrogeological engineer*, with experience conducting technical field surveys on soil sediments, water quality etc.
 - h. *Civil engineer*, with demonstrated ability to integrate social and environmental elements with infrastructural details of the Project.

- i. *Additional technical specialists* with appropriate qualifications and experience in hydrology, geology, environmental engineer, sediment management, terrestrial ecology (including sub-specialties such as ornithology, herpetology, butterfly expert / entomology, etc. as relevant based on screening and baseline data availability), forestry and watershed management, climate change, archaeology, anthropology or other social sciences, and public health, among others as required to complete the tasks described in these Terms of Reference.

61. The Consultant shall name individuals to participate in specified roles within the project team and provide full curricula vitae (in accordance with the suggested format shown in the Letter of Invitation) and any other information considered relevant by the Consultant. The Consultant shall name the project leader, the deputy team leader, the other core team members and key short-term specialists, and provide an assurance that all members of the proposed team will be made available as specified in the proposal, if the Consultant is named.

Support to be Provided by NEA and World Bank

62. NEA will provide all necessary assistance to help the Consultant obtain access to information and key individuals as required to complete the assignment. Various available supporting documents will be provided to the Consultant before the initiation of the assessment (see Annex 8). NEA will also provide support to field work logistics where deemed necessary, participate in public consultation events, provide technical feedback on draft deliverables, and facilitate coordination and information sharing with the Engineering Design Consultant and the Independent Panel of Experts.
63. The World Bank will support NEA in providing technical oversight to the Consultant, including reviewing and providing feedback on draft deliverables.

Payment Schedule

64. For the performance of the duties enumerated under the Terms of Reference, the Consultant will be paid a lump sum fee. The proposed payment schedule of the lump sum fee is as follows. Bidders may also propose an alternative payment schedule with justification, for NEA's consideration.
 - Draft Analysis of Alternatives (Phase I deliverable) – 15% of contract value
 - Draft Scoping Report and ToR (Phase II Task 1 draft deliverable) – 15% of contract value
 - Draft Scoping Report and ToR and Workplan (Phase II Task 1 final deliverables) – 10% of contract value
 - Draft environmental and social assessment and planning studies (Phase II Tasks 2 and 3 draft deliverables) – 30% of contract value
 - Final environmental and social assessment and planning studies (Phase II Tasks 2 and 3 final deliverables, incorporating also Phase I final deliverable) – 30% of contract value

Budget

65. The initial estimated budget for this consulting service is approximately US\$2 million.

Annex 1. List of NEA's Current and Planned Hydropower and Transmission Line Projects

Major Hydro Projects Under Construction

Project	Capacity (MW)	Completion Year	Financing
NEA (Total Capacity 136 MW)			
Chameliya	30	2014/15	South Korea, NG, NEA
Kulekhani-III	14	2014/15	NG, NEA
Upper Trishuli-A	60	2016/17	China, NG, NEA
Rahughat	32	2017/18	India, NG, NEA
NEA's Subsidiary & Associate Companies (Total Capacity 866.3 MW)			
Upper Tamakoshi	456	2016/17	Local Financial Institutions
Sanjen	42.5	2016/17	----do----
Rasuwagadhi	111	2018/19	----do----
Middle Bhotekoshi	102	2018/19	----do----
Upper Sanjen	14.8	2015/16	----do----
Tanau Hydro	140	2019/20	ADB, Japan, NG

Major Hydro Projects Planned For Construction

(Total Capacity 932 MW)

Project	Capacity (MW)	Estimated Completion Year
Likhu – IV	52	2016/17
Balephi	24	2016/17
Kabeli - A (WB Financing)	37	2016/17
Upper Trishuli - 3B	40	2016/17
Upper Modi 'A'	42	2018/19
Tamakoshi - V	87	2019/20
Other IPP Projects	650	2015/16 – 2017/18

Major 132 kV Transmission Line Projects Under Construction

Project	Circuit km	Completion Year	Financing
Thankot – Chapagaun	57	2015/16	ADB
Chameliya – Attaria	131	2014/15	K-Exim
Mid. Marsyangdi – Damauli – Marsyangdi	76	2015/16	ADB
Kabeli – Damak	180	2015/16	WB
Singati – Lamosangu	76	2014/15	GoN
Kusum – Hapure	22	2014/15	GoN
Butwal – Kohalpur – Mahendranagar 2 nd Circuit	208	2015/16	ADB
Hetauda – KL II – Siuchatar 2 nd Circuit	45	2014/15	GoN
Total	795		

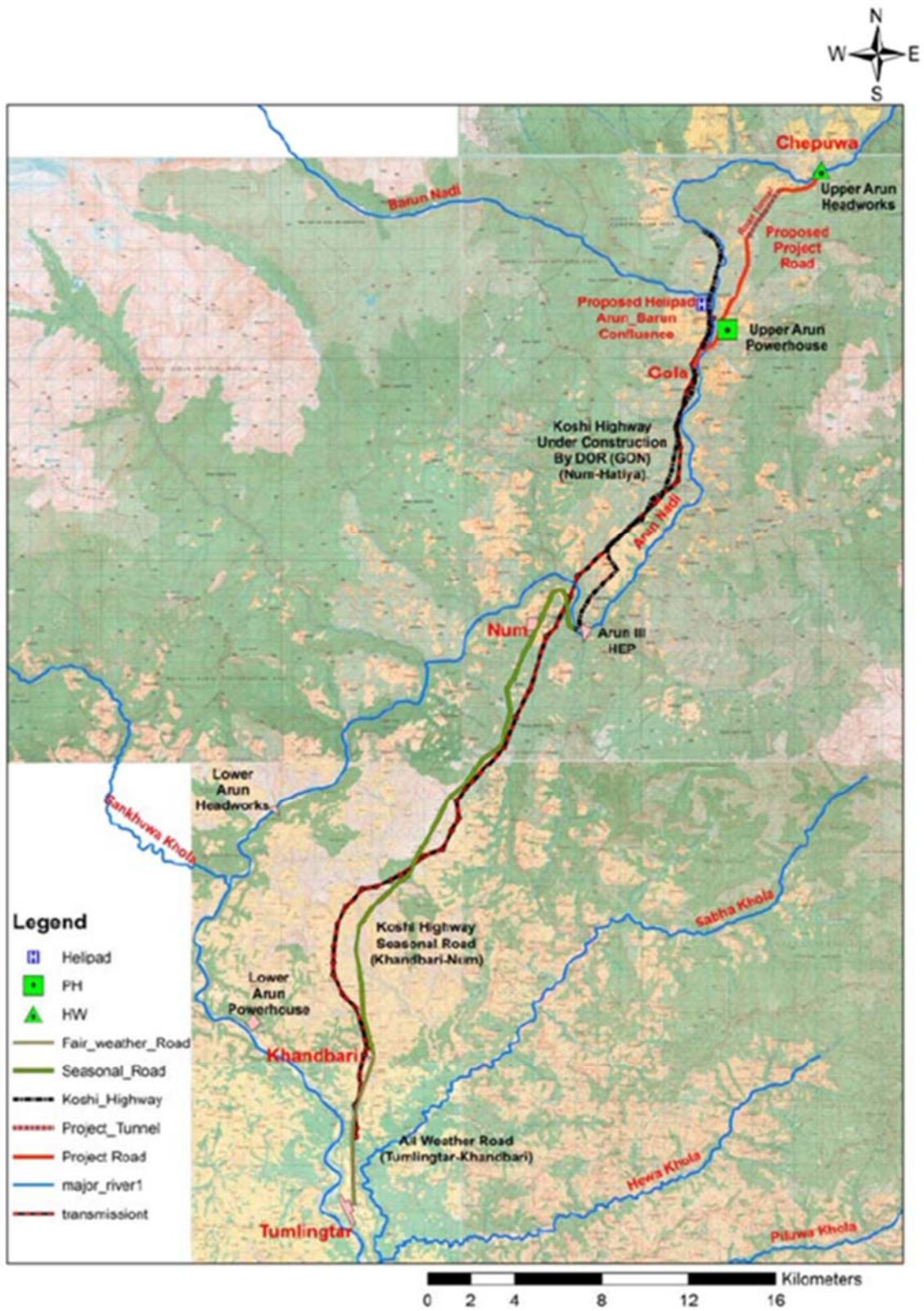
Major 220 / 400 kV Transmission Line Projects Under Construction

Project	Circuit km	Completion Year	Financing
<u>220 kV</u>			
Khimti – Dhalkebar	150	2013/14	WB
Hetauda – Bharatpur	146	2013/14	WB
Bharatpur – Bardghat	150	2013/14	WB
Total	446		
<u>400 kV</u>			
Hetauda – Dhalkebar – Inarwa	570	2015/16	WB
Dhalkebar – Muzaffarpur (Nepal Portion)	78	2014/15	I-Exim
Total	648		

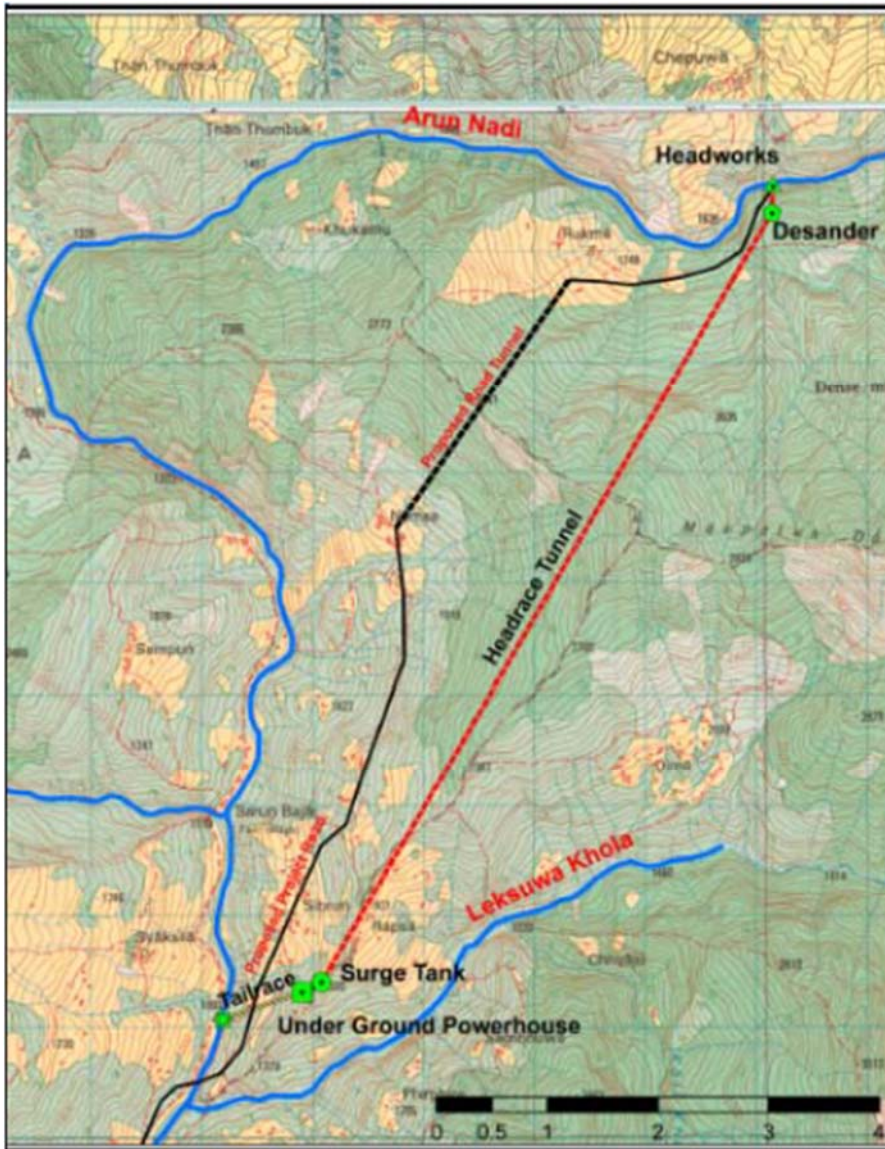
Planned Transmission Line Projects

Project	Circuit km	Completion Year	Financing
Solu Corridor 132 kV	180	2016/17	I-Exim
Koshi Transmission Corridor 220 kV	350	2018/19	I-Exim
Marsyangdi – Kathmandu 220 kV	170	2016/17	ADB
Kali Gandaki Transmission Corridor 220 kV	220	2015/16	ADB
Lekhnath – Damauli 220 kV	80	2015/16	ADB
Marsyangdi Transmission Corridor 220 kV	240	2015/16	ADB
Chilime – Trishuli 220 kV	80	2015/16	EIB / KfW
Tama Koshi – Kathmandu 400 kV	170	2016/17	ADB / Norway

Annex 3. Major proposed hydropower projects in Arun Basin: Upper Arun, Arun III, Lower Arun



Annex 4. UAHP Project Components





Annex 5. Salient features of the Upper Arun Hydropower Project, as derived from the feasibility study completed in 1991.

Type of project	Peaking Run-of-River (PRoR)
River	Arun River (left bank)
Total catchment area	25,700 sq km (25,300 in Tibet)
Average flow	200 m ³ /s
Firm flow (95%)	58.7 m ³ /s
Probable Maximum Flood (PMF)	4000 m ³ /s
Glacial Lakes Outburst Flood (GLOF)	6900 m ³ /s
Dam	37m high; radial gated concrete weir
Radial gates	Three gates: each 12 m W × 22 m H
Gross storage volume	760 × 10 ³ m ³
Active storage volume	440 × 10 ³ m ³
Design head	492m
Rated discharge	58.7 m ³ /s
Design discharge	78.8 m ³ /s
Full supply level	1598 masl
Minimum operating level	1588 masl
Normal tailwater level	1089 masl
Intake sill level	1583 masl
Desanding basin	Three caverns: 128 m long, 24 m wide, and approximately 32 m high, each housing two settling basins
Headrace tunnel	Length: 7840 m, Diameter: 5.5 m
Surge tank	Height: 91 m, Diameter: 18 m, simple circular
Pressure shaft	Height: 454 m, Diameter: 2.8 m, steel lined
Penstock tunnel	Length: 60m, Diameter: 2.8 m , steel lined
Powerhouse type	Underground powerhouse
Turbines	Four units of pelton turbine
Installed capacity	335 MW (4 × 83.75 MW)
Annual firm energy	2,050 GWh
Tailrace tunnel	Length: 850 m, area 50 m ² /s, horseshoe
Access road	23.4 km between UAHP powerhouse and dam site, including 1.7 km road tunnel

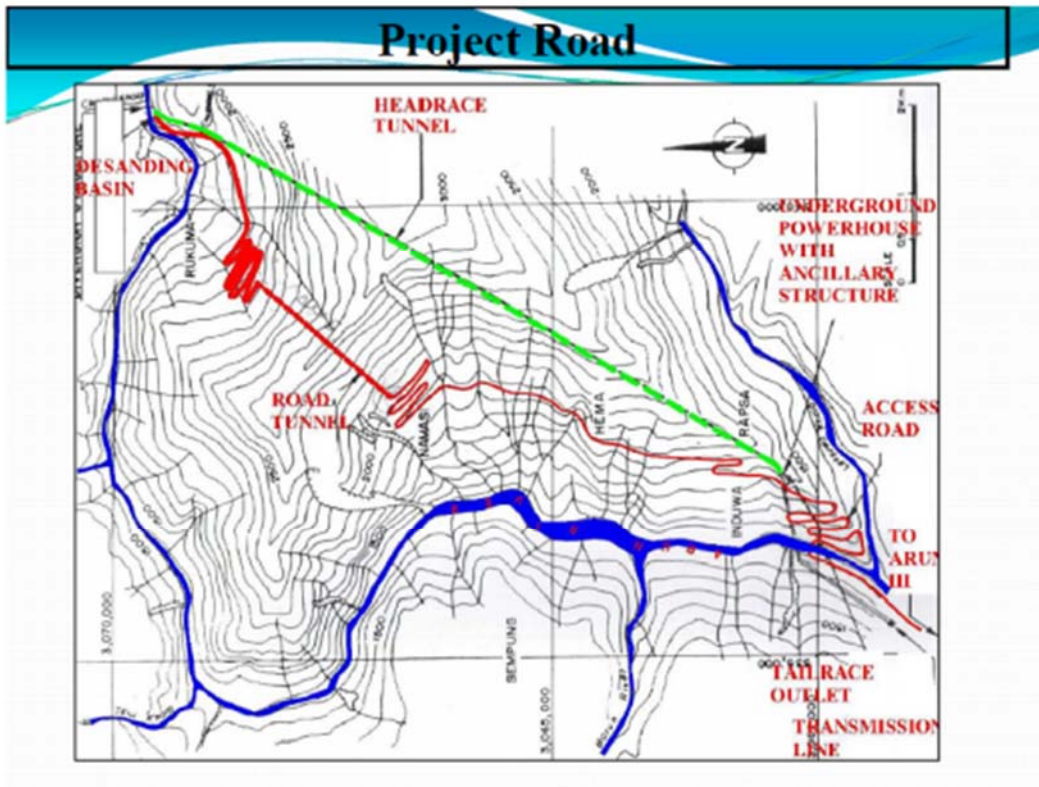
Annex 6. Ikhua Khola Hydropower Project Location

Ikhua Khola Hydropower Project

- **Feasibility Study Conducted by DOED**
- **Location**
 - 5 km Upstream of Arun-3 Headworks
 - 8 km Downstream of Upper Arun P/H Site
- **Power and Energy**
 - Installed Capacity 18 MW
 - Annual Energy of 120 GWh
- **Will be developed as a component of UA HEP .**
 - Share to local people in lieu of Upper Arun will be compensated by this project.



Annex 7. UAHP Access Road Details



Annex 8 List of Supporting Documents

66. The following documents will be provided to the Consultant before the initiation of the assessment. The Consultant may only use these documents for the purposes of this Project. The list should be considered preliminary and may be updated prior to initiation of the contract.

- 1) Project Brief Notes on Upper Arun Hydroelectric Project, *Project Development Department, Engineering Services, Nepal Electricity Authority, 2013*. This briefing prepared by NEA provides a quick snapshot of the Upper Arun Hydropower Project, along with the latest details on project planning.
- 2) Feasibility Study Review Report, Upper Arun Hydroelectric Project, *Nepal Electricity Authority, 2011*. This study reviews the feasibility study commissioned by the NEA and completed in 1991 by the Joint Venture of Morrison Knudsen Corporation, Lahmeyer International, Tokyo Electric Power Services Co, and NEPCON. In particular, it identifies changes in the current status and project needs for infrastructure such as roads, transmission lines, telecommunication facilities etc at and around the project site; documents information relevant to technical upgrading of the detailed engineering study of the project; reassesses and updates the energy generation capacity, power evacuation mechanisms, and project costs; and documents initial data for an environmental impact assessment, which was not carried out in the 1991 feasibility study.
- 3) Upper Arun Hydroelectric Project, Feasibility Study Phase II – Final Report, Volume I, Chapter 11, *Morrison-Knudsen Engineers Inc et. Al., 1991*. This section of the feasibility study is an abbreviated version of the full environmental assessment study report available in the project files deposited with the Nepal Electricity Authority, Kathmandu, Nepal. This impact assessment was based upon the specificity of the engineering and design information available to the environmental team at the time of field study in December 1990. Field baseline data related to soils, water quality, vegetation, wildlife, fisheries, land-use, agriculture and people were collected; while this abbreviated report provides summary descriptions, it indicates that actual collected is available in the full version of the report, available at NEA's depository. The document seeks to: (i) examine the suitability of the Upper Arun site as a hydroelectric power plant site; (ii) identify the most cost-effective configuration and prepare preliminary engineering and siting plans that are as environmentally sound as possible, and (iii) to recommend any further studies that may help in minimizing the project's negative impacts while enhancing its benefits to region's natural and social environment. The description of proposed project impacts in this document are generic and high-level in nature, focusing on those judged to be most important in the context of project evaluation, planning, and implementation; Nepal's environmental priorities; and the significance of local resources. It is therefore an important input into the ESIA to be completed under this consultancy, but is not itself a comprehensive evaluation of potential impacts.
- 4) Arun III Hydroelectric Power Development Project, Environmental and Socio-economic Impact Study Report, Volume 1, *Lahmeyer International et. Al., 1990*. This document considers the environmental and socio-economic impact of the proposed Arun III project.
- 5) Final Report of Feasibility Study on Arun III Hydroelectric Power Development Project, Volume 1, *JICA, 1987*. This document contains a chapter on environmental impact of the identified Arun III Project.

- 6) Draft Report of Feasibility Study on Arun III Hydroelectric Power Development Project, Volume 1, *JICA, 1987*. This document contains a chapter on environmental impact of the identified Arun III Project.
- 7) Interim Report of Feasibility Study on Arun III Hydroelectric Power Development Project, Volume 1, *JICA, 1986*. This document contains a chapter on environmental impact of the identified Arun III Project.
- 8) Social and Institutional Component, Arun III: Management of Basinwide Environmental Impacts Update Study, Volume IV, *National Trust for Nature Conservation (NTNC), 1995*.
- 9) Sustainability and Economic Growth, Arun III: Management of Basinwide Environmental Impacts Update Study, Volume III, *National Trust for Nature Conservation (NTNC), 1995*.
- 10) Natural Resources, Arun III: Management of Basinwide Environmental Impacts Update Study, Volume II, *National Trust for Nature Conservation (NTNC), 1995*.
- 11) Makalu-Barun National Park and Conservation Area: 1993-1994 Plan of Operation, Draft and Working Copy, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1993*.
- 12) Arun III Hydroelectric Project, Environmental Assessment and Management, *Nepal Electricity Authority, Government of Nepal, 1993*.
- 13) Arun III Hydroelectric Project, Environmental Assessment and Management, Executive Summary, *Nepal Electricity Authority, Government of Nepal, 1992*.
- 14) Makalu-Barun Conservation Project: Status of Community Needs, Resources, and Development: Solukhumbu District, Report 20, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1992*.
- 15) Makalu-Barun Conservation Project: Report on the Survey of the Trekking and Mountaineering Agencies of the Makalu-Barun Conservation Area, Report 18, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1991*.
- 16) Makalu-Barun Conservation Project: Report on the Survey of the Trekking and Mountaineering Agencies of the Makalu-Barun Conservation Area, Report 17, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1991*.
- 17) Makalu-Barun Conservation Project: Report on the Survey of Trekking and Mountaineering Agencies of the Makalu-Barun Conservation Area, Report 16, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1991*.
- 18) Makalu-Barun Conservation Project: Geo-Ecological Study of the Apsuwa Watershed, Report 15, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1992*.
- 19) Makalu-Barun Conservation Project: Study of Geo-Hydrology, Land Use, and Population of the Makalu-Barun Conservation Area, Report 14, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1992*.

- 20) Makalu-Barun Conservation Project: Grassland Ecology and Preliminary Studies of Bamboos in the Apsuwa Valley, Report 13, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1991.*
- 21) Makalu-Barun National Park and Conservation Area: Management Plan, *Department of Parks and Wildlife Conservation, Government of Nepal, Woodlands Institute, Mount Everest Ecosystem, Conservation Program, 1990.*
- 22) Upper Arun Hydroelectric Project, Feasibility Study Phase II, Supplemental EIA of Fisheries, Volume 3, Appendices, *Morrison-Knudsen Engineers Incet. Al., 1991.* This document considers the impact of the proposed Upper Arun Project on fisheries.
- 23) Environmental Management and Sustainable Development in the Arun Basin, Summary and Synthesis, Volume 1, *National Trust for Nature Conservation (NTNC), 1991.*
- 24) Environmental Management and Sustainable Development in the Arun Basin, Action Program, Volume 2, *National Trust for Nature Conservation (NTNC), 1991.*
- 25) Environmental Management and Sustainable Development in the Arun Basin, Management of Natural Resources, Volume 3, *National Trust for Nature Conservation (NTNC), 1991.*
- 26) Environmental Management and Sustainable Development in the Arun Basin, Biodiversity, Volume 4, *National Trust for Nature Conservation (NTNC), 1991.*
- 27) Environmental Management and Sustainable Development in the Arun Basin, Sustainability and Economic Growth, Volume 5, *National Trust for Nature Conservation (NTNC), 1991.*
- 28) Environmental Management and Sustainable Development in the Arun Basin, Cultural Systems and Resources, Volume 6, *National Trust for Nature Conservation (NTNC), 1991.*
- 29) Environmental Management and Sustainable Development in the Arun Basin, Social and Institutional Factors, Volume 7, *National Trust for Nature Conservation (NTNC), 1991.*
- 30) Environmental Management and Sustainable Development in the Arun Basin, Trade and Traffic Survey, Volume 8, *National Trust for Nature Conservation (NTNC), 1991.*
- 31) Environmental Management and Sustainable Development in the Arun Basin, Settlement Guidelines, Volume 9, *National Trust for Nature Conservation (NTNC), 1991.*
- 32) Environmental Management and Sustainable Development in the Arun Basin, Role of Women, Volume 10, *National Trust for Nature Conservation (NTNC), 1991.*
- 33) Environmental Management and Sustainable Development in the Arun Basin, Alternative Energy Proposals, Volume 11, *National Trust for Nature Conservation (NTNC), 1991.*
- 34) Environmental Management and Sustainable Development in the Arun Basin, Tourism, Volume 12, *National Trust for Nature Conservation (NTNC), 1991.*
- 35) Environmental Management and Sustainable Development in the Arun Basin, Macro Management System, Volume 13, *National Trust for Nature Conservation (NTNC), 1991.*

- 36) Environmental Management and Sustainable Development in the Arun Basin, Draft Report, Summary Synthesis, Volume 1, *National Trust for Nature Conservation (NTNC), 1991.*
- 37) Preliminary Work Report on Glacier Lake Outburst Floods (GLOF) in the Nepal Himalayas, *Water and Energy Commission Secretariat, Government of Nepal, 1991.*
- 38) Natural Resources of the Arun Watershed (Nepal), *National Remote Sensing Center, Nepal, 1988.*

Annex 9. Other development projects in the watershed

The ongoing, planned, and identified development projects in the Upper Arun watershed which are presently known include the following. Each of these may be potential contributors to cumulative impacts of the UAHP and IKHP projects. The list provided is preliminary, and will need to be verified and potentially expanded pending further research to be carried out by the Consultant, and in further discussions with NEA, in the course of implementation of the study.

- a. *Arun III Hydropower Project:* Arun III is a proposed 900 MW run-of-river hydropower project to be located on the Arun River about 35km south of the UAHP dam site. It is currently proposed to consist of a 68m high concrete gravity dam across the Arun River near Num Bazaar that will create a 4 km long impoundment. Flows will be diverted into an underground desanding basin, and then through a 11.7 km long, 9.5 m diameter tunnel to Pikhwa, where the underground powerhouse will be located. The project is proposed to include a transmission line with a ROW that is not presently known at the time of development of this TOR. Detailed engineering designs and environmental and social assessment and planning studies were carried out for an earlier 402 MW version of this project in 1994 with support from the World Bank; however, the project was not implemented. The current project is proposed to have over twice the generation capacity of the previously considered version, with a modified design. Today, the project studies are being updated by SJVN Ltd, a JV of the Government of India and the Government of Himachal Pradesh.
- b. *Lower Arun Hydropower Project:* The Lower Arun Hydropower Project is a proposed 400 MW project located downstream from Arun III, with the headworks before the confluence of the Arun River and the Sankhuwa River. The proposed project components include a 95m×36m×9.5m settling basin; a 15.1km, 8.5m diameter headrace tunnel; a 107m, 27m diameter surge tank; a 6m diameter penstock pipe; an underground powerhouse with 4 Francis Turbines; and, a 100m, 8.5m diameter tailrace channel. A proposed 400kV transmission line would evacuate power from Lower Arun to the interconnection point at Dhalkebar. NEA undertook a preliminary socio-economic impact study for the Lower Arun Hydropower Project in 1990.
- c. Sabha Khola “A” Hydropower Project, 8.3 MW
- d. Sabha Khola “B” Hydropower Project, 9.86 MW
- e. Sabha Khola Hydropower Project, 3.3 MW
- f. Upper Piluwa Khola Hydropower Project, 11 MW
- g. Lower Piluwa Khola Hydropower Project, 9.5 MW
- h. Apsua Khola Hydropower Project, 8.4 MW, GoN reserved
- i. Sankhuwa Khola Hydropower Project, 32 MW, GoN reserved
- j. Upper Sankhuwa Khola Hydropower Project, 35.34 MW, GoN reserved

Annex 10: ESIA key contents as per World Bank requirements (refer also to World Bank Operational Policy 4.01 (*Environmental Assessment*), Annex A.)

- a. **Executive Summary (in English and Nepali)**
- b. **Introduction**
- c. **Detailed Project Description.**
- d. **Legal and Institutional Framework.** Include national legislation related to environmental and social management issues applicable to the project, relevant international treaties or commitments, applicable World Bank safeguard policies and EHS Guidelines, and institutional structure and capabilities. Summarize key compliance issues and processes related to each of these requirements, including licensing and permitting status.
- e. **Baseline,** to include covering all relevant physical, biological, socioeconomic and cultural aspects of the full Project Area of Influence.
- f. **Alternatives Analysis**
- g. **Impact Analysis,** covering all direct, indirect, and induced impacts in both the short-term and the long-term and proposing mitigation measures for each of construction and operations stages of the project. The analysis should follow an internationally recognized methodology to assess the significance of each identified impact, both before and after the application of recommended mitigation measures.
- h. **Cumulative Impact Assessment (CIA)**
- i. **Environmental and Social Management Plan (ESMP),** covering:
 - i. Details on all measures to be taken during construction and operation of the project to eliminate, minimize, mitigate, compensate and/or offset adverse environmental and social impacts, as well as the recommended specific actions,
 - ii. Specific plans as determined to be necessary to mitigate and manage environmental, social and health and safety impacts and risks identified through the impact assessment process;
 - iii. Indicators for monitoring and evaluation,
 - iv. Institutional responsibilities,
 - v. Reporting arrangements,
 - vi. Budget needed to implement all measures,
 - vii. Monitoring Plan that details the key parameters to be monitored, monitoring locations and frequencies, monitoring methodologies, required budgets, and responsible entities to carry out monitoring as well as to follow up on monitoring outcomes, including to correct non-compliances as well as to adjust management measures as needed to enhance overall project sustainability,
 - viii. Detailed organogram showing all actors involved in ESMP implementation, monitoring, reporting, independent supervision and auditing, their relationship to overall project construction and operational management teams and contractors, and points of interface with independent oversight entities,
 - ix. Detailed Environmental Codes of Practice outlining generic management and mitigation measures based on international good practices for construction

management, which would be annexed to contractor bidding documents in addition to other project-specific measures and plans identified through impact assessment process.

j. Appendices, to include:

- List of ESIA Report preparers
- References (for written materials used in the preparation of the ESIA Report)
- Detailed maps of the Project Area of Influence that consider:
 - Forest cover
 - Forest loss and degradation
 - Land use
 - Ecosystems
 - Protected areas, critical and natural habitat
 - Location and ranges/distribution of fauna and endangered species
 - Peaking pond / weir site
- Records of interagency and consultation meetings, including consultations for obtaining the informed views of the affected people and local nongovernmental organizations (NGOs)
- Tables presenting the relevant data referred to or summarized in the main text
- Terms of Reference of this study
- Terms of Reference of the International Panel of Experts (to be provided to the Consultant)
- Other annexes as applicable

Annex 11. Outline for Resettlement Action Plan (RAP) as per World Bank OP 4.12

1. Project description, including design alternatives considered
2. Socioeconomic baseline.
3. Project impacts and affected population, including the Project's Impact Zones and details from the inventory and census surveys.
4. Project resettlement policy framework, including summary of the legal framework in Nepal, ii) a comparison with World Bank OP 4.12 and proposed measures to fill in any gaps, and iii) a project entitlement policy;
5. Compensation rates and their evaluation basis and methodology, and resettlement and rehabilitation packages;
6. Compensation and resettlement approach and action plan.
7. Community consultation and participation, descriptions of consultations carried out during project preparation and plans to continue consultations during implementation
8. Institutional framework and arrangement for implementing resettlement
9. Grievance redress mechanisms
10. Costing and budget
11. Monitoring and evaluation.

Annex 12. Outline for Vulnerable and Indigenous Peoples Development Plan as per World Bank OP 4.10

- a. A summary of the social assessment, including identification and mapping of indigenous communities in the project area.
- b. A summary of results of the free, prior, and informed consultation with the affected Indigenous Peoples' communities that was carried out during project preparation and that led to broad community support for the project.
- c. A framework for ensuring free, prior, and informed consultation with the affected Indigenous Peoples' communities during project implementation.
- d. A summary project impacts on indigenous communities, including both positive and adverse impacts.
- e. An action plan of measures to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate, including, if necessary, measures to enhance the capacity of the project implementing agencies.
- f. An action plan delineating measures to avoid, minimize, mitigate, or compensate for adverse impacts.
- g. Cost estimates and financing plan for the IPP.
- h. Accessible procedures appropriate to the project to address grievances by the affected Indigenous Peoples' communities arising from project implementation.
- i. Implementation arrangements.
- j. Mechanisms and benchmarks appropriate to the project for monitoring, evaluating, and reporting on the implementation of the IPP. The monitoring and evaluation mechanisms should include arrangements for the free, prior, and informed consultation with the affected Indigenous Peoples' communities.

Note :

If you have any comment on this TOR please mail us in upperarun@nea.org.np